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8. R/D（2011 年 7 月 21 日署名）

**MINUTES OF MEETING
BETWEEN
JICA PREPARATORY STUDY TEAM
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**

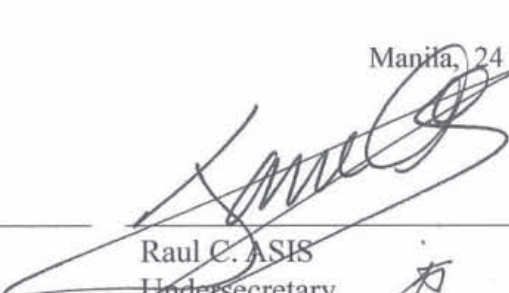
In response to the request from the Government of the Republic of the Philippines, the Preparatory Study Team (hereinafter referred to as “the Team”) of the Japan International Cooperation Agency (hereinafter referred to as “JICA”) headed by Mr. Shuntaro KAWAHARA, visited the Republic of the Philippines (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.

The Team exchanged views and had a series of discussions with the concerned authorities of the DPWH, and the following was agreed upon between DPWH and the Team.

Manila, 24 March, 2011



Shuntaro KAWAHARA
Leader
Preparatory Study Team,
Japan International Cooperation Agency
Japan



Raul C. ASIS
Undersecretary
Department of Public Works
and Highways
The Republic of the Philippines

1. PROJECT TITLE

Both parties finally agreed that the Project title will be "Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase II", from the point of view that the Project is the continuation from Phase I, though the Team proposed the amendment of the project title to "Improvement of Quality Management for Road and Bridge Maintenance, Phase II".

2. DURATION OF THE PROJECT

Both parties agreed that the duration of the Project will be Three (3) years from the commencement. It might be changed depending on the evaluations.

3. PROJECT SITE

Both parties agreed that the main activities of the Project will be conducted in DPWH Central Office, Regional Offices CAR, VII, XI.

4. RECORD OF DISCUSSIONS, PROJECT DESIGN MATRIX AND PLAN OF OPERATION

Both parties agreed that the Record of Discussions (R/D) will determine the framework of the Project, and include the contents of this Minutes of Meeting (M/M). Draft R/D is attached to the M/M for reference as shown in ANNEX 1. It will be agreed and signed between JICA and DPWH after approval from JICA Headquarters. And both parties agreed to the contents of the draft Project Design Matrix (PDM) and draft Plan of Operation (P/O) as shown in ANNEX 2. The PDM and P/O are to be flexibly revised according to the progress and achievement of the Project, upon mutual agreement between DPWH and JICA by exchanging of Minutes of Meeting, according to R/D.

5. INPUTS BY JAPAN SIDE

Both parties agreed that following components will be prepared by Japan side.

(1) Dispatch of Experts

Road Maintenance

Road Slope

Bridge Maintenance

Bridge Repair

Other Experts necessary for effective implementation will be dispatched

(2) C/P training in Japan and/or third country

(3) Provision of Tools and Materials for training, if necessary



(4) Cost share by Japan side

Cost for above (1) (2) (3) will be borne by Japan side. All other cost for implementation of the Project will be borne by the Philippines side.

6. INPUTS BY THE PHILIPPINES SIDE

Both parties agreed that following components will be prepared by the Philippines side.

(1) Assignment of the Personnel

- As ANNEX 3.

(2) Provision of facilities and equipment for the Project implementation

- Project offices at Central and 3 Regional Offices

- Equipment, Machinery and Materials

(3) Cost share by the Philippines side

- Excluding above "5. INPUTS BY JAPAN SIDE (4) Cost share by Japan side", all other cost needed for the implementation of the Project will be borne by the Philippines side.

7. ADMINISTRATION AND ORGANIZATION CHART OF THE PROJECT

Both parties agreed that Joint Coordinating Committee (JCC), Technical Working Group (TWG), and Counterpart Working Group (CWG) will be established for the effective and successful implementation of the Project as ANNEX 4.

8. OTHER REMARKS

Both parties agreed to commit to the following on implementation of the Project.

(1) Budget allocation from the Philippines side, especially for the pilot projects (road slope stability and bridge repair at the selected field sites) is pre-condition for the implementation of the Project.

(2) Outputs of the Project should be disseminated to engineers in non-target Regional Offices according to the terminal evaluation of the project "Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase I". In this connection, DPWH will facilitate such activities as dispatching the counterpart personnel as a trainer to other non-target Regional Offices, and inviting engineers in non-target Regional Offices to on-site training and seminars of the Project.

(3) DPWH requested to dispatch a long-term bridge expert who would support seminars for bridge maintenance and preparation of maintenance manuals of special type of bridges such as: Magapit Bridge (Suspension), Agas Agas Bridge (Prestressed Concrete), 2nd Magsaysay Bridge (Cable - stayed), Liloan Bridge (Steel Arch), etc.

The Team replied that it would be reported to JICA Headquarters, which would evaluate the necessity of the above-mentioned activity considering JICA budget constraints and available



personnel resources.

- (4) DPWH requested the provision of Tools and Materials as ANNEX 5.

The Team replied that it would be reported to JICA Headquarters, which would evaluate the necessity of the provision of Tools and Materials as ANNEX 5. considering JICA budget constraints.

- (5) Implementation of the Project might be postponed or cancelled due to the earthquake disaster which occurred on March 11, 2011 in Japan.

ANNEX 1. Record of Discussion (DRAFT)

ANNEX 2. Project Design Matrix and Plan of Operation (DRAFT)

ANNEX 3. List of Counterpart Personnel and TWG Members (DRAFT)

ANNEX 4. Administration and Organization Chart of the Project (DRAFT)

ANNEX 5. Requested Tools and Materials

(DRAFT)
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, JICA and the concerned authorities of DPWH agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Manila, DD/MM/YY

Norio Matsuda
Chief Representative
Japan International Cooperation Agency
Philippine Office

Raul C. ASIS
Undersecretary
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, JICA will take, at its own expense, the following measures according to the normal procedures under the Colombo Plan Technical Cooperation Scheme.

1. DISPATCH OF JAPANESE EXPERTS

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

2. PROVISION OF TOOLS AND MATERIALS

JICA will provide such tools, and/or materials (hereinafter referred to as "the Tools") necessary for the implementation of the Project as listed in ANNEX III. The Tools will become the property of the Government of the Philippines upon being delivered C.I.F. (cost, insurance and freight) to the authorities concerned at the ports and/or airports of disembarkation.

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. The Government of the Philippines will grant privileges, exemptions and benefits to the Japanese experts referred to in II-1 and their families, which are no less favorable than those accorded to experts of third countries working in the Philippines under the Colombo Plan Technical Cooperation Scheme.
4. The Government of the Philippines will ensure that the Tools referred to in II-2 will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in II-1.
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 laws and regulations enforced in the Philippines, 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 Tools and Materials 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 laws and regulations enforced in the Philippines, the Government of the Philippines will take necessary measures to meet;
 - (1) Expenses necessary for transportation within the Philippines of the Tools 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 Tools and Materials 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. 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

The Government of the Philippines undertakes to bear claims, if any arises, against the Japanese Experts engaged in 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. DURATION OF COOPERATION

The duration of the Project under the Attached Document will be three (3) years from the commencement.

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

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 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.
- 1)-4 Conduct workshops on maintenance management cycle by TWG.

Road: for Central Office, CAR and Region VII

- 2)-1 Promote utilizing 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 with 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
- Expert on Road Slope
- Expert on Bridge Maintenance
- Expert on Bridge Repair
- Other experts necessary for effective implementation of the Project will be dispatched.

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ANNEX III

LIST OF TOOLS AND MATERIALS

To be discussed before signing.

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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

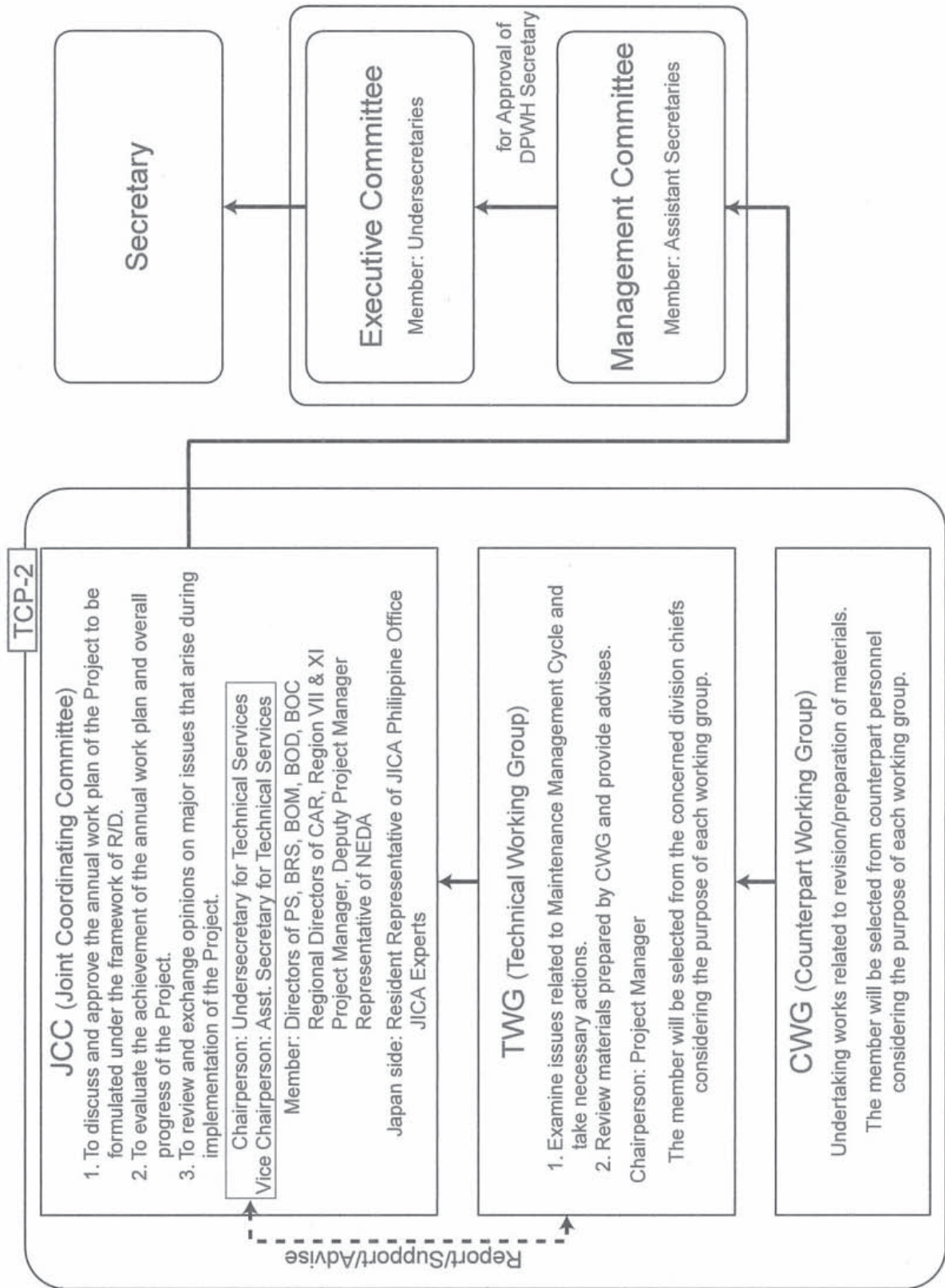
LIST OF LAND, BUILDINGS AND FACILITIES

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.

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ANNEX VI ADMINISTRATION AND ORGANIZATION CHART



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.

ANNEX2-1. Project Design Matrix (PDM) (DRAFT)

Project Title: Improvement of Quality Management for Highway and Bridge Construction and 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. 0

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

Issued Date: DD/MM, 2011

Narrative Summary		Objectively Verifiable Indicators		Means of Verification	Important Assumptions
Overall Goal		Target Area: 3 Regions (CAR, Region VII and Region XI)			
Capability of DPWH on road and bridge maintenance management is improved.		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. 2 Actual inspections and/or repairs with utilizing manuals/guidelines developed and/or revised by the Project are undertaken in other Regions. 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%).		1 Records of trainings in other Regions (sample Regions). Interview with engineers in sample Region. 2 Records of inspections/repairs in other Regions (sample Regions). Interview with engineers in sample Region. 3 Data of DPWH, Survey by the Project.	
Project Purpose		1 Manual and/or guidelines developed and/or revised by the Project are utilized for actual inspections and repairs in target three regions. 2 Engineers who participated in project activities are dispatched as trainers for activities relating to road and bridge maintenance management in other Regions. 3 Cases on repairs based on results of condition inspections and/or engineering inspections are reported in three target Regions. 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%).		1 Records of inspections and repairs, Interviews with engineers (C/P). 2 Records of trainings, Interviews with engineers (C/P). 3 Records of inspections and repairs, Interviews with engineers (C/P). 4 Data of DPWH, Survey by the Project.	1. Budgets for implementing activities relating to road and bridge maintenance in other Regions are allocated. 2. Philippine government policy on road and bridge sector remains consistent.
Outputs					
1	Management cycle for road and bridge maintenance is enhanced.	1-1 Understanding of engineers who participated in technical working group and workshops on maintenance management cycle is enhanced (XX% of those engineers could answer issues and countermeasures regarding maintenance management cycle). 1-2 Trial actions for improving maintenance management cycle were undertaken.		1-1 Records of workshops and working group meetings. 1-1 Interviews with engineers. 1-2 Monitoring report on trial actions, Interviews with engineers.	1. Project counterparts continue working in the counterpart agencies. 2. Trained engineers of road and bridge maintenance continue working in their agencies.
2	Capability of engineers on road slope maintenance management is enhanced.	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). 2-2 Engineers have knowledge on manual and/or guidelines on road maintenance management revised by the Project.		2-1 Records of evaluations by participants for trainings and the pilot project. 2-1 Interviews with engineers. 2-2 Interviews with engineers.	3. In cases where counterparts or trained engineers are promoted or reassigned, proper turn over and replacement should be done by DPWH. 4. Manuals and guidelines developed and/or revised by the Project are approved by DPWH Central Office.
3	Capability of engineers on bridge maintenance management is enhanced.	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). 3-2 Engineers have knowledge on manual and/or guidelines on bridge maintenance management developed and/or revised by the Project.		3-1 Records of evaluations by participants for engineering inspections and the pilot project. 3-1 Interviews with engineers. 3-2 Interviews with engineers.	

ANNEX 2-1.

Activities		Inputs		1. Participation of counterparts and other engineers in project activities (e.g. training and the pilot project) is ensured.
		(Japan side)	(Philippines side)	
1 Maintenance management cycle	Review current maintenance management cycle and identify issues necessary to be improved by Technical Working Group (TWG).	1. Dispatch of Experts -Road Maintenance -Road Slope -Bridge Maintenance -Bridge Repair Other experts necessary for effective implementation of the project will be dispatched.	1. Arrangement of counterpart personnel (C/P): DPWH Central Office - Chairperson - Vice Chairperson - Project Manager - Deputy Project Manager - Project Coordinator - Central Office counterparts	
1-1	Examine measures for improving maintenance management cycle by TWG.			
1-2	Take trial actions on the proposed measures.			
1-3	Conduct workshops on maintenance management cycle by TWG.	2. C/P training in Japan and/or third country		
1-4		3. Tools/materials for trainings		
2 Road (for Central Office, CAR and RVII)	Promote utilizing Road Slope Management System (RSMS) and its manuals/guidelines.		Cordillera Administrative Region - Regional Project Manager - Regional counterparts	
2-1	Implement the pilot project for road slope stability at the selected field sites.		Region VII - Regional Project Manager - Regional counterparts	
2-2	Review and improve the manual and/or guidelines on road maintenance and quality control which JICA was involved with in Phase I.		Region XI - Regional Project Manager - Regional counterparts	
2-3	Review and improve the Routine Maintenance Management Manual (RMMM).			
2-4				
3 Bridge (for Central Office, RVII and RXI)	Develop Engineering Inspection Manual on Bridge Management System (BMS).		2. Provision of facilities and equipment for the Project implementation - Project offices at Central and 3 Regional Offices - Equipment, machinery and materials	Pre-Conditions 1. Philippine government allocates budget for the Project without any major delay. 2. Project sites in 3 DPWH Regional Offices are secured.
3-1	Implement engineering inspections on bridges with utilizing Engineering Inspection Manual.			
3-2	Implement the pilot project for bridge repair at the selected field sites.			
3-3	Review and improve the manual and/or guidelines on bridge maintenance and quality control which JICA was involved with in Phase I.			
3-4	Review and improve the Routine Maintenance Management Manual (RMMM) (common to above 2-4).		3. Cost share by Philippines side - Implementation of Pilot Projects for Bridges and Roads - Other cost which will not be covered by Japan side.	
3-5				

ANNEX2-2, Plan of Operation (DRAFT)
Project Title: Improvement of Quality Management for Highway and Bridge Construction and Maintenance (Phase II)

ANNEX 2-2.

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ANNEX 3. List of Counterpart Personnel and TWG Members (DRAFT)

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)
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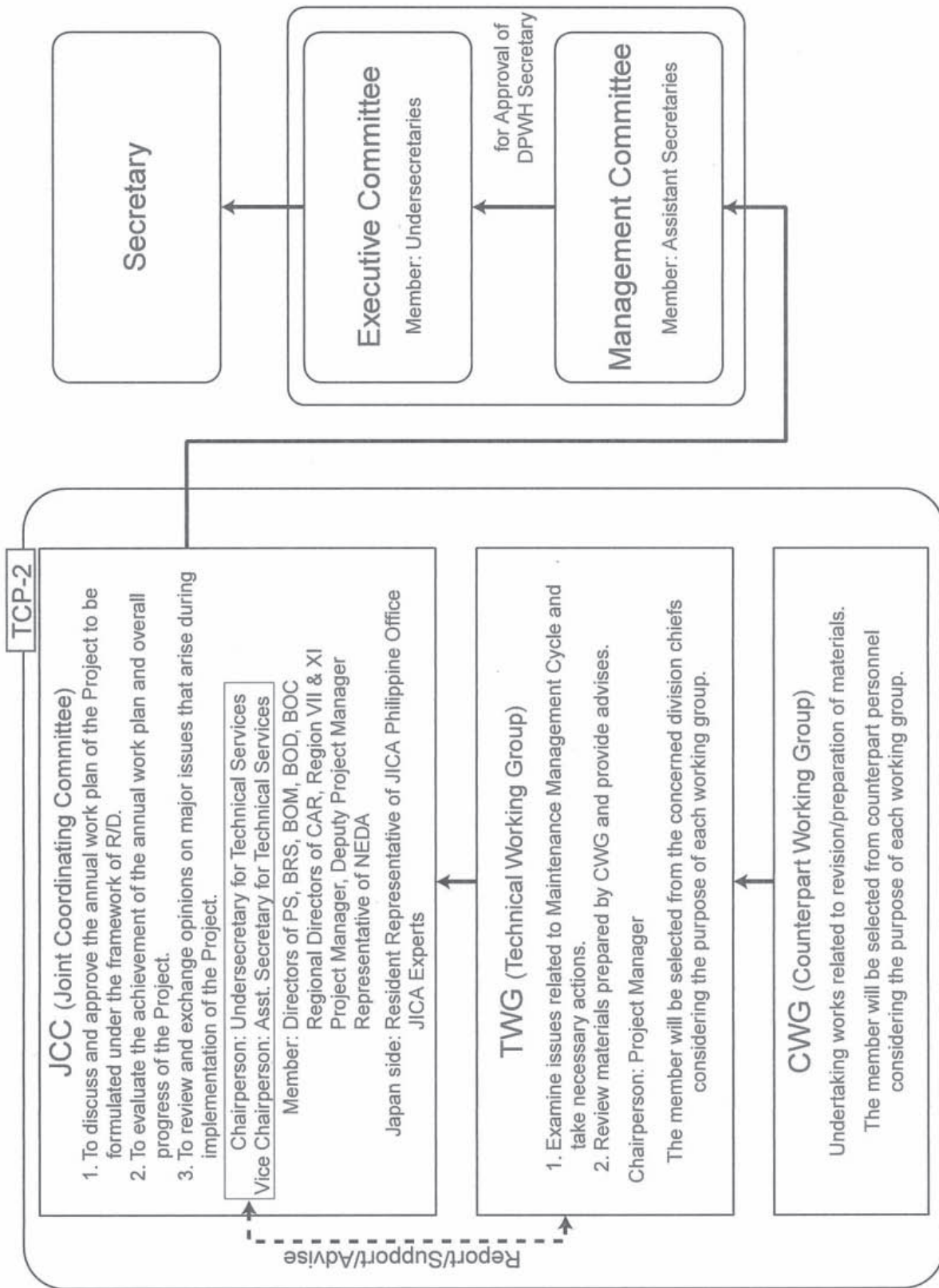
Note:

- 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 4. Administration and Organization Chart of the Project (DRAFT)



ANNEX5. Requested Tools and Materials

Road	
No.	Tools
1	Non-Destructive Measuring Density Gauge for Concrete Pavement
2	Small type FWD (Falling weight deflect meter) and Accessories (Additional Weight, Light Loading Plate, Extension Rod with Scale)
3	Simplified Dynamic Cone Penetrometer
4	Pipe Strain Gauge Meter with Memory
5	Portable Multi Use Water Quality Standard Censor Module with 100 meter Connection Cable
6	Laser type Distance Meter
7	Non-Destructive Measuring Density Moisture Meter
8	Moisture Meter
9	Portable Digital Clinometer (Geo-Cline)

Bridge	
No.	Tools
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 (Radar Type)
9	Air Meter Pressure Gauge Type
10	Air Meter Calibrator, Plastic
11	Ultrasonic Metal Thickness Gauge
12	Infrared Thermal Imager
13	High Resolution F/S Sonar Head and Accessories (Cable, Computer)
14	Microcore Apparatus
15	Portable Compression Testing Machine

Others	
No.	Tools
1	Projector
2	Video Recorder
3	Copy Machine
4	Digital Camera
5	Laptop Computer
6	Desktop Computer
7	Laser Printer
8	Color Printer
9	Scanner
10	Electric White Board

2. 事業事前評価表（案）

技プロ用

国際協力機構 経済基盤開発部 運輸交通・情報通信第二課

1. 案件名

国 名： フィリピン共和国

案件名： 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)

Improvement of Quality Management for Highway and Bridge Construction
and Maintenance, Phase II

2. 事業の背景と必要性

(1) 当該国における道路交通セクターの現状と課題

公共事業道路省(Department of Public Works and Highways、以下「DPWH」)はフィリピン共和国の道路・橋梁の建設・維持管理を担う中央省庁である。DPWHが2010年8月に行ったインベントリー調査によると、同国の総道路延長は約213,150km(高速道路を除く)、内、国道(29,898km)、州道(30,925km)、市・町道(30,626km)、残りは生活区域等から基幹道路までのアクセス道路となる最小行政区道である。

DPWHが2009年12月に国道を対象に行ったインベントリー調査では、舗装されている道路の割合が約70%、未舗装道路の割合が約30%であるが、舗装されている道路においても、その内、約30%の道路はDPWHの点検基準により舗装のひび割れ、わだち掘れ等による「不可」以下の状態と判断されており、全国道の約半分は補修もしくは改良、改修が必要な状態であると考えられる。DPWHの道路整備に関する中期計画(Medium-term Program 2005-2010)においては「国道の95%を舗装道路とし、かつ良好な状態とすること」を目指していたが依然途上であり、道路・橋梁の維持管理体制の更なる強化が喫緊の課題となっている。

本事業は技術協力事業「道路・橋梁の建設・維持に係る品質管理向上プロジェクト」(2007年2月から2010年2月)のフェーズIIとして、同国政府から、我が国に要請されたものである。DPWHは予算や計画、各種基準等を司る本省と、地方の現場において道路・橋梁の建設、維持管理を担う16のリージョンオフィス、リージョンオフィスが監理監督する175のディストリクトエンジニアリングオフィスで構成されるが、特に地方技術者の能力向上が不可欠であるという背景¹から、本事業フェーズIではバギオ、セブ、ダバオの3つのリージョンオフィスをモデルとして技術研修講師の育成等を行い、その成果を他のリージョンオフィスにも普及することを目的に実施された。本事業フェーズIの終了時評価(2009年12月)では、道路・橋梁維持管理に係る各種マニュアル等の整備、研修等により道路・橋梁の維持管理に関する個々の技術・知識についてはおおむね達成目標を充たすことはできたものの、一連の流れを包括的に理解し事業を進めていくための知識・技術について今後も引き続き強化していく必要がある

¹ 本省が担当する外国援助の建設プロジェクトは国際入札の結果、施工管理も海外のコンサルタントが行い、道路・橋梁は一定の品質で建設されるものの、自国予算でリージョンオフィスが所掌する建設の品質は低く、地方技術者の研修機会も本省に比して限定的であった。

と結論付けている。道路・橋梁の維持管理体制を整えるためには、点検計画、点検、点検評価、補修計画、補修・対策工という一連の維持管理サイクルを確立する必要があるものの、DPWH は、道路では特に斜面維持管理、橋梁については詳細点検や点検結果の評価に引き続き課題を有しており、維持管理サイクルが確立されていない。

一方、DPWH は、行政組織のスリム化を目指し、組織合理化計画(Rationalization Plan)を進行中である。同計画では、道路・橋梁の日常・定期的維持管理にかかる実際の作業は外部に委託、DPWH はこれを監理するという基本方針を示している。しかしながら、維持管理業務の外部委託化を進めるにおいても、委託する作業の品質を監理するためには、DPWH が道路・橋梁の維持管理に係る一定の技術を習得し、維持管理サイクルを確立する必要がある、本事業を我が国に要請したものである。

(2) 当該国における道路交通セクターの開発政策と本事業の位置づけ

同国の「中期開発計画」(2011～2016 年)では、道路・橋梁のインフラ整備が輸送のコストを縮減し、経済活動を活発化するものとして、優先課題に掲げられている。

また、DPWH の道路整備に関する中期計画(Medium-term Program 2011-2016)は JICA も協力を行いつつ作成途上であるが、特に既存インフラの維持管理に重点を置く方針が確認されている。

(3) 道路交通セクターに対する我が国及び JICA の援助方針と実績

我が国の対フィリピン国別援助計画(2008 年 6 月公表)においては、経済成長を支える主要な運輸・交通網の整備・改善について協力することを方針としている。援助国間の意見調整、援助調整のための対話の場として世界銀行、同国政府が主催するフィリピン開発フォーラムにおいて、我が国はインフラ分科会の共同議長を務めるなど、同国のインフラ開発に対し政策レベルでのイニシアティブを発揮している。このような機会を通じ、道路交通網の一層の拡充と共に、既存道路網の維持管理強化・改善、行政機関の事業実施能力改善等の必要性が強く認識されている。

JICA の協力実績としては、DPWH 計画局等に対する政策アドバイザーを派遣し、カウンターパートの能力強化を図りつつ、道路整備戦略の策定、これに沿った道路開発の案件形成、事業化を支援してきている。直近の例では、2011 年 3 月 31 日に L/A を締結した円借款事業「道路・改良保全事業」において既存の幹線国道を整備するとともに、長期性能規定型維持管理²の実施等を通じた DPWH の維持管理能力向上事業が進行中である。

²道路の維持管理をあらかじめ決められた規定に則り、5 年間等の期間、民間企業に委託する維持管理手法。

(4) 他の援助機関の対応

世界銀行はフィリピン国「幹線国道改良事業 (NRIMP: National Road Improvement & Management Program)」において長期性能規定型維持管理の導入を含む道路・橋梁維持管理の協力を進めている。

3. 事業概要

(1) 事業目的(協力プログラムにおける位置づけを含む)

本事業は、DPWH本省及びモデルリージョンオフィス技術者の道路・橋梁の点検、補修等技術の向上、維持管理サイクル改善を行うことにより、DPWH本省及びモデルリージョンオフィスの道路・橋梁維持管理能力の向上を図り、もってフィリピンの道路・橋梁の維持管理改善に寄与する。

(2) プロジェクトサイト／対象地域名

DPWH 本省(マニラ)及び以下の 3 モデルリージョンオフィス。
コルディレラ行政リージョン(バギオ)、リージョンⅦ(セブ)、リージョン XI(ダバオ)

(3) 本事業の受益者(ターゲットグループ)

- ・直接受益者: 本省及びモデルリージョンオフィス管内ディストリクトエンジニアリングオフィスの技術者、約 650 名
- ・間接受益者: モデルリージョンオフィス以外のリージョンオフィス技術者、モデルリージョンオフィス管内の道路・橋梁利用者

(4) 事業スケジュール(協力期間)

2011 年 10 月から 2014 年 9 月を予定(計 36 ヶ月)

(5) 総事業費(日本側)

3.5 億円

(6) 相手国側実施機関

DPWH 本省(計画局、設計局、建設局、維持管理局、調査標準局)及び 3 リージンオフィス(コルディレラ行政リージョン、リージョンⅦ、リージョン XI)

(7) 投入(インプット)

1) 日本側

・専門家

道路維持管理／維持管理サイクルマネジメント、道路斜面パイロットプロジェクト監理、橋梁維持管理／維持管理サイクルマネジメント、橋梁維持管理マニュアル、橋梁補

修パイロットプロジェクト監理、プロジェクトの効果的实施に必要となるその他の専門家(83MM)

- ・供与機材
車両、事務機器、研修用機材等
- ・本邦／第三国研修
道路・橋梁の維持管理分野等、延べ9名程度
- ・在外事業強化費
交通費、通信費、研修実施経費(機材費等)

2) フィリピン国側

- ・カウンターパートの配置
本省及び各モデルリージョンオフィス(総計20名程度)
- ・設備、機材
本省及び各モデルリージョンオフィスにおけるプロジェクトオフィススペース並びにオフィス設備、プロジェクト活動に必要な資機材
- ・プロジェクト活動に必要な経費
パイロットプロジェクト実施費用、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

(8) 環境社会配慮・貧困削減・社会開発

1) 環境に対する影響

① カテゴリー分類 C

② カテゴリー分類の根拠

道路・橋梁分野に係る人材育成を目的とした案件であり、環境への望ましくない影響はほとんどないと考えられる。

2) ジェンダー・平等推進/平和構築・貧困削減

特になし

3) その他

本事業ではパイロットプロジェクトとして、道路斜面对策工事、橋梁補修工事の実施が予定されているが、基本的には既存施設の補修である。工事期間中に一部交通規制の必要が生じる可能性が想定されるが、関係機関との調整、住民への事前説明を実施するなど配慮する。

(9) 関連する援助活動(活動レベルで連携するもの)

1) 我が国の援助活動

特になし

2) 他ドナー等の援助活動

特になし

4. 協力の枠組み

(1) 協力概要

1) 上位目標:

道路・橋梁の維持管理に係る DPWH 全体の能力が向上する。

指標: 1. 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た、モデル地域以外での道路・橋梁の維持管理に係る研修の実績。

指標 2. モデル地域以外における、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た道路・橋梁の検査／補修の実績。

指標 3. モデル地域以外における、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がなされていないと判断される道路総延長、橋梁の数が、XX%減少する）。

2) プロジェクト目標:

DPWH モデル 3 リージョンオフィス及びディストリクト・エンジニアリングオフィスの道路・橋梁の維持管理に係る能力が向上する。

指標 1. モデル 3 リージョンにおいて、DPWH 技術者が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実施した道路・橋梁の検査／補修の実績。

指標2. モデル 3 リージョンにおいて、DPWH 技術者が定期点検／詳細点検結果に基づく補修等対策を実施した実績。

指標3. 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がなされていないと判断される道路総延長、橋梁の数が、XX%減少する）。

3) 成果及び活動

成果 1. 道路・橋梁の維持管理サイクルが改善する。

【指標】

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参加者の理解度（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）。

1-2. 道路・橋梁の維持管理サイクルの改善に向けた試行策の実績。

【活動】

- 1-1. 技術作業部会(TWG)³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。
- 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。
- 1-3. TWG は、道路・橋梁の維持管理サイクルの改善に向けた試行策を実施する。
- 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。

成果 2. 道路斜面維持管理に係るモデルリージョンオフィス技術者の能力が向上する。

【指標】

- 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)。
- 2-2. 技術者の、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理解度。

【活動】

- 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。
- 2-2. 道路斜面維持管理技術に係るパイロットプロジェクトを実施する。
- 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及びガイドラインを見直し、必要に応じて改訂する。
- 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。

成果 3. 橋梁維持管理に係るモデルリージョンオフィス技術者の能力が向上する。

【指標】

- 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)。
- 3-2. 技術者の、プロジェクトにより作成／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。

【活動】

- 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。
- 3-2. 詳細点検マニュアルを使った橋梁詳細点検を実施する。
- 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。
- 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

³ 技術作業部会(Technical Working Group)は、DPWH 本省の計画局、設計局、建設局、維持管理局、調査標準局の責任者により構成され、道路・橋梁維持管理サイクルの改善のために各部局間の業務分掌や業務のやり方などの見直しを図り、改善策を検討・実施する。

見直し、必要に応じて改訂する。

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。

4) プロジェクト実施上の留意点

- ・指標の具体的な基準値、目標値は、プロジェクト開始後のベースラインサーベイによって設定する。
- ・成果1において本省各部局から課長級のカウンターパートを配置して TWG を組織し、本省部局間の業務分掌や業務のやり方等の見直しを図り、道路の運営・維持管理の現場業務の支障となっている問題点を洗い出し、運営・維持管理サイクルが円滑に行われるような改善のアクションプランを策定、実施する。成果2及び3において道路斜面管理と橋梁維持管理という個別具体的な技術向上を行う。これら成果が達成されることにより、フェーズ 1 にて取りこぼされていた個別の技術を含んだ全体的な運営・維持管理サイクルが確立し、さらにそれをマネジメントレベルでも理解することによって円滑な道路の運営・維持管理がなされるようになり、プロジェクト目標の達成につながる。
- ・パイロットプロジェクト実施に当たっては、DPWH が予算を確保することとなっているため、DPWH と予算、実施時期等について事前に十分協議し、プロジェクトの全体工程に影響が出ないよう留意する。そのため、カウンターパートとサイト選定、補修工法選定、工費等について早めに検討することとする。工事発注に当たっては、設計図書準備・積算・業者選定・契約等、調達に一定の期間を要するので、カウンターパートを十分支援しながら進めていく。また、パイロットプロジェクト施工機会を OJT として活用するため全体工程に配慮しつつ検討していく。

(2) その他インパクト

DPWH が組織合理化により維持管理業務の外部委託化を進めることを考慮し、モデルリージョンオフィスでの OJT には各地域のコンサルタントやコントラクターも参加を可能とすることで、同国の道路・橋梁の維持管理技術の向上に貢献することが期待される。

5. 前提条件・外部条件（リスク・コントロール）

(1) 事業実施のための前提

1. 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。
2. 3 モデル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。

(2) 成果達成のための外部条件

1. 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

(3)プロジェクト目標達成のための外部条件

1. 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 本省の承認が遅れない。

(4)上位目標達成のための外部条件

1. 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される。
2. 道路・橋梁分野に係る同国政府の政策が変更されない。

6. 評価結果

本事業は、フィリピン共和国の開発政策、開発ニーズ、日本の援助政策と十分に合致しており、また計画の適切性が認められることから、実施の意義は高い。

7. 過去の類似案件の教訓と本事業への活用

本事業フェーズⅠでは、研修を受けたモデルリージョンオフィスのカウンターパートが講師となり、リージョンオフィス、ディストリクトエンジニアリングオフィス技術者に研修を実施し、また、他リージョンオフィス技術者への研修でも講師となる機会が与えられ、協力の成果が面的広がりをもって展開された。また、技術者が実際に点検・補修等を経験するパイロットプロジェクトが実施され、実践的に能力向上が図られる手段は有効であったことから、フェーズⅡにおいてもコアとなる研修講師の育成、パイロットプロジェクトを取り入れるアプローチが踏襲される。

8. 今後の評価計画

(1)今後の評価に用いる主な指標

4. (1)のとおり。

(2)今後の評価計画

事業開始1ヶ月以内	ベースライン調査
事業中間時点	中間レビュー
事業終了6ヶ月前	終了時評価
事業終了3年後	事後評価

以 上