REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS AND HOUSING

REPUBLIC OF INDONESIA
THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

PROJECT COMPLETION REPORT

April 2024

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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This Project Completion Report was jointly prepared by JICA Expert Team and Center for Regional Infrastructure Facilitation, Ministry of Public and Housing, Indonesian counterpart of this Project. The contents of this report were prepared, reviewed and agreed by both side.

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ABBREVIATIONS

AI	Artificial Intelligence
BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
C/P or C/Ps	Counter Part(s)
COVID-19	Coronavirus Disease 2019
CRIF	Center for Regional Infrastructure Facilitation
CRMS	City Road Management System
DAC	Development Assistance Committee
DAK	Dana Alokasi Khusus (Special Allocation Fund)
DB	Database
DGH	Directorate General of Highways
DPS-IRI	Data Processing System for IRI
FV	Field Verification
HRD	Human Resource Development
ICT	Information and Communication Technology
IRE	Institute of Road Engineering
IRI	International Roughness Index
IT	Information Technology
JCC	Joint Coordinating Committee
JET	JICA Expert Team
JICA	Japan International Cooperation Agency
LCC	Life Cycle Cost
M&E	Monitoring and Evaluation
MKI	PT. Mediatama Kreasi Informatika
MM	Man/Month
MOH	Ministry of Health
MPWH	The Ministry of Public Works and Housing
OECD	Organization of Economic Cooperation and Development
OJT	On the Job Training
PD	Project Director
PDCA	Plan Do Check Act
PDM	Project Design Matrix
PHJD	Program Hibah Jalan Daerah (Regional Road Grant Program)
PIARC	World Road Association

PIRRG	The project for the Improvement of regional Roads Governance
PJ	Project
PM	Project Manager
PMS	Pavement Management System
PO	Plan of Operations
PRIM	Provincial Road Improvement and Maintenance
PUSDATIN	Pusat Data dan Teknologi Informasi (Centre for Data and Information Technology)
RAMP	Road Asset Management Platform
RD or R/D	Record of Discussions
RPJMN	Rencana Pembangunan Jangka Menengah Nasional (National Mid-Term Development Plan)
SIPDJD	Sistem Pengelolaan Database Jalan Daerah (Regional Road Database Management System)
SK	Surak Ketentuan (Decree)
SOP	Standard Operation Procedure
TWG	Technical Working Group
VI	Visual Inspection
VIS	Visual Inspection System
WG	Working Group

1. BASIC INFORMATION OF THE PROJECT

1.1 COUNTRY

Republic of Indonesia

1.2 TITLE OF THE PROJECT

Project for The Improvement of Regional Roads Governance

1.3 DURATION OF THE PROJECT

Planned: From September 2019 to August 2022 (3 years)

Actual: From September 2019 to March 2024 (4.7 years)

Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, the same period for one year and eight months to carry out the project activities which were entirely cancelled in 2020 and 2021 was extended.

1.4 BACKGROUND

The total road extension in Indonesia is 524,000 km. Of this, provincial roads account for 10% and regency/city roads account for 80%. Therefore, 90% of the roads fall under the jurisdiction of regional governments. About 90% of national roads are maintained in "stable condition." However, only 70% of provincial roads and 60% of regency/city roads meet the standard.

The reasons for local roads not satisfying the standard are as follows: budget shortages for maintenance and repair; inappropriate budget allocations due to insufficient systems for road maintenance and repair and for budgeting; and a lack of technological expertise in road maintenance and repair. The national government provides the regional governments with special subsidies (Dana Alokasi Khusus) for road maintenance and repair. When regional governments request special subsidies and implement projects financed by such subsidies, the Ministry of Public Works and Housing (hereinafter referred to as "MPWH") provides assistance. However, the MPWH has not been able to appropriately allocate these subsidies, one reason being that regional governments do not use a uniform format for road records on which budget requests are made. The regional governments have not constructed a database that serves as a hub for managing data on road maintenance and repairs. The lack of appropriate storage of historical data on road inspections and repair works has resulted in lagging repair work. In some cases, damage has occurred frequently at the same road location.

Toward addressing this situation, the National Mid-Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional (hereinafter referred to as "RPJMN"): 2015-2019) has set targets for 75% of provincial roads and 65% of regency/city roads to be in "stable condition." To this end, the MPWH has set up the Center of Facilitation for Regional Infrastructure (hereinafter referred to as "CRIF") within the Ministry. CRIF aims to acquire knowledge/data on the current situation of maintenance and repair of roads administered by regional governments and aims to develop a system for preparing plans, and

budgeting and implementing road maintenance and repair work in collaboration with regional governments. However, CRIF has not sufficiently developed these functionalities, therefore there is a great need for this project, which seeks to upgrade CRIF's project implementation capabilities. This project meets the National Mid-Term Development Plan because the project aims for the smooth, proper maintenance and repair of regional government roads.

Secretariat General of Ministry of Public Works and Housing of Indonesia and Japan International Cooperation Agency (hereinafter referred to as "JICA") agreed and signed the Record of Discussion (hereinafter referred to as "R/D") on May 28, 2019, to implement the Project for Improvement of Regional Road Governance in Indonesia. Under the Project, the utmost efforts will be made to introduce Japanese technologies and practices in addressing development issues in Indonesia not only for road maintenance and repair, but also for other fields as well. JICA has dispatched expert team (hereinafter referred to as JET) from beginning of September 2019 to implement the Project in cooperation with CRIF.

1.5 OVERALL GOAL AND PROJECT PURPOSE

(1) Overall Goal

Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.

(2) Project Purpose

Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CRIF.

(3) Objectives

The objectives of the Project are as follows:

- To strengthen CRIF's capabilities of planning and implementing road maintenance and repairs under the pilot projects;
- To smoothly implement regional road maintenance and repair projects in pilot areas under the guidance of CRIF;
- To contribute to the sustainable road maintenance and repair in pilot areas and disseminate methods developed to implement the Project to areas other than the pilot areas.

(4) Expected Outputs

Output 1: The operational capability of CRIF is improved.

Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.

Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.

1.6 PROJECT TARGET AREA

Jakarta and the pilot areas (Sukabumi city and Tebing Tinggi city)

1.7 PROJECT IMPLEMENTATION AGENCY

The Project Counterpart/Project implementation organizations in Indonesia are as below:

- Center for Regional Infrastructure Facilitation (CRIF) under jurisdiction of MPWH
- Directorate General of Highways (DGH) under jurisdiction of MPWH
- City Governments of pilot areas (Sukabumi city and Tebing Tinggi city)
- Badan Perencanaan Pembangunan Nasional (Bappenas)
- Public Works Polytechnic
- Centre for Data and Information Technology

1.8 PROJECT IMPLEMENTATION STRUCTURE

1.8.1 Joint Coordination Committee (JCC)

JCC shall be the main body of the Project to facilitate inter-organizational coordination, authorize project activities/outputs, modify scope of the Project and take any decisive decision relate to the Project. JCC comprises of representative from both Indonesia and Japan side and shall be chaired by the Head of CRIF. The role and members of JCC are shown in the Table below.

Table 1-1 Roles and Member of JCC

Chair	Head of the Center of Facilitation for Regional Infrastructure
Roles	▪ Discussion and approval on the annual work plan of the Project ▪ Assessment of the situation regarding achievement and progress of the annual work plan of the Project ▪ Investigation and exchange of opinions on issues in the Project implementation process ▪ Facilitate to overcome any critical issues (if occur) during the Project implementation
Members	**Indonesia** ▪ Head of Center for Regional Infrastructure Facilitation ▪ Director for Road and Bridge Management System and Strategy, Directorate General of Highways ▪ Head of Division of Specific Allocation Funds for Roads and Bridges, Center for Regional Infrastructure Facilitation ▪ Head of Division Land and Road Transportation, Bappenas ▪ Head of Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways ▪ Head of Road and Bridge Data and Information System Development Subdirectorate, Directorate General of Highways ▪ Director for Public Works Polytechnic ▪ Head of Subnational Roads Subdirectorate, Directorate General of Highways ▪ Head of Centre for Data and Information Technology ▪ Others (Two pilot cities) **Japan** ▪ The Japanese Embassy in Indonesia ▪ JICA Indonesia Office ▪ JICA Expert Team Members, etc.

1.8.2 Technical Working Group (TWG)

Technical working groups shall be established comprising of technical experts from the Counterpart side and the JICA Expert Team side to discuss and decide technical matters related to the Project. Considering the importance of the technical matters, the decision taken by the TWG may subject to endorsement thorough JCC. The following three (3) TWG shall be established to discuss the respective technical maters during the project implementation, such as the specifications of the IRI measuring instrument, the road database and Pavement Management System (PMS).

Table 1-2 Outline of TWG Meetings

Chairperson	Head of Division for Road and Bridge Provision, CRIF
Roles	▪ Deliberations on issues arising from Project implementation ▪ Deliberations, confirmations and decisions on technical matters of the Project ▪ Coordination on budget application procedures and collaborations among relevant organizations ▪ Project monitoring, other
Members	**Indonesia** ▪ Representatives from the Road and Bridge Provision, CRIF ▪ Representatives from DGH ▪ Representatives from Centre for Data and Information Technology (PUSDATIN) ▪ Representatives from the pilot areas, other **Japan** JICA project members

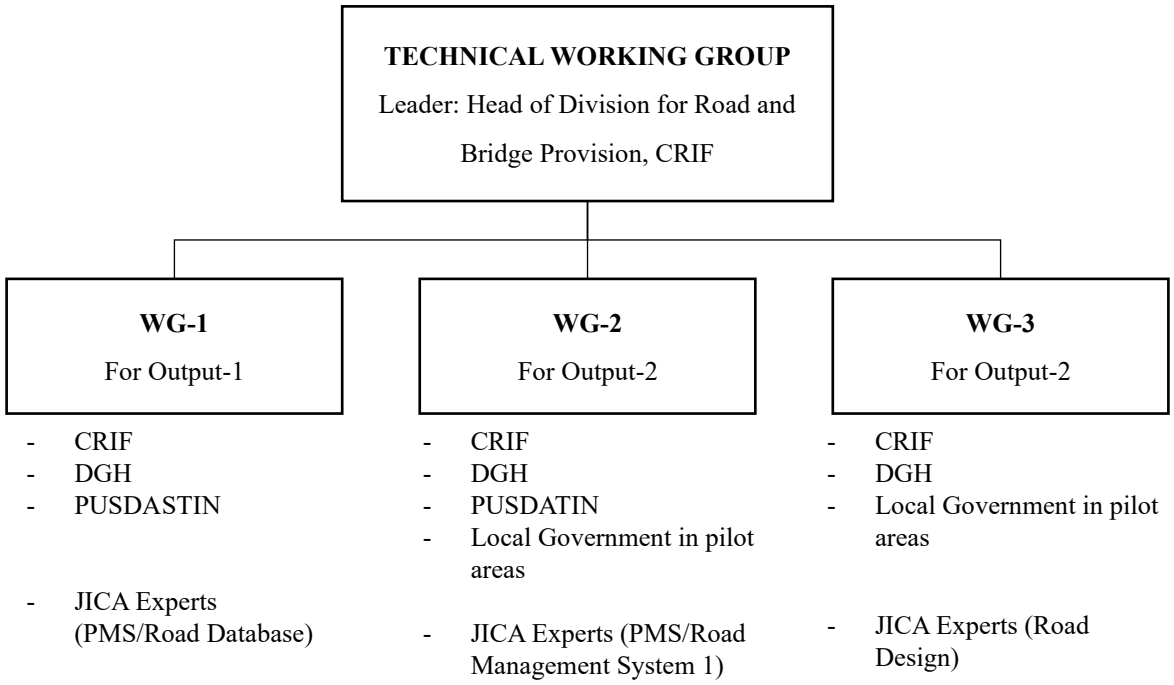


Figure 1-1 Technical Working Group (TWG)

1.8.3 JCC Meeting

A total of four (8) JCC meetings was held during the Project period to discuss and report Work Plan, Progress Report, and Completion Report, and Monitoring Sheet, etc.

(1) 1st JCC

The 1st JCC meeting was held on 24th September 2019 in Meeting Room in CRIF, Heritage Building 4th Floor, MPWH, under the chairmanship of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. In the 1st JCC meeting, the Work Plan and Monitoring Sheet Ver.1 were approved. The minute of JCC meeting is attached.

(2) 2nd JCC

The 2nd JCC was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the CRIF, with total of 30 participants. In the 2nd JCC meeting, the Monitoring Sheet Ver.2 and the Project Indicators which are described in the updated PDM were approved.

(3) 3rd JCC

The 3rd JCC is scheduled to be held in January 2021.

The 3rd JCC was held on 20th January 2021 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the CRIF, with total of 38 participants. In the 3rd JCC meeting, the Monitoring Sheet Ver.3 was approved, and the progress of development of CRMS, DPS-IRI and VIS was explained by JICA Expert Team.

(4) 4th JCC

The 4th JCC was held on 15th February 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of CRIF, with total of 39 participants. In the 4th JCC meeting, the Monitoring Sheet Ver.4 was approved.

(5) 5th JCC

The 5th JCC was held on 22nd June 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of CRIF, with total of 20 participants. In the 5th JCC meeting, the change of counterpart members was approved.

(6) 6th JCC

The 6th JCC was held on 20th January 2023 in Meeting Room in CRIF, Heritage Building 4th Floor, MPWH, and online under the chairmanship of Mr. Krisno Yuwono, Head of CRIF, with total of 24 participants. In the 6th JCC meeting, the Monitoring Sheet Ver.5 was approved.

(7) 7th JCC

The 7th JCC was held on 15th September 2023 in Meeting Room in CRIF, Heritage Building 4th Floor, MPWH, and online under the chairmanship of Mr. Krisno Yuwono, Head of CRIF, with total of 18 participants. In the 7th JCC meeting, the Monitoring Sheet Ver.6 was approved.

(8) 8th JCC

The 8th JCC was held on 13th March 2024 in Meeting Room in CRIF, Heritage Building 4th Floor, MPWH, and online under the chairmanship of Mr. Krisno Yuwono, Head of CRIF.

1.8.4 Technical Working Group (TWG) and Working Group (WG) Discussion

The outliner of TWG and WG meeting which have been held to date is shown in Table 1-3.

Table 1-3 List of Meetings Organized

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants
1	1st Technical Meeting (Kick-off Meeting)	Outline of the Project / Technical Working Group (TWG) /Project Monitoring & Baseline Survey	CRIF Office	18th September, 2019	CRIF members
2	Explanation of Pilot Selection and Pilot Project Meeting	Outline of Project / Explanation of Pilot Project / Explanation of Criteria and Procedure for Selection	Jakarta	14th November, 2019	9 candidates cities and CRIF In total of 23
3	1st TWG	Specification of all systems (CRMS, DPD-IRI and VIS) and database framework	CRIF Office	29th November, 2019	CRIF, Data Center in MPWH, DGH, IRI and BAPPENAS In total of 29
4	1st WG-1 Meting	Confirmation of information related to Activity 1-1 and 1-2	CRIF Office	11th December, 2019	CRIF Member of CRIF (Mr. Yussf and Yolanda)
5	1st Workshop in Sukabumi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Sukabumi	10th February, 2020	Deputy mayor of Sukabumi City, City staff and CRIF In total of 46
6	2nd Technical Meeting with Sukabumi City	Confirmation of various answers on questionnaire	Sukabumi	11th February, 2020	Key staff of BINAMARGA

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants
7	1st Workshop in Tebing Tinggi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Tebing Tinggi	17th February, 2020	Mayor of Tebing Tinggi City, City staff and CRIF In total of 36
8	3rd Technical Meeting with Tebing Tinggi City	Confirmation of various answers on questionnaire	Tebing Tinggi	17th February, 2020	Key staff of BINAMARGA
9	2nd WG-1 Meeting	Confirmation of Budget Making Process	CRIF Office	20th February, 2020	WG member of CRIF
10	2nd TWG	Technical specifications and development schedule of all systems, and system integration concept with other applications	Online	24th June, 2020	CRIF, Sukabumi, Tebing Tingi and DGH In total of 45
11	1st WG-2 Meeting	Confirmation of Road Maintenance Activities and Road Inventory Data	Online	19th August, 2020	WG-2 Member from all stakeholders
12	3rd WG-1 Meeting	Discussion of the deterioration forecasting model in CRMS	Online	25th September, 2020	WG-1 member from CRIF, DGH, BAPPENAS and Pilot Two Cities
13	1st WG-3 Meeting	Confirmation of issues related to the Pilot Project including material procurement and future plan	Online	9th October, 2020	WG-3 member from CRIF, DGH, BAPPENAS and Pilot Two Cities
14	2nd WG-2 Meeting with Sukabumi	Confirmation of the procedures of budget and road maintenance plan in Sukabumi city	Online	9th November, 2020	WG-2 member from Sukabumi
15	3rd WG-2 Meeting with Tebing Tinggi	Confirmation of the procedures of budget and road maintenance plan in Tebing Tinggi	Online	26th November, 2020	WG-2 member from Tebing Tinggi
16	3rd TWG Meeting	Report of progress of system development	Online	24th September, 2021	CRIF, BAPENASS, others
17	4th WG-1 Meeting	Discussion of detail functions of the systems	Online	8th October, 2021	CRIF, DGH, IT center of PUPR, others

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants
18	5th TWG	Discussion on the work plan for the 1st year Pilot Project	CRIF meeting room / Online	22nd August 2022	CRIF, Sukabumi, Tebing Tingi and DGH
19	6th TWG	System Implementation Environment / Requirements of IRI Measurement & DPS-IRI and VIS / Work Plan of Pilot Project	CRIF meeting room / Online	23rd September 2022	CRIF, Sukabumi, Tebing Tingi and DGH
20	7th TWG	Work Plan of Pilot Project in 2023 / Method for annual road condition reporting to SIPDJD	CRIF meeting room / Online	7th July 2023	CRIF, Sukabumi, Tebing Tingi
21	8th TWG	Sustainable implementation of Road Inspection	CRIF meeting room / Online	19th January 2024	CRIF
22	9th TWG	Sustainable implementation of Maintenance Planning, etc.	CRIF meeting room / Online	2nd February 2024	CRIF

1.9 PROJECT TEAM STRUCTURE

Names and roles of Experts in JICA Expert Team are listed below.

Table 1-4 List of Experts of JICA Expert Team

Name	Position & Role
Dr. Kazuya Aoki	Team Leader / Road Maintenance 1
Mr. Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2
Dr. Bhoj Raj Pantha	PMS/Road Database
Mr. Shunji Hata	Road Maintenance Plan
Mr. Eiji Noguchi	Road Design
Mr. Takeo Sugimoto	Road Inspection
Dr. Kazuya Tomiyama	IRI measurement system
Mr. Hiroshi Ueda	Construction Supervision
Mr. Junichi Oshima / Tetsuo Uno	PMS/Road Management System 1
Mr. Takaaki Hirakawa	Organization Management / Project Monitoring
Ms. Naoko Ono / Ms. Mana Tanaka / Mr. Ippei Kato	Training Plan / Gender
Mr. Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator

1.10 REPORTING

Followings are a list of report prepared under the Project.

Table 1-5 Reporting of the Project Activities

	Type of Report	Status
1	Monitoring Sheet Ver.1	Submitted on 30th September, 2019
2	Monitoring Sheet Ver.2	Submitted on 31st March, 2020
3	Monitoring Sheet Ver. 3	Submitted on 29th January 2021
4	Monitoring Sheet Ver. 4	Submitted on 15th February 2022
5	Monitoring Sheet Ver. 5	Submitted on 31st January 2023
6	Monitoring Sheet Ver. 6	Submitted on 14th September 2023
7	Project Completion Report (include outputs of technical cooperation)	Submitted on 28th March 2024

2. RESULTS OF THE PROJECT

The results of the Project are summarized based on the contents indicated in R/D and Project Design Matrix (PDM). Any modifications on PDM are mentioned accordingly in respective sections.

2.1 INPUTS TO THE PROJECT

2.1.1 Inputs by Japanese Side

Inputs to the Project is compared between those in the Work Plan and those in the final status of the Project.

(1) Dispatch of Experts

In accordance with the amended contract agreed in August 2019 between JICA and JICA Expert Team (JET), the experts have been assigned. After that, Dr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system in February 2020, then the number of experts has increased into a total 12 experts.

Experts have been assigned since September 1, 2019, and at the end of January 2023, all experts have been assigned for a total of 30.91 Man/Month (hereinafter to be called as "MM") out of the Project total assignment of 63.0 MM (assignment in Indonesia only). Since April 2020, there are no assignments in Indonesia due to the outbreak of COVID-19. However, during that period, JET has continued activities by online remote work from Japan. In the monitoring sheet version 3, the total assignment in Indonesia was described as 68MM, however, since a part of activities were converted to remote work from Japan, the final number of assignments is 64.90.

Table 2-1 Comparison of Expert Input

Experts	Position	Total (MM)
Kazuya Aoki	Team Leader / Road Maintenance 1	9.57 MM
Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2	2.83 MM
Bhoj Raj Pantha	PMS/Road Database	8.77 MM
Shunji Hata	Road Maintenance Plan	5.93 MM
Eiji Noguchi	Road Design	6.33 MM
Takeo Sugimoto	Road Inspection	5.27 MM
Kazuya Tomiyama	IRI measurement system	1.20 MM
Hiroshi Ueda	Construction Supervision	6.00 MM
Junichi Oshima / Tetsuo Uno	PMS/Road Management System 1	4.13 MM
Takaaki Hirakawa	Organization Management / Project Monitoring	7.37 MM
Naoko Ono / Mana Tanaka / Ippei Kato	Training Plan / Gender	2.90 MM
Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator	4.47 MM
Total		64.90 MM

(2) Training in Japan

Under the Project, two times training in Japan are planned, and the first training in Japan was held from 28th November 2022 to 9th December 2022 with the participants of total 8 counterparts. The second training in Japan was held from 19th June 2023 to 30th June 2023 with the participants of total 10 counterparts, including Mr. Krisno Yuwono who is the Project Director.

(3) Procurement of Equipment, Machinery and Materials

In conjunction with the implementation of this Project, the Project procured equipment, machinery and materials, following the initial Work Plan. Under the list is the details of these equipment, machineries and materials.

1) Hardware for IT Systems for Regional Road Management

The following hardware was provided.

Table 2-2 Provided Hardware

1.	**Desktop Computer** - Processor: i7-12700F - Mainboard: B760M-P DDR4 Wifi - Graphics Card: GTX1650 4GB - GDDR6 Memory: 16GB (8GBx2) - DDR4 3200mhz Storage: SSD 1TB Nvme - Casing: NZXT Black - Power Supply: 650w 85+ Bronze - Display: Monitor 22" FHD 75hz - HDMI OS: Windows 11 Pro - Software: Microsoft Office Home & Business (Posacard) - Accessories: Keyboard + Mouse Logitech USB Cable	**Total 3** CRIF: 1 Sukabumi: 1 Tebing Tinggi: 1
2.	**Action Camera device "Gopro Hero 10 Black"** - Protective Housing - Suction Cup Mount - Micro SD 128GB - Extra Battery	**Total 5 sets** CRIF: 1 Sukabumi: 2 Tebing Tinggi: 2
3.	**Galaxy Tab A7 Lite by Samsung** - Protective Case for Galaxy Tab A7 Lite - Micro SD 64GB	**Total 5 sets** CRIF: 1 Sukabumi: 2 Tebing Tinggi: 2

2) Construction Equipment and Material for the Pilot Projects

The construction equipment and materials listed below were provided to each of the two pilot cities for implementation of the pilot project.

Table 2-3 Provided equipment and material for the Pilot Project

1	Compactor for Pavement Repair -Everyday CNP15H Plate -Honda GX160 Engine	**Total 2 sets** Sukabumi: 1 Tebing Tinggi: 1
2	Asphalt/Concrete Cutter - Everyday Q450H20 Plate - Honda GX390 Engine	**Total 2 sets** Sukabumi: 1 Tebing Tinggi: 1
3	Asphalt Crack Sealer - MD Seal	**Total 4 sets** Sukabumi: 2 Tebing Tinggi: 2
4	Cold Mix Asphal Materials - Adding water type (Aqua Patch)	**Total 12 sets** Sukabumi: 6 Tebing Tinggi: 6
5	Cold Mix Asphal Materials -Cold Patch JMTM-31 (- Super Cold-Mix Asphalt (SCMA-2))	**Total 12 sets** Sukabumi: 6 Tebing Tinggi: 6

2.1.2 Input by Indonesia Side

(1) Personnel

Project Director (PD) and Project Manager (PM) were identified under Record of Discussion (hereinafter to be called as "R/D") and assigned in September 2019. The rest of counterpart personnel was selected through the progress of the Project. In September 2019, 9 personnel for three Working Groups (hereinafter referred to as "WG") have been assigned (3 personnel for each WG) from the Center of Facilitation for Regional Infrastructure (hereinafter referred to as "CRIF"). Other related departments of the Ministry of Public Works and Housing (hereinafter referred to as "MPWH"), such as Department General of Highway (hereinafter referred to as "DGH"), Center for Data and Information Technology and Institute of Road Engineering (IRE) have assigned their officials as representatives of their respective divisions. Further 16 personnel from pilot cities (6 personnel from Sukabumi City and 10 personnel from Tebing Tinggi City) are assigned in February 2020. BAPPENAS has also been assigning their officials as member of JCC and WG in all meetings. The change of CP members was approved at the 5th JCC meeting held in June 2022. Amended version of the counterpart members is described in the following table. Furthermore, at the 5th JCC meeting, the English names of the counterpart

organizations were corrected. The English name of the main counterpart is changed to Center for Regional Infrastructure Facilitation (hereinafter to be called as "CRIF").

Table 2-4 Approved New Counterparts Members in 5th JCC

Before	Amended Version
・ Head of the Center of Facilitation for Regional Infrastructure ・ Director of Road Network Development, DGH ・ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure ・ Head of Division Land and Road Transportation, Bappenas ・ Deputy Director of Planning Integration and Network System, DGH ・ Deputy Director of Data Analysis and System Development, DGH ・ Head of Division, Programming and Evaluation, Institute of Road Engineering ・ Others (Two pilot cities)	・ Head of Center for Regional Infrastructure Facilitation ・ Director for Road and Bridge Management System and Strategy, Directorate General of Highways ・ Head of Division of Specific Allocation Funds for Roads and Bridges, Center for Regional Infrastructure Facilitation ・ Head of Division Land and Road Transportation, Bappenas ・ Head of Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways ・ Head of Road and Bridge Data and Information System Development Subdirectorate, Directorate General of Highways ・ Director for Public Works Polytechnic ・ Head of Subnational Roads Subdirectorate, Directorate General of Highways ・ Head of Centre for Data and Information Technology ・ Others (Two pilot cities)

Table 2-5 Main Counterparts

Title	Name	Organization/Position
Project Director	Krisno Yuwono	Head of CRIF
Project Manager	Sari Satria Dwipayana	Head of Division for Road and Bridge DAK Provision, CRIF
Leader of WG-1	Bapak Amiruddin Yusuf	Engineer, Road and Bridge Administration Division, CRIF
Leader of WG-2	Bapak Muhamad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF
Leader of WG-3	Bapak Muhammad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF

(2) Provision of the project office and facilities necessary for the project implementation

Project office space has been allocated in the building of CRIF office.

(3) Expenses for the pilot projects executed by the local governments in the pilot areas

The first pilot project was conducted in Tebing Tinggi City from 17th October 2022 to 20th October 2022, and in Sukabumi City from 24th October 2022 to 27th October 2022, with the budget of Indonesia side. The second pilot project was conducted in Tebing Tinggi City from 11th July 2023 to 2nd August 2023, and in Sukabumi City, it will be conducted in September and October in 2023, with the budget of Indonesia side.

(4) Administrative and operational expenses necessary for the project implementation

Expenses agreed at R/D has been secured and handled by the Indonesia side.

2.2 ACTIVITIES

2.2.1 Work Plan

To accomplish the Project purpose agreed between JICA and MPWH, JET proposed following basic policies for the implementation of the Project. The Work Plan was prepared based on these policies and submitted to JICA on September 30, 2019.

[Technical Policies]

Basic Policy 1: Strengthening CRIF's Governance to Improve Regional Road Maintenance

Basic Policy 2: Application of PDCA Cycles for Effective Governance of Regional Road Maintenance and Repair Projects

Basic Policy 3: Establishment of Transparent PDCA Cycles for Road Maintenance Projects

Basic Policy 4: Localization of Introduced Technology for Sustainability of the Project

Basic Policy 5: Development of Systems with the Introduction of Japanese Technology

Basic Policy 6: Readiness Assessment of Local Governments toward Expansion the Project's Outputs throughout the Country

Basic Policy 7: Effective Implementation of Pilot Projects and Monitoring of Outputs

Basic Policy 8: Development of Training Program for Sustainable Human Resource Development

[Basic Policies for Project Operation]

Basic Policy 9: Implementation of Project Flexibly in close Coordination with Stakeholders

Basic Policy 10: Utilization of relevant Resources of Organizations from Japan and Elsewhere

Basic Policy 11: Collaboration with Ongoing related Projects under MPWH

Basic Policy 12: Making the Most of Support from Indonesian Experts

Basic Policy 13: Work Scheduling Considering Climate, Culture and Road Maintenance Schedule

Basic Policy 14: Adoption of Proper Safety Measures when Implementing the Pilot Projects

Basic Policy 15: Disseminating the Project Outputs Effectively through Promotional Activities

Basic Policy 16: Gender Inclusive Road Maintenance and Repair Projects

2.2.2 Framework of Activities

Framework to achieve Project purpose is summarized in Table 2-6. There were no changes between planned and actual activities listed in the PDM, and all activities were carried out as planned. Among them, the results of the activities that deserve notable mention are listed in the table.

Table 2-6 Project Activities

Output	Project Activities	
	Plan / Actual	Status / Notable Activities
The operational capability of CRIF is improved	1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.	Completed
	1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.	Completed
	1-3 Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.	Completed Total 22 TWG/WG mtg and 15 Intensive trainings were conducted.
	1-4 Develop the database framework of regional roads across the country.	Completed CRMS, DPS- IRI and VIS were newly developed. And the procedures for Ministerial Regulation of those systems by DGH were implemented.
	1-5 Arrange the development policy direction of regional roads across the country.	Completed
	1-6 Prepare the proposal of budget allocation plan for regional road maintenance	Completed
	1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.	Completed To ensure the continuous implementation of the SOPs, a checklist of important points to be monitored by CRIF was developed.
	1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Completed
The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Completed
	2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Completed
	2-3 Conduct road inspections in the pilot areas.	Completed A new IRI measurement system (DPS-IRI) was developed for the first time in

Output	Project Activities	
	Plan / Actual	Status / Notable Activities
		Indonesia, and several test surveys and pilot tests were conducted.
	2-4 Develop the database of regional road maintenance in the pilot areas.	Completed
	2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF.	Completed
	2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.	Completed
	2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Completed
	2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.	Completed
The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Completed
	3-2 Assist the local governments in the pilot areas to execute pilot projects.	Completed
	3-3 Supervise the pilot projects in collaboration with CRIF.	Completed
	3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Completed
	3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Completed In addition to the text manuals, a total of 39 educational video contents were created and loaded onto the MPWH e-learning platform.
	3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Completed
	3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Completed Study tours were conducted inviting surrounding cities of the pilot area to share the knowledge in the PJ.

2.3 ACHIEVEMENT OF THE PROJECT

Achievement of the Project is summarized in this section from the following viewpoints.

1) Outputs and Indicators
2) Project Purpose and indicators
3) Overall Goal and indicators
4) Summary of Project outputs
5) Activities for sustainable implementation with the outputs

2.3.1 Outputs and Indicators

[**Output 1: Improve the operational capability of CRIF**]

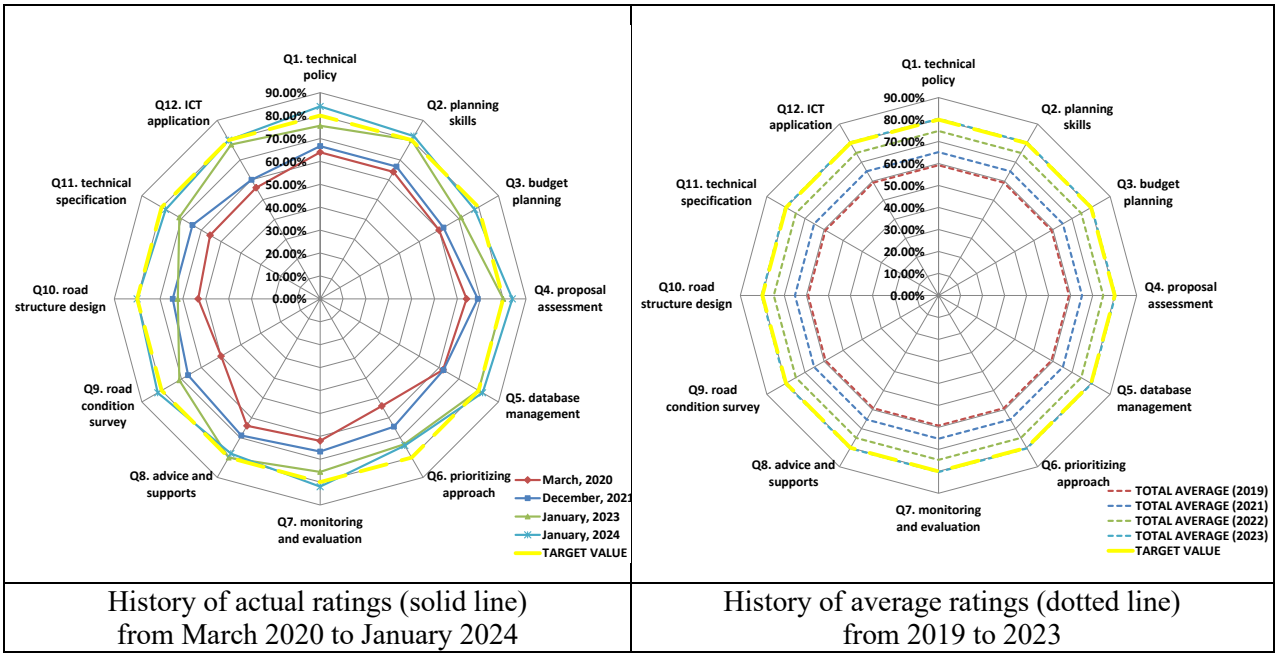
(1) Indicator 1: Self-ratings of CRIF on their operational capabilities

From the aspects of the evaluation items in Table 2-7, the self-rating surveys on the operational capabilities of CRIF have been carried out four times since the beginning of the Project, and the total ratings on average (average ratings) were extracted through the calculation of each evaluation item (12 questions). As shown in Table 2-7, the average ratings have generally been increased throughout the four questionnaire surveys. The rating result extracted from the 4th questionnaire survey (January 2024) was 80.3% (target value: 80%), and it could be said that this indicator was achieved at the end of the Project.

Table 2-7 Result of CRIF self-ratings on their operational capabilities

	(1) March 2020 (10 respondents)	(2) Dec. 2021 (9 respondents)	(3) Jan. 2023 (9 respondents)	(4) Jan. 2024 (10 respondents)
I. Administrative Aspects				
Q1. Technical policy development for regional roads	**64.0%**	**66.7%**	**75.6%**	**84.0%**
Q2. Planning skills for regional road administration	**64.0%**	**66.7%**	**80.0%**	**82.0%**
Q3. Budget planning for regional road administration	**60.0%**	**62.2%**	**71.1%**	**78.0%**
Q4. Procedure of proposal assessment for regional road administration	**64.0%**	**68.9%**	**80.0%**	**84.0%**
Q5. Database management for regional road administration	**62.0%**	**62.2%**	**80.0%**	**82.0%**
Q6. Approach for prioritizing road maintenance projects	**54.0%**	**64.4%**	**73.3%**	**74.0%**
Q7. Monitoring and evaluation skills for regional road administration	**62.0%**	**66.7%**	**75.6%**	**82.0%**
Q8. How to provide administrative advice & supports for local gov'ts	**64.0%**	**68.9%**	**80.0%**	**78.0%**
II. Practical Aspects				
Q9. Road condition survey skills	**50.0%**	**66.7%**	**71.1%**	**82.0%**
Q10. Road structure design for pavement	**53.3%**	**64.4%**	**62.2%**	**80.0%**
Q11. Knowledge of technical specification on road maintenance	**55.6%**	**64.4%**	**71.1%**	**78.0%**
Q12. ICT application to regional road maintenance	**56.0%**	**60.0%**	**77.8%**	**80.0%**
Total Rating on Average (Q1 – Q12)	**59.2%**	**65.2%**	**74.8%**	**80.3%**

Source: Results of the Questionnaire Survey (Form 2) of the Monitoring System



History of actual ratings (solid line) from March 2020 to January 2024	History of average ratings (dotted line) from 2019 to 2023

Figure 2-1 Tendency of CRIF self-ratings on the operational capabilities (actual and average ratings)

In the 4th questionnaire survey, the maximum rating point was 84.0% in "Q1: Technical policy development for regional roads" and "Q4: Procedure of proposal assessment for regional road administration." CRIF staff favorably assessed their operational capabilities for regional road administration, especially technical policy development and proposal assessment. On the other hand, there were four (4) items below the target value, *i.e.*, "Q3: Budget planning for regional road administration (78.0%)", "Q6: Approach for prioritizing road maintenance projects (74.0%)", "Q8: How to provide administrative advice and supports for local governments (78.0%)", and "Q11: Knowledge of technical specification on road maintenance (78.0%)." In particular, it is necessary for CRIF to improve the knowledge on the budget planning, prioritization of road maintenance projects, administrative advice and supports, and technical specification on road maintenance. Although it is the time for the project completion, CRIF shall continuously conduct their operations with their own efforts. As a result, there are prospects that these ratings will exceed the target value near the future.

(2) Indicator 2: Operations based on SOP for regional road administration by CRIF

The workflow of SOP for regional road administration by CRIF consists of three categories: (a) road inspections, (b) database operations and management, and (c) formulation of annual road maintenance plans (refer to Figure 2-2). The SOP also includes the original operations of CRIF which are not covered with the JICA Project.

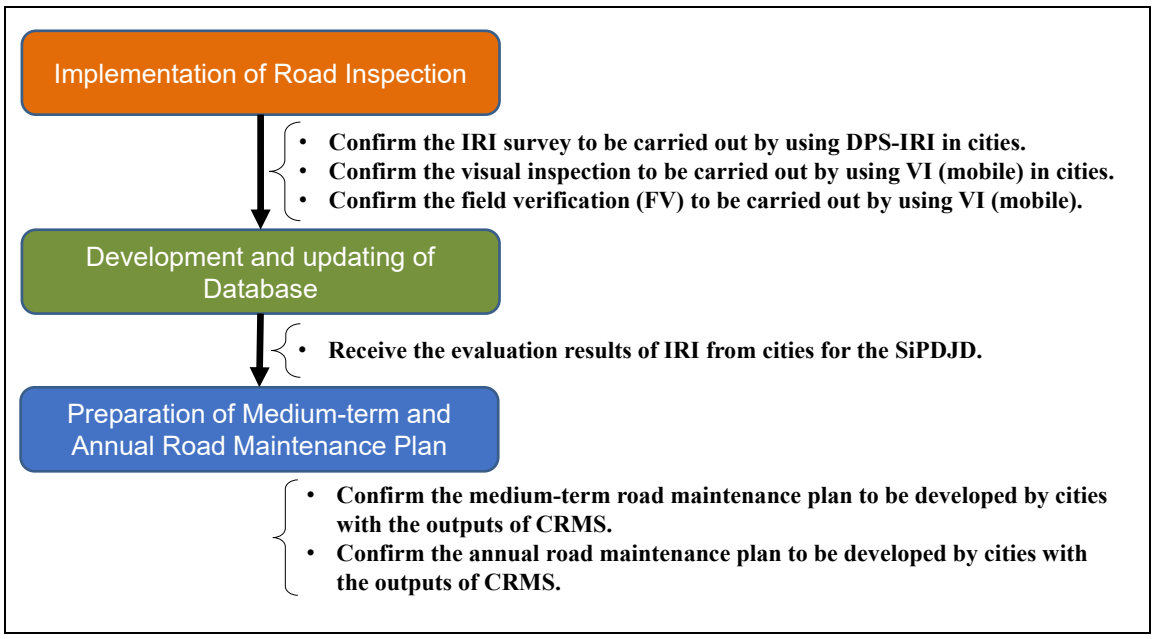


Figure 2-2 Workflow of SOP for Regional Road Administration by CRIF

The Project has developed and introduced the new system, *i.e.*, City Road Management System (CRMS), Data Processing System for IRI (DPS-IRI), and Visual Inspection System (VIS). By using the system, the persons in charge of road infrastructure authorities (local governments) carry out road inspection, database management, and formulation of road maintenance plan under the supervision of CRIF. In connection with the system, CRIF is responsible for supervising the portions with dotted circles as indicated in Figure 2-3.

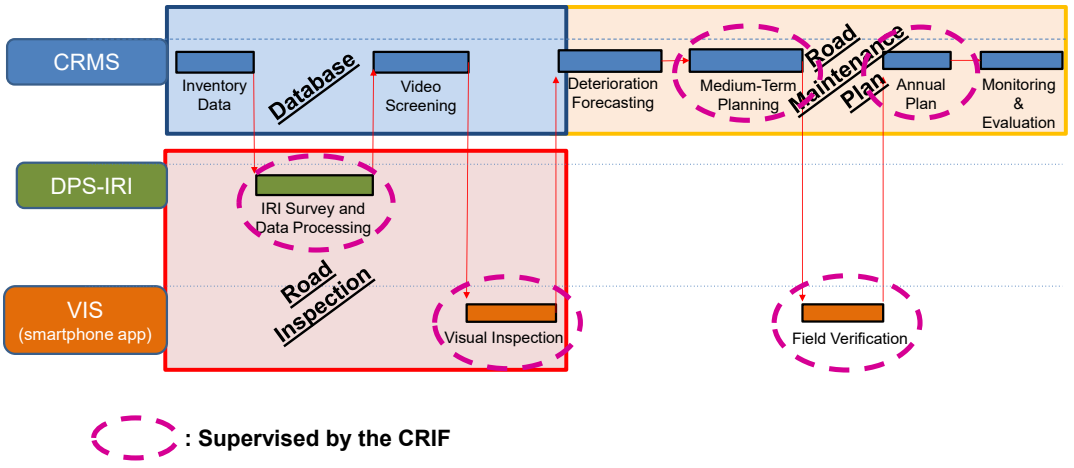


Figure 2-3 Relationship with the System and Road Maintenance Operations

The performance checklist based on the SOP (refer to Table 2-8) is prepared to clarify the tasks and responsibilities between the Planning Sub-section and the Monitoring and Evaluation (M&E) Sub-section in the Roads and Bridges Section of the CRIF. The performance checklist of the SOP with the demarcation of two Sub-sections are prepared from the following reason. According to the Roads and Bridges Section of CRIF, since there are no clear demarcations between the Planning and M&E Sub-

sections, it is crucial to establish the appropriate SOP for the clarification of their tasks and responsibilities. Thus, the performance checklist shall be effectively utilized to confirm the work progress and to clarify the tasks and responsibilities of the Sub-sections as well.

Table 2-8 Performance checklist based on the SOP

No.	Flow of procedures	Planning sub-section	M&E sub-section	Tick when fulfilled
Road Inspection				
1	**Confirm the IRI survey to be carried out by using DPS-IRI in cities.**	◎	○	☑
2	**Confirm the visual inspection to be carried out by using VI (mobile) in cities.**	◎	○	☑
3	**Confirm the field verification (FV) to be carried out by using VI (mobile).**	◎	○	☑
4	**Monitor the progress of road inspection based on the road inspection plan.**	○	◎	☑
Database				
5	**Receive the evaluation results of IRI for the SiPDJD from cities.**	◎	○	☑
Annual Road Maintenance Plan				
6	**Confirm the medium-term road maintenance plan to be developed by cities with the outputs of CRMS.**	◎	○	☑
7	**Confirm the annual road maintenance plan to be developed by cities with the outputs of CRMS.**	◎	○	☑
8	**Confirm the progress of financial operations and physical works in the annual road maintenance plan.**	○	◎	☑

Source: Result of CRIF's confirmation

[Output 2: Strengthen the process for formulating the road maintenance plan]

(1) Indicator 1: Database operations and management by pilot cities

The database operations and management in the two target cities will be measured along the checklist as shown below (refer to Table 2-9). The checklist consists of two parts, *i.e.*, "road inspection" and "database", and there are 12 items in total to be confirmed. Also, the shaded parts (No. 2, 3, 5, 8) of the checklist are the items to be checked by CRIF from the overall point of view as explained in the Output 1.

Table 2-9 Checklist for the database operations and management

Name of City：		**Date:**	
No.	**Items to be checked**	**Tick when fulfilled**	**Rate (%)**
Road Inspection			
1	**The inspection plan is developed.**	☐	**－**
2	**IRI survey is conducted by using DPS-IRI.**	☐	**%[1]**
3	**Visual inspection is conducted by using VI (mobile).**	☐	**%[2]**
4	**The areas to be inspected visually are registered into the CRMS by using VI (mobile).**	☐	**－**
5	**Field verification (FV) is conducted by using VI (mobile).**	☐	**%[3]**
Database			
6	**Road inventory data are inputted or updated.**	☐	**－**
7	**The data collected by DPS-IRI are imported into the CRMS database.**	☐	**－**
8	**The evaluation results of IRI are submitted to the CRIF (for SiPDJD).**	☐	**－**
9	**Video screening survey is conducted with the results of IRI survey.**	☐	**%[4]**
10	**Priority of visual inspection is examined with the results of video screening.**	☐	**－**
11	Visual inspection data are entered into the CRMS.	☐	**－**
12	FV data are entered into the CRMS.	☐	**－**

The results of the checklist for the database operations and management in the two (2) target cities are indicated in Figure 2-4. As all the items were fulfilled from No.1 to No.12, it could be said that this indicator was fulfilled even though the percentages were not a satisfactory level at this moment. It is expected that the items with the percentages will be increased as the project activities have progressed after the termination of the Project, though.

In Sukabumi, it was difficult to conduct data import into the CRMS (No.7) in the initial stage because they had to upload the inventory data into the CRMS according to the latest city decree in 2023 (SK) in which road inventory data is supposed to be updated every five years.

In Tebing Tinggi, the progresses in No.2 and No.3 were low compared to the ones in Sukabumi due to

[1] The percentage (%) = (actual IRI survey length) / (total road network length) Unit of length: km
[2] The percentage (%) = (actual road inspection length) / (length indicated in the inspection plan)
[3] The percentage (%) = (number of roads on which FVs were implemented for the specific year) / (number of roads prioritized* in the specific year of the medium-term maintenance plan) *Sukabumi and Tebing Tinggi prioritize with the criteria, such as road severity, connectivity, urgency, budget, etc.
[4] The percentage (%) = (number of roads on which video screening surveys were implemented) / (number of roads in the total city road network)

the staff shortage and limited number of vehicles used for surveys. According to the staff in TT, since they can carry out No.3 with motorcycles, it is expected to promote the operations by their own efforts.

No	Items to be checked	check box	%
Road Inspection			
1	The inspection plan is developed.	☑	—
2	IRI survey is conducted by using DPS-IRI.	☑	84.82 %
3	Visual inspection is conducted by using VI (mobile).	☑	85.89 %
4	The areas to be inspected visually are registered into the CRMS by using VI (mobile).	☑	—
5	Field verification (FV) is conducted by using VI (mobile).	☑	10.00 %
Database			
6	Road inventory data are inputted or updated.	☑	—
7	The data collected by DPS-IRI are imported into the CRMS database.	☑	—
8	The evaluation results of IRI are submitted to the CRIF (for SiPDJD).	☑	—
9	Video screening survey is conducted with the results of IRI survey.	☑	42.21 %
10	Priority of visual inspection is examined with the results of video screening.	☑	—
11	Visual inspection data are entered into the CRMS.	☑	—
12	FV data are entered into the CRMS.	☑	—

Checklist result of Sukabumi City in January 2024

No	Items to be checked	check box	%
Road Inspection			
1	The inspection plan is developed.	☑	—
2	IRI survey is conducted by using DPS-IRI.	☑	15.89 %
3	Visual inspection is conducted by using VI (mobile).	☑	32.00 %
4	The areas to be inspected visually are registered into the CRMS by using VI (mobile).	☑	—
5	Field verification (FV) is conducted by using VI (mobile).	☑	44.44 %
Database			
6	Road inventory data are inputted or updated.	☑	—
7	The data collected by DPS-IRI are imported into the CRMS database.	☑	—
8	The evaluation results of IRI are submitted to the CRIF (for SiPDJD).	☑	—
9	Video screening survey is conducted with the results of IRI survey.	☑	14.81 %
10	Priority of visual inspection is examined with the results of video screening.	☑	—
11	Visual inspection data are entered into the CRMS.	☑	—
12	FV data are entered into the CRMS.	☑	—

Checklist result of Tebing Tinggi City in January 2024

Source: Results extracted from Sukabumi City and Tebing Tinggi City

Figure 2-4 Results of the checklist for the database operations and management

The persons in charge of monitoring activities with the checklist are the key C/P members in the two target cities as shown in Table 2-10.

Table 2-10 Persons in charge of the checklist

	Persons in charge
Database operations and management	• Sukabumi City: Mr. Hady, Mr. Asep, Ms. Rika, Ms. Sisca, Mr. Hafidzurrahman, Mr. Idris • Tebing Tinggi City: Mr. Rizky, Mr. Zul, Ms. Aida

Last but not least, the checklist is a communication tool between CRIF and the target cities, so that the CRIF is able to confirm the progress and achievements of check items in the target cities on a regular basis and provide the advice for them as needed.

(2) Indicator 2: Annual road maintenance plan formulated by local governments

The development of annual road maintenance plan is measured according to the checklist as shown below (refer to Table 2-11). The checklist consists of six items to be checked. As explained above, the shaded parts (No. 5, 6) of the checklist are the items to be checked by CRIF from the overall point of view. As all the items in the checklist for the annual road maintenance plan were fulfilled in Figure 2-5, it would be said that this indicator was achieved.

Table 2-11 Checklist for the annual road maintenance plan

Name of City：	**Date:**	
No.	**Items to be checked**	**Tick when fulfilled**
1	**The unit costs of repair works are updated.**	☐
2	**The list of repair methods is updated.**	☐
3	**The indexes for repair prioritization are confirmed or reviewed.**	☐
4	**Deterioration of road pavement is forecasted for the medium-term road maintenance plan.**	☐
5	**Medium-term road maintenance plan is developed with the outputs of CRMS.**	☐
6	**Annual road maintenance plan is developed with the outputs of CRMS.**	☐

No.	Items to be checked	check box
1	The unit costs of repair works are updated.	☑
2	The list of repair methods is updated.	☑
3	The indexes for repair prioritization are confirmed or reviewed.	☑
4	Deterioration of road pavement is forecasted for the medium-term road maintenance plan.	☑
5	Medium-term road maintenance plan is developed with the outputs of CRMS.	☑
6	Annual road maintenance plan is developed with the outputs of CRMS.	☑

Checklist result of Sukabumi City in February 2024

No.	Items to be checked	check box
1	The unit costs of repair works are updated.	☑
2	The list of repair methods is updated.	☑
3	The indexes for repair prioritization are confirmed or reviewed.	☑
4	Deterioration of road pavement is forecasted for the medium-term road maintenance plan.	☑
5	Medium-term road maintenance plan is developed with the outputs of CRMS.	☑
6	Annual road maintenance plan is developed with the outputs of CRMS.	☑

Checklist result of Tebing Tinggi City in February 2024

Source: Results extracted from Sukabumi City and Tebing Tinggi City

Figure 2-5 Results of checklist for the annual road maintenance plan

The persons in charge are the key C/P members in the two target cities, and the frequency is indicated in Table 2-12.

Table 2-12 Persons in charge of the checklist and its frequency to be implemented

	Persons in charge	Frequency
Annual Road Maintenance Plan	• Sukabumi City: Mr. Hady, Mr. Asep, Ms. Rika, Ms. Sisca, Mr. Hafidzurrahman, Mr. Idris • Tebing Tinggi City: Mr. Rizky, Mr. Charles, Mr. Salmon, Mr. Zul	Annually

[Output 3: Develop the practical engineering method]

(1) Indicator 1: Self-ratings of engineers and technicians at the pilot city governments on their practical engineering method of regional road maintenance

Although the average ratings have generally been increased throughout the four questionnaire surveys, the final average rating attained to **74.3%** (target value: 75%) as shown in Table 2-13. It could be said that this indicator was not achieved in conclusion whereas it was very close to the target value. Regarding the results of individual items, the technical staff in the two target cities highly assessed "Q2: road condition survey skills (81.1%)," "Q11: pothole maintenance skills (80.0%)," and other items as well. Generally speaking, the rating results were quite satisfactory for the technical staff other than "Q13:

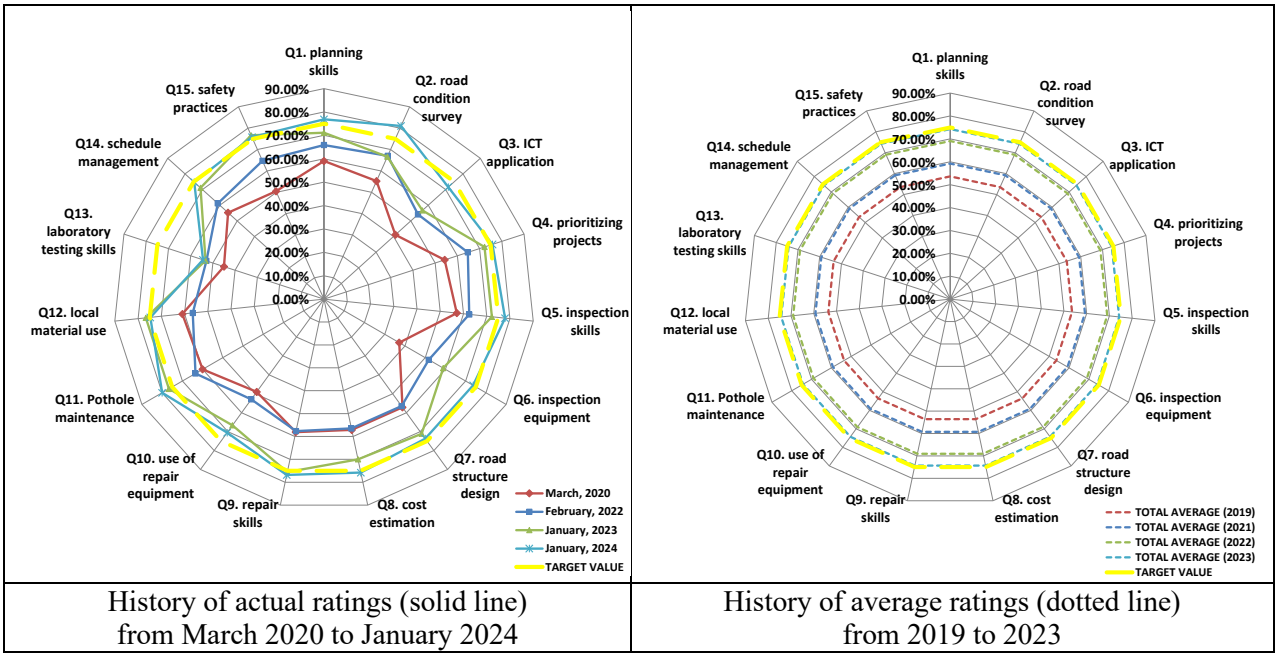
Laboratory testing skills and knowledge (54.4%).” Thus, the improvement of laboratory testing knowledge is one of future’s challenges towards the attainment of the target value.

Table 2-13 Result of self-ratings of engineers and technicians working in pilot cities

	(1) March 2020 (21 respondents)	(2) December 2021 (17 respondents)	(3) January 2023 (18 respondents)	(4) January 2024 (19 respondents)
I. Planning Aspects				
Q1. Planning skills and knowledge of road maintenance projects	**59.1%**	**65.9%**	**71.1%**	**76.8%**
Q2. Road condition survey skills for city roads	**55.2%**	**67.1%**	**66.7%**	**81.1%**
Q3. ICT application to city road maintenance	**41.1%**	**54.1%**	**56.7%**	**71.6%**
Q4. How to prioritize road maintenance projects	**54.3%**	**64.7%**	**72.2%**	**75.8%**
Q5. Inspection skills of road improvement	**57.1%**	**62.5%**	**72.2%**	**77.9%**
Q6. Efficient use of inspection equipment	**37.1%**	**51.8%**	**58.9%**	**73.7%**
II. Implementation Aspects				
Q7. Road structure design for pavement, *e.g.*, drainage and bridge	**57.1%**	**56.5%**	**71.1%**	**73.7%**
Q8. Cost estimation of road maintenance projects	**57.1%**	**56.5%**	**70.0%**	**75.8%**
Q9. Repair skills of road improvement	**58.1%**	**57.7%**	**75.6%**	**76.8%**
Q10. Efficient use of repair equipment	**49.0%**	**52.9%**	**66.7%**	**70.5%**
Q11. Pothole maintenance skills	**60.0%**	**63.5%**	**76.7%**	**80.0%**
Q12. Efficient use of local materials for road maintenance	**61.0%**	**56.5%**	**76.7%**	**74.7%**
Q13. Laboratory testing skills and knowledge	**45.0%**	**52.9%**	**53.3%**	**54.4%**
Q14. Schedule management of road maintenance projects	**55.2%**	**61.2%**	**71.1%**	**74.7%**
Q15. Safety practices for workers and road users during the implementation	**50.5%**	**64.7%**	**76.7%**	**75.8%**
Total Rating on Average (Q1 – Q15)	**53.6%**	**59.2%**	**69.0%**	**74.3%**

Source: Results of the Questionnaire Survey (Form 5) of the Monitoring System

As indicated in Figure 2-6, the self-ratings of engineers and technicians in the two target cities are approaching a “round shape” balanced among the evaluation items and becoming a desirable shape, except for “Q13: Laboratory testing skills and knowledge.”



History of actual ratings (solid line) from March 2020 to January 2024	History of average ratings (dotted line) from 2019 to 2023

Figure 2-6 Tendency of self-ratings of technical staff in pilot cities on their practical engineering method

(2) Indicator 2: Practical engineering methods for regional road maintenance

The Project aimed at developing the practical engineering method through the pilot projects, and the definition of engineering method was clarified as the practical road maintenance works had proceeded. As shown in Figure 2-7, practical engineering method was ultimately developed in the process of the results extracted, engineering issues related to human resources development, good practices, and the solutions to problems through the pilot projects.

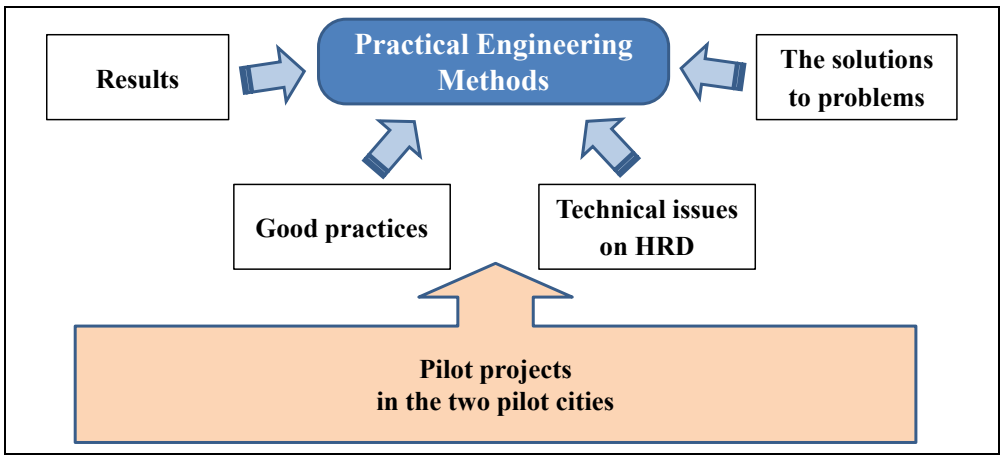


Figure 2-7 Image of the development of practical engineering method

The Project has prepared the checklist on the development of practical engineering method (Table 2-14), and this is composed of six categories, *i.e.*, (i) problems and the solutions, (ii) materials, machinery, devices, and equipment to be procured and used, (iii) work procedures and safety management, (iv) monitoring and evaluation methods, (v) technical issues on human resources development (HRD), and

(vi) extraction of good practices and lessons learned.

Table 2-14 Checklist on the development of practical engineering method

Name of Respondent:	**City:**	**Date:**	
No.	**Items to be checked**		**Tick when fulfilled**
1.	**Problems and the solutions**		
(1)	**Indication of the problems identified**		☐
(2)	**The solutions to the problems**		☐
(3)	**Appropriate repair methods (overlay, partial pavement replacement, pothole patching)**		☐
2.	**Materials, machinery, devices, and equipment to be procured and used**		
(1)	**Appropriateness of the materials to be procured and used by each repair method**		☐
(2)	**Appropriateness of the machinery, devices, and equipment to be procured and used by each repair method**		☐
3.	**Work procedures and safety management**		
(1)	**Work procedures based on each repair method**		☐
(2)	**Safety management based on each repair method**		☐
4.	**Monitoring and evaluation methods**		
(1)	**Monitoring methods, including monitoring sheet, for each repair method**		☐
(2)	**Evaluation methods for each repair method**		☐
5.	**Technical issues on human resources development (HRD)**		
(1)	**Technical issues on HRD (e.g., determination of repair methods, preparation of cost estimation and bidding documents, instructions for and supervision of contractors, maintenance of the equipment provided, etc.)**		☐
(2)	**Suggestions for improvement on HRD**		☐
6.	**Extraction of good practices and lessons learned**		
(1)	**Good practices and/or experiences extracted from the pilot projects with practical engineering method**		☐
(2)	**Lessons learned extracted from the pilot projects with practical engineering method**		☐

Because all the items in the checklist were fulfilled in the two target cities as indicated in Figure 2-8, it could be concluded that the practical engineering method was developed.

No.	Items to be checked	check box
1.	Problems and the solutions	
(1)	Indication of the problems identified	☑
(2)	The solutions to the problems	☑
(3)	Appropriate repair methods (overlay, partial pavement replacement, pothole patching)	☑
2.	Materials, machinery, devices, and equipment to be procured and used	
(1)	Appropriateness of the materials to be procured and used by each repair method	☑
(2)	Appropriateness of the machinery, devices, equipment to be procured and used by each repair method	☑
3.	Work procedures and safety management	
(1)	Work procedures based on each repair method	☑
(2)	Safety management based on each repair method	☑
4.	Monitoring and evaluation methods	
(1)	Monitoring methods, including monitoring sheet, for each repair method	☑
(2)	Evaluation methods for each repair method	☑
5.	Technical issues on human resources development (HRD)	
(1)	Technical issues on HRD	☑
(2)	Suggestions for improvement on HRD	☑
6.	Extraction of good practices and lessons learned	
(1)	Good practices and/or experiences extracted from the pilot projects with practical engineering method	☑
(2)	Lessons learned extracted from the pilot projects with practical engineering method	☑

Checklist result of Sukabumi City in January 2024

No.	Items to be checked	check box
1.	Problems and the solutions	
(1)	Indication of the problems identified	☑
(2)	The solutions to the problems	☑
(3)	Appropriate repair methods (overlay, partial pavement replacement, pothole patching)	☑
2.	Materials, machinery, devices, and equipment to be procured and used	
(1)	Appropriateness of the materials to be procured and used by each repair method	☑
(2)	Appropriateness of the machinery, devices, equipment to be procured and used by each repair method	☑
3.	Work procedures and safety management	
(1)	Work procedures based on each repair method	☑
(2)	Safety management based on each repair method	☑
4.	Monitoring and evaluation methods	
(1)	Monitoring methods, including monitoring sheet, for each repair method	☑
(2)	Evaluation methods for each repair method	☑
5.	Technical issues on human resources development (HRD)	
(1)	Technical issues on HRD	☑
(2)	Suggestions for improvement on HRD	☑
6.	Extraction of good practices and lessons learned	
(1)	Good practices and/or experiences extracted from the pilot projects with practical engineering method	☑
(2)	Lessons learned extracted from the pilot projects with practical engineering method	☑

Checklist result of Tebing Tinggi City in February 2024

Figure 2-8 Results of checklist on the development of practical engineering method

There are several comments on the practical engineering method along the checklist as described below.

[Sukabumi city]

- In the item 2 (1), Sukabumi staff could only use the local cold mix asphalt for the pilot projects because the aqua patch materials were quite costly with their limited budget. However, they followed the repair method according to the instructions of JET.
- In the item 2 (2), the equipment provided by JICA Project makes the field works more effective and faster. Additionally, the repair method was helpful in the implementation of repair works.
- In the item 3 (1), as the work procedure which JET provided for them has impacted positively, this leads to more effective and proper work procedures, such as patching, overlay, etc.
- In the item 6 (1), they learned tremendous lessons and experiences through pilot projects, such as the governance of work procedure which encourages them to implement proper road maintenance works, including road inspection, data management, equipment maintenance, etc.

[Tebing Tinggi city]

- In the item 1 (3), they became able to solve the problems through technical analysis, such as selection of appropriate repair methods in accordance with the road damages.
- In the item 2 (1) and (2), local materials tested at lab in Medan were used for the pilot projects. Also, they came to inspect the equipment before using it at working sites through the instructions of JET.
- In the item 5 (1), as there are only limited staff in the road department, it is hard for the Tebing Tinggi staff to manage contractors for road maintenance works effectively.
- In the item 5 (2), the staff needs more training courses regarding new repair methods.
- In the item 6 (1), there were several good practices pointed out by the Tebing Tinggi staff:
  - They have learned that the work schedule should be followed by the initial schedule with proper procedures.

  < Aqua patch >
  - Aqua patch is quite efficient and effective for repairing potholes as this could cover the roads more quickly than other materials.
  - It can be easily used and does not require a special tool to use.
  - As the price is quite expensive, it is difficult to procure and use the materials in Tebing Tinggi city.

  < Crack sealant >
  - The Tebing Tinggi staff could learn how to use crack sealant through the pilot projects. Specifically, they should make sure that the areas inside crack are cleaned before pouring sealants into cracked roads (use of compressor recommended).

  < Safety measure >
  - They could learn that it is necessary to wear safety vests, boots, and helmets in the construction areas.
  - It is important to use road signs when conducting road repairs and constructions.

In addition to that, the persons in charge are the key C/P members in the two target cities in Table 2-15.

Table 2-15 Persons responsible for filling in the checklist

	Persons responsible for filling
Development of Practical Engineering Method	• Sukabumi City: Mr. Hady, Mr. Asep, Mr. Hafidzurrahman, Mr. Idris, Ms. Rika, Ms. Sisca • Tebing Tinggi City: Mr. Charles, Mr. Salmon, Mr. Zul, Ms. Aida

2.3.2 Project Purpose and Indicators

Project Purpose is to properly promote regional road maintenance projects in the pilot cities under the initiative of CRIF. It could be said that the two indicators were mostly achieved as explained below.

(1) Indicator 1: Completion status and self-assessment of regional road maintenance projects by the pilot city governments indicated in the annual road maintenance plan

The completion rates in the two target cities are retained at more than 90% (target value) as indicated in Table 2-16. On the other hand, although the self-assessment results on the completion, quality, and project management for road maintenance works were increased in the final year 2023, the results were lower than 80% of the target value (77.0% in Sukabumi and 72.1% in TT). Therefore, it could be said that this indicator was partially achieved, and it will be the future challenge for the two cities to improve the quality and project management of road maintenance works through the effective utilization of project outcomes, such as good practices of the pilot projects implemented in 2022-2023, even after the termination of the Project.

Table 2-16 Completion status and self-assessment of regional road maintenance projects

Indicator 1 of Project Purpose		2019	2020	2021	2022	2023
Completion status (status quo with **more than 90%**)	Sukabumi	88.9%	94.3%	93.3%	100 %	100 %
	Tebing Tinggi	94.5%	100 %	100 %	100 %	100 %
Self-assessment (target value: **80%**)	Sukabumi	61.1%	60.0%	64.9%	71.0%	77.0%
	Tebing Tinggi	62.0%	61.9%	62.0%	70.9%	72.1%

Source: Achievement records of the annual road maintenance plans by the target cities

(2) Indicator 2: Satisfaction ratings of the pilot city governments on the consultations by CRIF

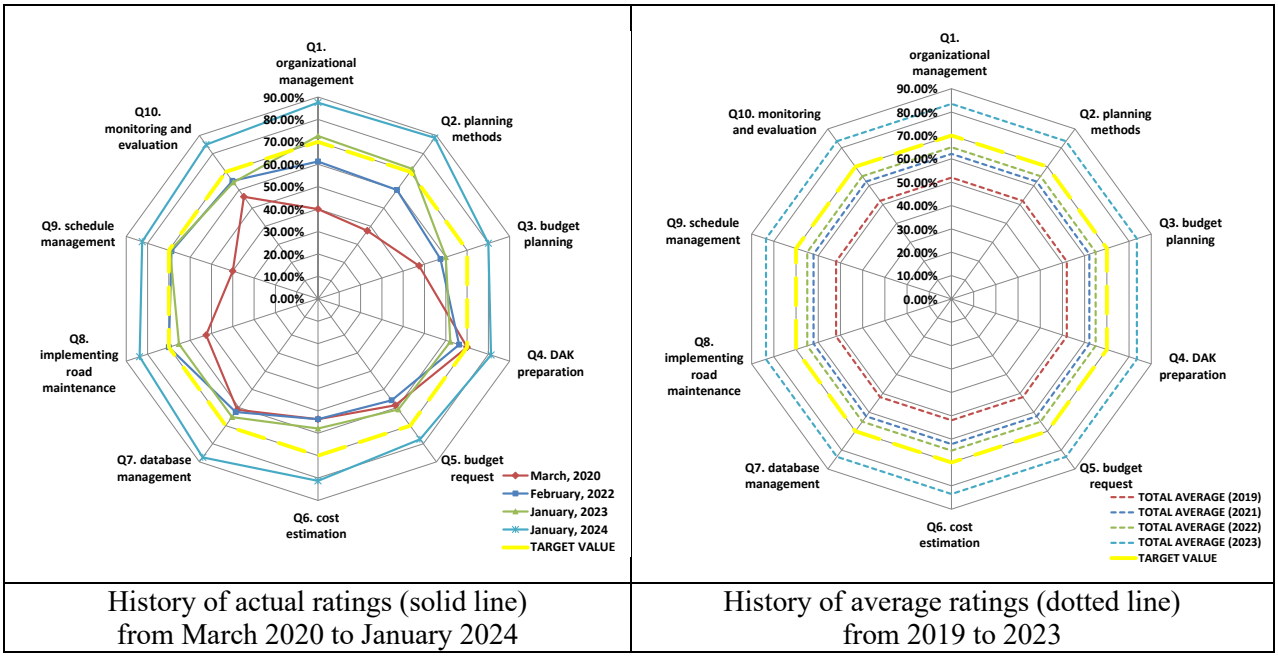
The average ratings have gradually been increased throughout the four questionnaire surveys. As CRIF has actively communicated with and provided the consultations for the two target cities, the rating in the final year 2024 attained to **83.5%** far beyond the target value (70%) as shown in Table 2-17. All the

items exceeded 70%, and the highest rating was "Q2: General planning methods for road maintenance projects (88.8%)." Thus, CRIF could provide appropriate consultations on the planning methods for the cities' staff during the project cooperation period. Even the lowest rating was 77.5% in "Q5: Budget request procedures" well above the target value, so it would be said that this indicator was outstandingly achieved at the end of the Project.

Table 2-17 Result of satisfaction ratings of the pilot city governments on CRIF consultations

	(1) March 2020 (16 respondents)	(2) February 2022 (16 respondents)	(3) January 2023 (19 respondents)	(4) January 2024 (16 respondents)
Q1. Organizational management for road maintenance	**40.0%**	**61.3%**	**72.6%**	**87.5%**
Q2. General planning methods for road maintenance projects	**37.5%**	**60.0%**	**71.6%**	**88.8%**
Q3. Budget planning for DAK	**47.5%**	**57.5%**	**60.0%**	**80.0%**
Q4. DAK preparation for road maintenance projects	**70.0%**	**66.3%**	**62.1%**	**81.3%**
Q5. Budget request procedures for road maintenance projects	**58.8%**	**56.0%**	**61.1%**	**77.5%**
Q6. Cost estimation of road repair and preventive maintenance	**53.8%**	**53.8%**	**57.9%**	**81.3%**
Q7. Database management for road maintenance projects	**61.3%**	**62.5%**	**65.3%**	**87.5%**
Q8. Implementation of road maintenance projects	**52.5%**	**70.0%**	**65.3%**	**83.8%**
Q9. Schedule management for road maintenance projects on DAK	**40.0%**	**68.8%**	**69.5%**	**82.5%**
Q10. Monitoring and evaluation methods for road maintenance	**56.3%**	**65.0%**	**64.2%**	**85.0%**
Total Rating on Average (Q1 – Q10)	**51.9%**	**62.1%**	**65.0%**	**83.5%**

Source: Results of the Questionnaire Survey (Form 1) of the Monitoring System



History of actual ratings (solid line) from March 2020 to January 2024	History of average ratings (dotted line) from 2019 to 2023

Figure 2-9 Tendency of the CRIF consultations assessed by the pilot city governments (actual and average ratings)

2.3.3 Overall Goal and Indicators

Overall Goal is to sustainably maintain regional roads in the target cities and disseminate the implementation approaches to other six cities. This Goal will be accomplished three (3) years after the termination of the Project, *i.e.*, by March 2026.

(1) Indicator 1: Lengths (km) of road inspections and repairs in the pilot cities

In Sukabumi city, the lengths of road inspections and repairs in 2023 were decreased due to the insufficiency of road maintenance budget. Comparing to the budget in 2022, DAK budget in 2023 was not disbursed because the roads were in very good condition 5 in 2022. Therefore, only local government budget was disbursed for road maintenance in 2023.

In Tebing Tinggi, the length of road inspection in 2023 was increased because the damaged roads necessary for inspection had been increased as shown in Table 2-18. Under this circumstance, the length of road repair was also increased while the road widths (m2) in 2023 were narrower than the ones in 2022.

The target lengths which will be achieved by the end of 2026 are 117 km and 60 km for road inspections as well as 65 km and 30 km for road repairs in Sukabumi and Tebing Tinggi respectively.

[5] Since the road condition indexes (DD1) in the two target cities were above 75%, DAK was not allocated for 2023 (according to CRIF, DD1 in the two cities went beyond 80%).

Table 2-18 Lengths (km) of road inspections and repairs in pilot cities (2019–2023)

Indicator 1 of Overall Goal		2019	2020	2021	2022	2023	**2026 (Target)**
Road inspections (km)	Sukabumi[6]	68.8	47.8	77.5	107.7	78.8	**117**
	Tebing Tinggi[7]	55.8	45.1	40.5	40.5	69.0	**60**
Road repairs (km)	Sukabumi	24.6	7.8	9.5	29.3	8.6	**65**
	Tebing Tinggi	22.3	15.9	22.1	9.5	12.6	**30**

Source: Records of Sukabumi City and Tebing Tinggi City

(2) Indicator 2: Number of local governments adopting the project concepts (annual plan, engineering methods, etc.) outside the pilot areas

At the beginning of the Project, 10 cities were proposed as candidates for the two target cities. However, since two cities out of 10 did not submit the required documents, Sukabumi and Tebing Tinggi were ultimately selected as the target cities from the eight cities. Concerning the number of candidate cities to be disseminated for the Overall Goal, therefore, the remaining number of cities "6" was set as the target. The Indonesian side will flexibly determine the specific six cities based on the current situation and willingness, the physical access to those cities, etc.

Before the termination of the Project, moreover, the region-wide seminar was held to introduce the project activities to city officials related to road maintenance across the country. Seminar participants had strong interests in the project activities, such as the systems developed, materials used for efficient road works, etc. Furthermore, CRIF organized a study tour to demonstrate dissemination operations in close cooperation with Sukabumi city. Through the study tours, CRIF could learn how to disseminate the project approaches to other cities in preparation for the continuous operations from now on. Therefore, CRIF will be able to promote dissemination activities smoothly on their own initiative after the termination of the Project.

[6] Total road network in Sukabumi city is approximately 117km.
[7] Total road network in TT city is approximately 223km.

2.3.4 Summary of Project Outputs

Table 2-21 summarizes Project outputs.

(1) IT Systems for Regional Road Management

City Road Management System (CRMS) / Qty.: 1 build

CRMS is a web-based application that was developed as a subcontractor to the IT vendor in Indonesia. The complete source code was provided to CRIF.

Data Processing System for IRI (DPS-IRI) / Qty.: 1 build

DPS-IRI is a stand-alone application that was developed as a subcontractor to the IT vendor in Indonesia. It was installed on dedicated PCs located in CRIF and the two pilot cities. The complete source code and installer was provided to CRIF.

Visual Inspection System (VIS) / Qty.: 1 build

VIS is a mobile application that was developed as a subcontractor to the IT vendor in Indonesia. It was installed on dedicated Tablet PCs handed over to CRIF and the two pilot cities. The complete source code and installer was provided to CRIF.

(2) Manuals / Guideline

The following Manuals/Guidelines were developed and provided to CRIF.

Table 2-19 Manuals / Guideline

Category	Title
For overall of road maintenance work	Manual for Implementation of Road Inspection Work
	Budget Making Procedure Manual
	Regional Road Maintenance Manual
For system application users	User Manual of City Road Management System (CRMS)
	User Manual of Data Processing System for IRI (IRI)
	User Manual of Visual Inspection System (VIS)

(3) Video Contents for e-Learning Platform

Total 39 educational video for 35 hours have been created and handed over to CRIF.

Table 2-20 Lesson Hours by category

No.	Training Subjects	Lesson Hours	
		Mandatory	Optional
Distance Learning			
1	City Road Asset Management	6	11
2	City Road Management System (Inspection)	3	0
3	City Road Management System (Planning)	2	0
4	Pavement Design, Construction, and Maintenance	6	1
Classical / Practical			
1	City Road Management System (Inspection)	4	0
2	City Road Management System (Planning)	2	0
Total		**23**	**12**

Table 2-21 Summary of Project Outputs

Measures	Outputs	Note
Output-1	(1) City Road Management System (CRMS)	Installed in the server in MPWH
	(2) Data Processing System for IRI (DPS-IRI)	Installed in the PCs
	(3) Visual Inspection System (VIS)	Installed in the Tablet PCs
	(4) User Manual of City Road Management System (CRMS)	
	(5) User Manual of Data Processing System for IRI (IRI)	
	(6) User Manual of Visual Inspection System (VIS)	
	(7) SOP for regional road administration	
Output-2	(1) Database of regional road maintenance	Stored in the CRMS
	(2) Manual for Implementation of Road Inspection Work	
	(3) Budget Making Procedure Manual	
Output-3	(1) Regional Road Maintenance Manual	
	(2) Video Contents for e-Learning Platform	Uploaded into the server in MPWH

2.3.5 Activities for sustainable implementation with the outputs

(1) Application for the Ministerial Regulation

The IT systems developed and implemented in this project (CRMS, DPS-IRI and VIS) were certified as official technologies in the MPWH. The necessary technical documents for certification were submitted to DGH, the certifying organization. The certification of the technology is an important condition for the use of the system by the local government and is one of the conditions for the dissemination of the Project outputs to other cities to achieve the overall goals of the Project.

(2) Study Tour

CRIF and the two pilot cities invited the surrounding cities of the two pilot areas and organized a study tour. The tour was conducted to disseminate the findings, know-how, and practical examples obtained through this Project to the surrounding cities, and positive feedback was obtained from the participating city officials, who expressed a desire to use the technologies in their road maintenance work.

2.4 HISTORY OF PDM MODIFICATION

2.4.1 PO and PDM

In order to practically and effectively utilize the PDM, the project period, narrative summary, indicators, means of verification, etc. were modified as shown in Table 2-22 below.

Table 2-22 Modification of the PDM (PDM_0 to $PDM_{2\text{-}3}$)

Components of the PDM		Corrections
Basic Information	Project Period (in version 2-1)	Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched since April 2020 due to the worldwide prevalence of COVID-19. After the restart, it would be required to extend the implementation period for one year in order to carry out the pilot projects twice as originally planned due to the entire cancellation of the first ones in 2020.
	Project Period (in version 2-2)	JET has not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the same period for one year and eight months and to continue two-year periods for road maintenance with the pilot projects (for the Output 2 and 3) which were entirely cancelled in 2020 and 2021.
	Target Groups and other parts in the PDM (in version 2-2)	Change from "CFRI" to "CRIF" Before: Centre of Facilitation for Regional Infrastructure (CFRI) After: Centre for Regional Infrastructure Facilitation (CRIF) As mentioned above, although "CFRI" was changed to "CRIF", the only part which was modified was the organization name. Thus, it was agreed

Components of the PDM		Corrections
		in the 5th JCC that the version number (Version 2-2) of the PDM remained unchanged.
Indicator	Overall Goal (in version 2-3)	Indicator 2: Number of local governments adopting the implementation approaches of the Project XX areas → six (6) areas At the beginning of the Project, Sukabumi and Tebing Tinggi were selected from the eight (8) cities. Concerning the number of candidate cities to be disseminated for the Overall Goal, the remaining six (6) cities which were not initially selected are set as the target figure. Although the figure is "six (6) cities," the Indonesian side is able to flexibly change to other cities according to the current situation and willingness of the six (6) cities, etc.
	Project Purpose (in version 2)	Indicator 1: Completion status of the annual plan The original indicator of the PDM_1 was modified as follows: **The self-assessment of all the regional road maintenance projects exceeds 80% on average in the pilot areas with the completion rate of more than 90% for the maintenance projects indicated in the annual road maintenance plan.** Since the completion rate reached around **90%** in both pilot cities in 2019, this percentage shall be retained during the project period. Also, as it is not sufficient to measure the achievement of the Project Purpose with the fulfillment of the completion rate only, the self-assessment of road maintenance projects shall be complemented for the indicator 1. The self-assessment results of the annual plan in 2019 just went beyond 60% (baseline) in the two cities, so the target value was established in **80%** with 20% increase from the baseline value.
		Indicator 2: Satisfaction ratings of pilot Kota on CFRI consultations XX% → **70%** As the satisfaction rating on CFRI consultations was 51.9% as the baseline value, the target value was established in **70%** with nearly 20% increase of the baseline value.
	Output 1	Indicator 1-1: Self-ratings of CFRI on their operational capabilities

Components of the PDM		Corrections
	(in version 2)	XX% → **80%** Since the self-rating of CFRI staff on their operational capabilities was 59.2% as the baseline value, the target value was established in **80%** with nearly 20% increase of the baseline value.
	Output 3 (in version 2)	Indicator 3-1: Self-ratings of technical staff in pilot Kota XX% → **75%** As the self-rating of technical staff on practical engineering method was 53.6% as the baseline value, the target value was established in **75%** with 20% increase of the baseline value.
Means of Verification	Output 1 (in version 2)	Regarding the indicator 1-1, as the questionnaire survey is carried out for the improvement status of CFRI operational capabilities through their self-assessment, "DGH" was deleted from the means of verification.
Inputs	Japanese side (in version 1)	The titles of JICA experts were modified as follows, including original titles unchanged: ・Team Leader / Road Maintenance 1; ・Deputy Team Leader / Road Maintenance 2; ・PMS / Road Database; ・Road Maintenance Plan; ・Road Design; ・Road Inspection; ・Construction Supervision; ・PMS / Road Management System 1; ・Organization Management / Project Monitoring; ・Training Plan / Gender; and ・PMS / Road Management System 2 / Project Coordinator.
	Japanese side (in version 2)	A JICA expert is newly assigned as "IRI Measurement System." Because IRI is calculated with the data extracted from general-purpose inspection camera for vehicle use, it is indispensable to assign the expert with technical expertise for the development of the data processing system.

2.4.2 Other Modifications on Detailed Implementation Plan

Not Applicable

2.5 OTHERS

2.5.1 Results of Environmental and Social Considerations (If applicable)

Not Applicable

2.5.2 Results of Considerations on Gender/Peace Building/Poverty Reduction (If applicable)

Not Applicable

3. RESULTS OF JOINT REVIEW

3.1 RESULTS OF EVALUATION BASED ON DAC EVALUATION CRITERIA

Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) has developed five (5) evaluation criteria for evaluating development assistance project, namely relevance, effectiveness, efficiency, impact, and sustainability. Project outputs and outcomes are evaluated based on DAC evaluation criteria and explained as below.

(1) Relevance

The relevance of the Project is ***high*** for the following reasons. In the first place, the government policies in Indonesia and Japan are consistent with the direction of the Project. Also, the project needs were extremely high.

[Government Policy in Indonesia]

In the "National Medium-term Development Plan for 2020-2024," it is explained that infrastructure development is a strategic choice to accelerate the growth and equity of the Indonesian economy. The attention of the government in the field of infrastructure in recent years has had an impact on increasing the quantity and quality of infrastructure in Indonesia. In terms of quality, regional roads including provincial and district/city roads make up 92% of the entire road network in the country, and only 57% for district/city roads are in good condition whereas 92% of the national roads are in good condition (baseline data in 2019). In the Plan, the target value for district/city roads in good condition was set at 65% by the end of 2024. Economic infrastructure is one of policy directions and strategies in the "strengthening infrastructure to support economic and basic services development (Chapter VI)." Moreover, improving road quality is carried out by meeting the needs of road maintenance including routine road maintenance. To meet road maintenance needs is encouraged through improved governance in the management of roads for prioritizing routine and periodic maintenance activities. Also, priority projects that support road connectivity include the development and maintenance of regional roads.

According to the Strategic Plan for 2020-2024 of the Ministry of Public Works and Housing (MPWH), there are seven (7) development priorities implemented during the period 2020-2024. One of development priorities indicates that infrastructure improvement aims at supporting economic activities and encouraging equitable national development (development priority 5). The indicator is to increase the regional connectivity, such as stable conditions (%) of national/provincial/regional-city roads (from 92/68/57 % in 2019 to 97/75/65 % in 2024).

Also, the policy direction and implementation strategy for roads emphasize that the quality of road stability is improved through the fulfillment of road maintenance needs and the road governance and administration for prioritizing routine, periodic, rehabilitation, and reconstruction maintenance. Moreover, it is important to improve road conditions with drainage systems for flood prevention and pedestrian-friendly sidewalks with effective and efficient road maintenance.

[Government Policy in Japan]

"Assistance for improving international competitiveness" is one of the priority areas of the "Rolling Plan for Indonesia (April 2021)," and infrastructure development for transportation, urban infrastructure, etc. is supposed to be promoted for sustainable economic growth. Also, the lack and low quality of infrastructure in the transportation sector have become serious problems, and this has become an obstacle to achieve sustainable growth. In order to improve the international competitiveness and achieve further economic growth, it is necessary to address this issue. The specific work contents are (1) capacity development for planning and institutional improvement, (2) road traffic improvement, etc. to meet the needs of Indonesian side. There is the "Infrastructure Development Program for Logistics and Transportation" in the priority area, and the Project is also positioned within the framework of this Program. Therefore, the Project is in line with the direction of the Government of Japan.

[Needs of the Project]

During the detailed planning survey of the Project, the following points were raised as the issues on road maintenance in Indonesia.

- Supervision of local governments by the central government was not effectively carried out (Output 1).
- Regarding the road data entry, the capacity of technical staff was insufficient, technical tools were not in place, and the data entry process was carried out by visual checks and manual works only (Output 2).
- Due to the lack of a system for planning and budget allocation, road projects were not carried out based on reliable data, but rather under political influence. The challenge was to have accurate data and systematically analyze them so that road maintenance projects should have been selected and carried out from objective perspectives (Output 2).
- The quality of road maintenance works was not sufficient due to a lack of maintenance expertise (Output 3).
- The supervision capacity of public works departments in local governments for road maintenance works was not adequate (Output 3).

In this way, as there were great needs of the Project from the beginning, the Project has been engaged in the above activities., *i.e.*, to improve the operational capability of CRIF (Output 1), strengthen the planning process (Output 2), and develop the practical engineering method (Output 3) for sustainable regional road maintenance in Indonesia. Therefore, the needs for the Project to address these issues on road maintenance are extremely high.

(2) Effectiveness

The effectiveness of the Project is ***high*** because the indicators of the Project Purpose were mostly achieved and the accomplishments of three (3) Outputs contributed to the Project Purpose.

The main objective of the Project is to properly promote regional road maintenance projects in the pilot areas under the initiative of CRIF. In order to achieve the Project Purpose, three Outputs were established, *i.e.*, (1) the operational capability of CRIF, (2) the process for formulating the regional road maintenance plans, and (3) the practical engineering method of regional road maintenance. In (1), the Project aims to improve the operational capability of CRIF in coordinating with the target cities on regional road administration and providing advice and suggestions for regional road maintenance across the country. For (2), a series of processes for developing mid-term and annual plans based on the results of road inspections and road maintenance database were established. In terms of (3), the practical engineering method with the implementation manual was developed through the pilot projects in accordance with the specification design. In this way, the Project was designed to (1) enhance the coordination capacity of CRIF for disseminating the project approaches to other cities through the experiences in the target cities, (2) strengthen the planning capacity of the target cities with the systems developed by the Project, and (3) promote the practical technical method through the pilot projects. As the synergistic effect of the three Outputs, therefore, the Project Purpose was achieved.

With reference to the indicator 1 (completion status and self-assessment of regional road maintenance projects in the target cities), although the completion rates exceeded more than 90% (target value), the self-assessment results on road maintenance works (77.0% in Sukabumi and 72.1% in TT) were lower than the target value (80%). Moreover, the indicator 2 was fully achieved because the total average rating attained to 83.5% far beyond the target value (70%). It was outstanding for CRIF to actively communicate with and provided the consultations for the two target cities. Overall, it could be said that the Project Purpose was achieved since the project indicators were mostly accomplished as explained above.

Importantly, this will be the future challenge for the two cities to improve the quality and project management of road maintenance works through the effective utilization of project outcomes even after the termination of the Project.

(3) Efficiency

Although the project period was extended for one year and eight months from September 2022 to April 2024 due to the COVID-19 pandemic, it could be said that the efficiency of the Project is ***high***. This is because the Outputs were mostly achieved in line with the indicators as explained above and the Inputs were converted into the Outputs very efficiently.

[Inputs of Indonesian side]

The scopes of the Indonesian Inputs were clearly defined without relying on Japanese assistance. For instance, the Indonesian side secured the expenses for the pilot projects to be implemented in the two

target cities, *that is*, they were allocated from the cities' regular budget for road maintenance works. JET provided technical advice for the technical staff in the target cities through the implementation of the pilot projects. Moreover, traveling expenses in Indonesia for the C/P, such as daily allowance, accommodation, and transportation, were also sorted out as the "Inputs" of the Indonesian side. Under this circumstance, the Outputs were efficiently achieved by employing their own financial and human resources.

[Training in Japan]

The training programs in Japan were carried out twice, and the participants were 8 to 10 trainees. The objectives were to learn the role of local governments and budget management in the context of national and regional roads, how to inspect road surface conditions, the latest technology of asset management, road maintenance in response to climate change, etc. During the 2nd training program, for instance, the participants discussed how the methods used in Japan were applicated to the ones in Indonesia. In particular, the participants showed a strong interest in the road maintenance system with the cooperation of local people. During the visit to a factory where road waste was recycled, furthermore, the participants observed the facilities and how to remake usable materials from the used asphalt. In this way, the C/P could learn the methods which will be applied to the cases in Indonesia. In terms of the Output 3, the knowledge obtained in the training in Japan was nicely affected to the accomplishments of the Output 3. Therefore, it could be said that the training in Japan was successfully completed, and the experiences were reflected into their capacity development for the accomplishments of the Outputs.

[Project period]

Although the project period was originally established for three (3) years, JET members had not been dispatched from April 2020 to November 2021 for one year and eight months due to the worldwide prevalence of COVID-19. If the project period was not extended, the system development (DPS-IRI, VIS, and CRMS) and the implementation of pilot projects did not proceed as originally planned during the detail planning survey. However, as the project period was extended for the same period to continue the above activities, the Outputs, especially the formulation of annual plan through the system development (Output 2) and the development of practical engineering method through the pilot projects (Output 3), were mostly achieved according to the original plan and the indicators established by the Project.

[Establishment of the Working Groups for the achievements of the Outputs]

The Working Group (WG) for each Output was established for the smooth implementation of the project activities with the responsibilities of C/P members, *i.e.*, the WG-1 for Output 1 (operational capability of CFRI), WG-2 for Output 2 (road maintenance plan), and WG-3 for Output 3 (implementation of pilot projects). Each WG discussed and confirmed technical matters, such as system development,

specification of the measuring equipment, implementation of pilot projects, etc. In this way, smooth communication between C/P members and JET was realized for the achievements of the three Outputs.

(4) Impact

Although it is too early to assess the accomplishment of the Overall Goal at this moment, there are prospects that the Overall Goal will be achieved three years after the termination of the Project (refer to IV. 1 "Prospects to achieve Overall Goal" for more detail). Additionally, the following impacts are recognizable from the implementation process of the Project.

[Dissemination of the implementation approaches to other cities]

In the Overall Goal to be achieved three years after the termination of the Project, the number of cities to be disseminated was set as one of indicators, and the Project plans to disseminate six (6) other cities in addition to the two target cities. The idea of CRIF is shown in Figure 3-1 below. CRIF will take the lead in determining the specific cities to be disseminated within six months after the project completion based on the current status of each city, its willingness for the implementation, physical accessibility, and other factors.

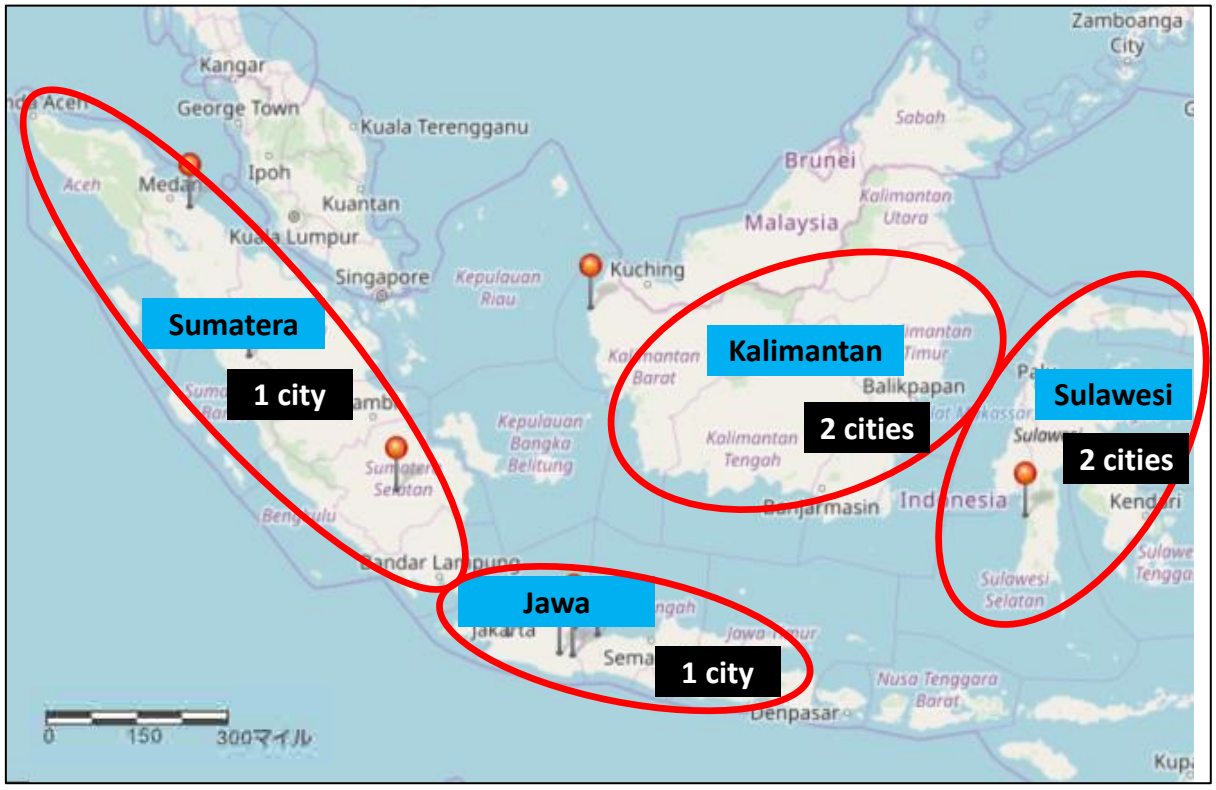


Figure 3-1 Six (6) cities for possible dissemination

[Study Tour]

A study tour[8] in Sukabumi city was carried out to confirm the implementation approaches on the annual road maintenance plan and practical engineering method in order to disseminate the approaches to other cities on the initiative of CRIF after the completion of the Project. Since the study tour was designed so as to effectively share the experiences accumulated through the project activities with other cities, the CRIF was able to organize and prioritize the key issues for the achievement of the Overall Goal. The study tour was well-balanced and included an explanation of CRMS implementation by CRIF staff, a demonstration of the patching methods for road maintenance works by the staff in Sukabumi city, etc. Through the study tour, CRIF could learn how to disseminate the implementation approaches to other cities in preparation for the continuous operations after the Project. Thus, it is expected to disseminate the project implementation approaches to other six cities with this experience on the initiative of CRIF.

(5) Sustainability

The sustainability of the Project is ***moderate***. While there are prospects that the policy, operational, and technical aspects will be promoted even after the termination of the Project, the financial aspect is not firmly ensured for road maintenance works for the next three years.

[Policy aspect]

As mentioned in the Relevance, the "National Medium-term Development Plan for 2020-2024" emphasizes that infrastructure development is a strategic choice to accelerate the growth and equity of the Indonesian economy. Improving road quality is carried out by meeting the needs of road maintenance, including routine road maintenance. To meet road maintenance needs is encouraged through improved governance in the management of roads for prioritizing routine and periodic maintenance works. According to the Strategic Plan for 2020-2024 of the MPWH, furthermore, there are seven (7) development priorities implemented during the period 2020-2024. Also, the policy direction and implementation strategy for roads emphasize that the quality of road stability is improved through the fulfillment of road maintenance needs and the road governance and administration for prioritizing routine, periodic, rehabilitation, and reconstruction maintenance. Therefore, if the directions of the above Plans are retained for the future, the project operations will be sustained according to the governmental principles.

[Operational aspect]

It is necessary for CRIF to continue the IRI data collection for CRMS in cooperation with the cities in Indonesia. Fortunately, the cities have the incentives to collect IRI data and submit it to CRIF not only

[8] The numbers of participants are 2 staff from CRIF, 16 from Sukabumi city, 3 from Bandung city, 3 from Cimahi city, and 3 from Bogor city.

for SiPDJD but also for CRMS because the submission of the IRI data affect the technical index score which connect to the DAK allocation for road maintenance as illustrated in Figure 3-2. Therefore, the IRI data collection for CRMS will be continued in cooperation with the cities across the country after the termination of the Project.

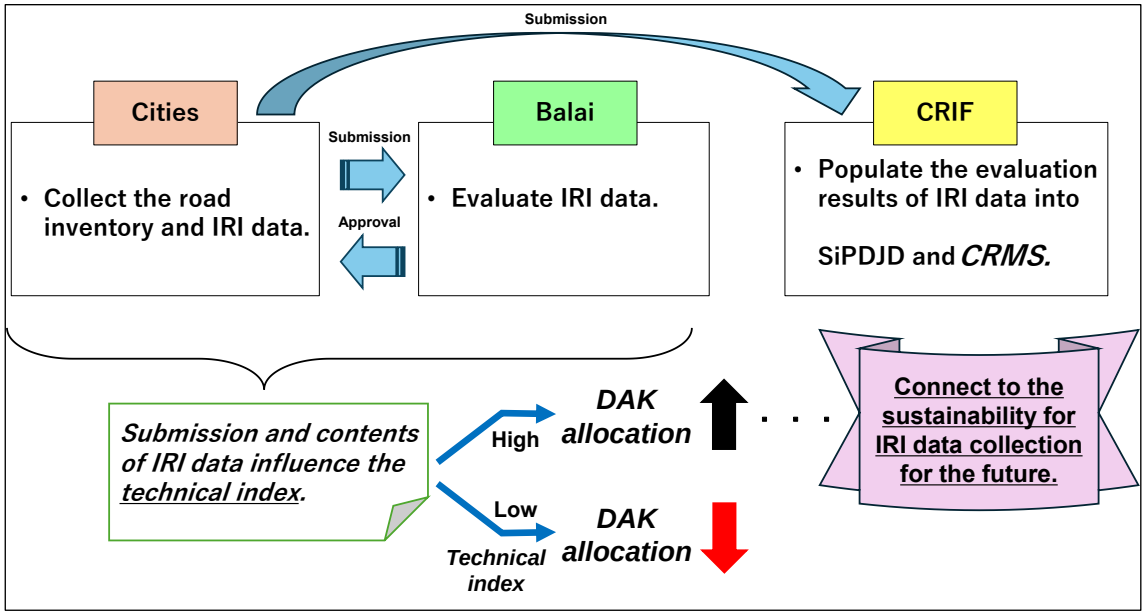


Figure 3-2 Continuation of IRI data collection for CRMS database

[Financial aspect]

According to the CRIF, the budgetary figures for routine maintenance, rehabilitation (including periodic maintenance), and reconstruction from 2022 and 2023 are shown in Table 3-1.

Table 3-1 Budget for the road maintenance works in Indonesia (FY 2022 and 2023)

Unit: Indonesian Rp.

	2022	2023
Routine maintenance	1,829,000,000	3,559,168,887,097
Rehabilitation (including periodic maintenance)	28,178,752,437,304	24,513,261,493,759
Reconstruction	42,268,128,655,957	36,769,892,240,638
Total	**70,448,710,093,261**	**64,842,322,621,494**

Source: CRIF record for 2022-23 (*CRIF does not have the budgetary data in 2021 due to the collapse of the database system, *i.e.*, SiPDJD. They currently have the backup data to avoid such the case.)

As the overall road conditions have worsened across the country, the budget for routine maintenance was drastically increased in 2023 to stabilize the roads in good conditions. According to that, the budgets for road rehabilitation and reconstruction declined from 2022 to 2023 by 13% each. This means that

routine maintenance works were enhanced with a high priority in 2023. In this way, although the total budget was decreased by 8% from the previous year, it is expected that the budget will be accommodated continuously according to the road conditions even after the termination of the Project. This is because the Indonesian side tries to allocate the road maintenance budget under its constraints with their directions and policies.

[Technical aspect]

Through the pilot projects, the technical staff in Sukabumi and Tebing Tinggi cities learned effective and practical methods for road maintenance works, and they came to be able to employ the knowledge and skills even after the termination of the Project. As mentioned above, there were several comments on the practical engineering method from the two target cities, e.g., effective working procedures such as patching and overlay, selection of appropriate repair methods in accordance with the road damages, how to use crack sealant, safety measures, importance of road signs during road repairs, etc. From the perspective of the sustainability, therefore, it is expected that the project activities will be continued with the ownership of the C/P towards the Project.

3.2 KEY FACTORS AFFECTING IMPLEMENTATION AND OUTPUTS

In terms of the Important Assumptions, the Project shall pay attention to the conditions for the achievements of the Outputs, Project Purpose, and Overall Goal during the cooperation period. It seems that there are no risks to be found for these conditions.

(1) Important Assumption for the achievements of the Outputs:

- ***Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.***

In Sukabumi, although a lot of budget was allocated for COVID-19 measures in 2020 and 2021, the budget for road maintenance came to Rp 41.4 billion in 2022 from Rp 16.6 billion in 2021 (increase by 2.5 times) as indicated in Table 3-2. In terms of the budgetary sources in 2022 for road maintenance, the budget disbursement from city government was largely increased by approximately six times compared to the previous year 2021 due to the policy change from COVID-19 measures.

With reference to the budgetary sources in 2022 for road maintenance in Tebing Tinggi, the city government budget and DAK were reduced by approximately 40% respectively comparing to the previous year 2021. On the other hand, governor financial aid (Rp. 2 billion) from North Sumatra Province was provided for road maintenance in Tebing Tinggi, which was not planned to receive at the beginning of the year. Overall, the budget for road maintenance in Tebing Tinggi was reduced by 34% in 2022.

Regarding the budgetary sources in 2023 for road maintenance in Sukabumi and Tebing Tinggi, DAK was not disbursed to the target cities because the roads were in very good condition in the two cities in

2022 as explained above. Thus, local governmental budgets (only city budget in Sukabumi, city and regional budgets in Tebing Tinggi) were disbursed for road maintenance in 2023.

Overall, the budget disbursement for regional road maintenance did not largely affect the project activities in the target cities.

Table 3-2 Tendency of road maintenance budget in the pilot cities (FY2019 - 2023)

Unit: Rp.

Pilot City	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Sukabumi	**18,387,524,910**	**9,419,299,609**	**16,578,560,862**	**41,363,482,832**	**19,975,418,900**
Tebing Tinggi	**24,753,998,000**	**23,151,814,000**	**32,559,775,000**	**21,510,153,000**	**14,952,705,769**

Source: Questionnaire results from Sukabumi City and Tebing Tinggi City

- ***Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.***
  During the project period, although the flood took place in Tebing Tinggi, this resulted in stoppage and delay for their own road maintenance activities due to the implementation of emergency operations. Consequently, the project activities, *per se*, were implemented without influences of the natural disasters in the two target cities.
- ***The demarcation of regional road maintenance activities between PRIM and the Project is retained.***
  PRIM mainly focuses on Province and kabupaten (regency) and the JICA Project does on kota (city), so that the demarcation of regional road maintenance activities between the two projects was retained during the cooperation period.

(2) Important Assumption for the achievements of the Project Purpose:

- ***The staff of CRIF and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.***
  Mr. Riono Suprapto, Project Director (PD), and Mr. Dedy Gunawan, Project Manager (PM), were transferred, and Mr. Krisno Yuwono and Mr. Sari Satria Dwipayana were replaced as successors of PD in January 2022 and PM in September 2021 respectively. When replaced at the time, the dispatch of JET was restricted due to the COVID-19, and the Project restarted the capacity development activities for the C/P from 2022. Thus, there were no inhibiting factors due to the personnel transfer around that time.

  In addition to that, Mr. Adi Chandra Maulana, a focal point in Sukabumi City, was transferred to the Technical Implementation Unit of the Public Works and Spatial Planning Agency (PU) in February 2023, and Mr. Asep Supriyadi (sub-section head of the Road and Bridge Development since January 2023) was replaced as a successor of Mr. Adi as a focal point of Sukabumi city. Also, Mr. Sony Hermanto takes over the agency head of PU in Sukabumi city from Dr. Asep Irawan since January 2023. Both successors, Mr. Asep and Mr. Sony, joined the 2nd training in Japan in June 2023.

  Moreover, Mr. Arif Nugraha, one of focal points in Tebing Tinggi city, decided to study at university for his master's degree in July 2023. In case of Tebing Tinggi, however, Mr. Zulkarnain stays at the same

position as a focal point, and Mr. Rizky Mufty Aqsha (Head of Bina Marga section) can also support the project activities (both of them joined the training in Japan).

The Project has promoted the technical transfer to the C/P continuously, such as provision of intensive training programs, implementation of pilot projects, etc. Thus, the Project was able to avoid administrative hindrance despite the personnel transfer or temporary turnover in the two target cities.

(3) Important Assumption for the achievements of the Overall Goal:

- ***Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.***

  It is too early to mention this condition at this moment because it shall be fulfilled before the accomplishment of the Overall Goal. After the termination of the Project, however, the project activities in the two target cities might be influenced by the budgetary and human resources including logistics arrangements, such as vehicles for the road data collection, etc. Therefore, the CRIF shall monitor budgetary and human resources in the target cities and provide the administrative assistance for them if it is necessary.

3.3 EVALUATION ON THE RESULTS OF THE PROJECT RISK MANAGEMENT

This Project referred to the lessons extracted from a similar project in Vietnam, named "The technical cooperation project for capacity enhancement in road maintenance in Vietnam", as explained in the ex-ante evaluation summary. This technical cooperation project in Vietnam developed and introduced a road management system consistent with the actual situations in Vietnam by providing the supports for road inspection and data management on road pavement, formulation of road maintenance plans, etc. Also, the technical cooperation in Vietnam promoted the nationwide expansion of the road management system as well as the results of pilot projects. Based on the outcomes and experiencers, this Project has established the implementation mechanism for realizing the sustainable use and the improvement of the road management system. Moreover, the Project has aimed to disseminate the implementation approaches outside the target cities through the region-wide seminar, study tour, etc. Therefore, the Project followed the lesson and carried out road inspection and database management system, formulation of city road maintenance plan, etc.

3.4 LESSONS LEARNT

The following are some of the important points that have been gained from the road maintenance practices and discussions throughout the activities of the Project, which will guide future activities.

(1) Understanding the Process of Introducing New Technologies for Road Maintenance

In this Project, new technology-based systems were introduced to improve the efficiency of local road maintenance works. Through the Project activities, the newly introduced systems were developed jointly, and attempts were made to improve the system functions through practice. At the beginning of

the Project, there was a perception that the systems were completed and provided from outside, but the TWG and others discussed the difficulty of introducing completed systems in terms of their applicability to road maintenance work in Indonesia, then finally the development works of new technologies were included as Project activities.

On the other hand, it was shared through practice that developing new systems has disadvantages, such as that it is time-consuming and requires trial-and-error practice before the system becomes stable. Nevertheless, the errors in the system that occurred frequently were checked and measures for improvement were discussed with the help of an external IT vendor. Through this process, apart from learning road maintenance technologies, we were able to experience the process of introducing new technology to improve road maintenance woks that can be used for similar activities in the future.

(2) Understanding Road Inspections and Collected Data

The Project tried to change the methodology and process of road inspection. A method was introduced to collect IRI as objective data with an on-board camera and a newly developed data processing system (DPS-IRI). A method was also introduced whereby the video data of the road acquired at the same time could be used to simply identify damage on the road on a PC and to determine the priority order for daily inspections. The daily inspections are divided into VI and FV tasks, based on the differences in the data required for road maintenance planning, and information can be entered on site using tablet PCs in both cases.

From the beginning of the Project, the staff of the two pilot cities in particular were actively involved in the introduction of these new technologies. On the other hand, many questions were asked by the two cities, especially regarding the validity of the data acquired by the IRI system. Many of them stated that the individual damages of the roads were not represented by IRI.

In response to those questions, the activities of this Project included several workshops to deepen understanding of the IRI measurement method and the meaning of the processed data. Furthermore, the meaning of the individual data used in the final road maintenance plan was understood. Importantly, IRI does not represent road damage at the project level, but rather a macro representation of the level of service at the network level. Numerous discussions were held to understand this point. The content of this discussion is an important point of contention when CRIF disseminates the Project results to other cities in the future, and JET hopes that it will be adequately explained.

(3) Understanding the Importance of Data in Road Maintenance

Data collection is crucial for successful road maintenance. This concept is universal and without data it is difficult to make appropriate decision-makings. However, before the start of this Project, the importance of data was not well understood, especially for regional roads in Indonesia. Of course, the budget for road maintenance is smaller than that for national roads, but it is unacceptable to neglect data collection because of the tight budget.

In this Project, the concept that the continuous collection of objective data is important for improving road maintenance has been held from the outset, and systems have been developed and introduced to make the data collection work more efficient. The series of systems introduced are processes to create maintenance plans using the data collected in the field, and without data collection work, reliable maintenance plans cannot be created. Through the OJTs in this Project activity, it was understood that the accumulation of inspection data that maintains quality and quantity is important for the preparation of maintenance plans with sufficient accuracy.

(4) Importance of Governance by Central Government (CRIF)

One of the goals of the Project is to strengthen the governance of central government regarding the maintenance of local roads. Instead of local authorities carrying out road maintenance on their own, the Project aims to improve the condition of local roads under the leadership of the central government, with unified views and technologies.

Governance activities for local roads by the central government were in place before the implementation of this Project. However, there had been insufficient in-depth discussions on the central government-led introduction of new technologies and consultation, as well as on the challenges faced by local authorities in managing the systems, equipment, and materials for the introduction of these technologies and road maintenance practices.

This Project has introduced a set of technologies to improve the efficiency of road maintenance, but the goal of this Project is not to introduce these systems, but to solve the problems and challenges of road maintenance in local authorities through their operation.

To achieve those points, CRIF needs to regularly monitor the actual situation and progress of road maintenance in local authorities and provide consultation to offer suggestions for improvement. These activities have strengthened the consultation capacity of the CRIF through the activities in the two pilot cities of the Project. CRIF does not only check the data sent by the local authorities, but also comprehensively checks the actual situation of road maintenance, organizational issues, operational conditions in the field, etc., to implement a flexible approach to Governance should be implemented.

Furthermore, as part of the Project's activities, the newly developed technologies in the Project have been processed for technology certification by the DGH in MPWH. This technology certification is the basic guideline for the use of the technology by local authorities, and successful technology certification is the most important condition for the dissemination of the Project results to other cities.

(5) Knowledge for pavement longevity in the pilot project

In the Pilot Project, the CP raised the issue of how to deal with pothole patching during the rainy season when discussing the workplan of the Pilot Project with the CP. Aqua Patch, a material that enables pavement maintenance even in rainy weather, was introduced and tested to confirm its durability. Inject sealant was tried for pavement cracks. It was confirmed that proper cleaning of the sealant was necessary to maintain the durability of pavement.

For the pavement overlay targeted in the second year of the Pilot Project, it was confirmed that the sealing materials into localized damaged areas before the overlay is applied can prevent reflective cracks. The results of this study confirm that the injection of crack sealant into the locally damaged areas before the overlay is constructed prevents the occurrence of reflection cracks.

Thus, it was confirmed that frequent daily actions are necessary as an improvement to maintain the durability of the pavement. The study shared the points to be considered regarding the materials and construction methods to be introduced from the perspective of improving the life length of the pavement and optimizing the LCC, including the study on the introduction of pavement materials during rainy weather conditions. These findings are recorded in manuals and video contents and are expected to be shared with other cities.

(6) Ingenuity through Practical Application of Japanese Road Maintenance through Training in Japan

In this Project, two training in Japan were conducted. During the training in Japan, the participants were able to learn about road maintenance in Japan, road disaster prevention and the latest applications using IT technology in the actual field. The participants were able to think that they would like to use the practical examples in Japan immediately at their sites in Indonesia.

On the other hand, they also learnt about the difficulties of introducing Japanese technology as it is in Indonesia. The differences in the road maintenance scheme and the content of support by the private sector made it clear that long-term efforts and discussions are needed to introduce the technology in Indonesia.

However, it was a great achievement for the training participants to be able to feel these situations in Japan and to have a long-term vision. The importance of policymaking by the government behind the success of road maintenance in Japan, the continuation of accountability activities to gain public understanding, and the nature of government support to improve the technical capacity of private sectors, were all insights gained outside the scope of this Project's activities. As a result, it can be judged that the Project activities have progressed well after the training in Japan, as the autonomy and motivation for the Project activities have increased through the participants of the training in Japan.

4. FOR THE ACHIEVEMENT OF OVERALL GOALS AFTER THE PROJECT COMPLETION

4.1 PROSPECTS TO ACHIEVE OVERALL GOAL

Although it is too early to conclude the accomplishment of the Overall Goal at this moment, there are prospects that the Overall Goal will be achieved three years after the termination of the Project.

Firstly, it is expected that the two target cities will continue road inspections and repairs with the systems (CRMS, DPS-IRI, VIS, etc.) and practical engineering method developed by the Project.

Secondly, intensive training programs on road inspection and road maintenance plan were conducted since March 2023. After receiving the training programs, the C/P conducted road inspection and data entry, and they formulated road maintenance plan according to the checklist to be prepared by the Project. Also, the practical engineering method containing the necessary requirements indicated in the checklist was developed through the pilot projects. Specially, the development of road maintenance plan and practical engineering method are the key components when the implementation approaches of the Project are disseminated to other six cities as shown in the indicator of the Overall Goal. Thus, it is necessary for CRIF and the target cities to acquire the implementation approaches so as to contribute to the nation-wide expansion in a leadership position for the future.

Toward the termination of the Project, furthermore, some activities were carried out for the dissemination of the project implementation approaches to other cities outside the target areas. For instance, the region-wide seminar (Activity 1-8 and 3-7) and study tour could be a milestone for the achievement of the Overall Goal. By providing such opportunities to share information and knowledge on the formulation process of annual road maintenance plan and the practical engineering method, there are prospects that CRIF will be able to promote dissemination activities smoothly on their own initiative after the termination of the Project.

Last but not least, in order to achieve the Overall Goal, it is important for C/P to have the capability to sustain the project activities without relying on JET. Thus, JET recommends for C/P to acquire the basic skills and knowledge so as to continuously carry out the implementation approaches of the Project and work out solutions to problems on their own initiative. From this reason, the Project developed the e-learning system to provide online lectures for the system operations (CRMS, DPS-IRI, and VIS), other road asset management courses, etc. for the achievement of the Overall Goal.

4.2 PLAN OF OPERATIONS AND IMPLEMENTATION STRUCTURE OF THE INDONESIA SIDE TO ACHIEVE OVERALL GOAL

The following operations shall be implemented after the completion of the Project. The operation schedule is shown in Figure 4-1.

(1) Confirm the lengths (km) of road inspections and repairs in the target cities, *i.e.*, Sukabumi and Tebing Tinggi.
(2) Determine the six cities to be disseminated.
(3) Confirm the contents of the annual road maintenance plans formulated by the six disseminated cities.
(4) Confirm the progress of the practical engineering method adopted by the six disseminated cities.
(5) Confirm the regional road governance based on SOP.
(6) Conduct ex-post evaluation survey.

In order to achieve the Overall Goal, the 3-year schedule was prepared as indicated below. CRIF shall continue monitoring the regional road administration on a yearly basis with the checklists formulated by the Project.

Also, CRIF will take the lead in determining the specific cities to be disseminated within six months after the project completion.

The ex-post evaluation survey will be executed by the consultant team hired by JICA Headquarters three (3) years after the termination of the Project, around April or May in 2027.

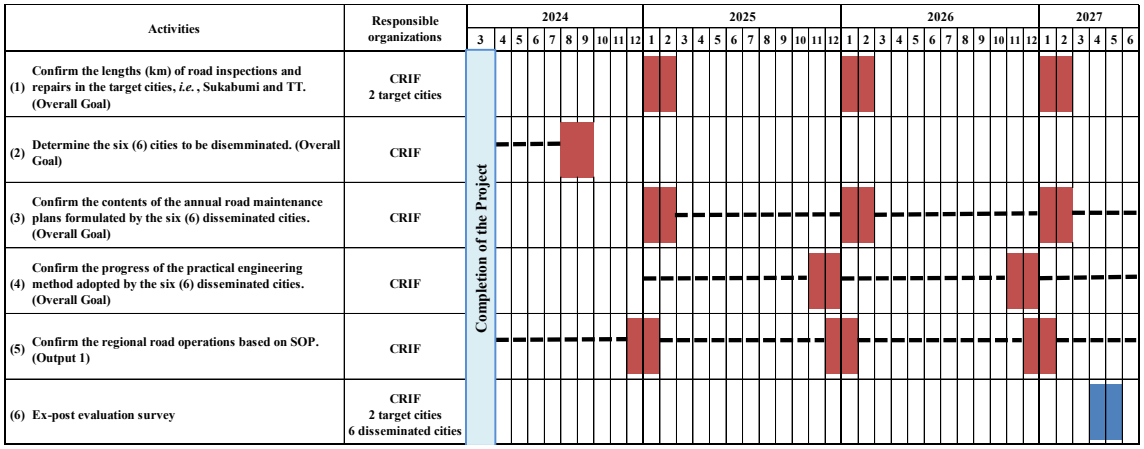


Figure 4-1 The operational schedule to achieve the Overall Goal

4.3 RECOMMENDATION FOR THE INDONESIA SIDE

The following are some of the key aspects of the technology and practice-based experience introduced in this Project that can be used to further improve local road maintenance in Indonesia.

(1) Continuous Operation and Improvement of IT Technology

This Project has developed the systems suitable for local road maintenance and governance enhancement in Indonesia, using the latest technology available currently. Therefore, it is expected that the results of this Project will be used to improve the maintenance of local roads in Indonesia through dissemination to other cities.

However, the progress of IT field is extremely rapid, and new technologies will be available in the next few years. For example, in road inspections, there is currently a move from the demonstration stage to the practical stage for technology that automatically deciphers road damage using AI. Furthermore, with the spread of three-dimensional data, it may become possible to efficiently collect road inventory information in the near future.

It is important to continue to make efforts to use the technologies introduced in this Project, while keeping abreast of the latest technological developments and considering customization of the technologies to meet Indonesia's needs. CRIF should also check the appropriateness of the introduced technologies and make decisions on the introduction of new technologies through discussions with the relevant parties.

(2) Support from External Experts to Manage IT Technology and Budgetary Provision

The Project enlisted the assistance of an external IT vendor to develop new IT technology. The IT vendor had experience with several other developments and their knowledge was instrumental in the development and implementation of the system for road maintenance.

CRIF is responsible for managing, customizing, and improving the IT technology it has implemented itself after the completion of this Project. On the other hand, it may be difficult for CRIF to adequately manage IT technology on their own. Of course, it is necessary to consider hiring IT experts from outside or obtaining cooperation from a specialized IT department such as PUSDATIN of MPWH. However, it is conceivable that the experience and knowledge of an external IT vendor may be far greater than that of an internal MPWH experts, therefore CRIF is recommended the establishing a cooperative relationship with an external IT vendor for the future management and continuous improvement of IT technology.

This would also require budgetary provisions for the management of IT technology. Currently, CRIF does not have a budget for outsourcing to IT vendors. Although securing a budget would require a change in the internal rules of the government, the participation of IT vendors in road maintenance in Japan and other countries has proven to be important, and the CRIF is expected to recognize the importance of such participation and to lobby for a budgetary measure.

(3) System and database integration for regional roads management

The Project targets the city roads. The province and prefectural road, on the other hand, have the

PKRMS developed in another project as the standard road management system. Although CRMS and PKRMS are different systems, the concept of road maintenance management in two systems is the same. Regional governments use each management system, but central government, such as CRIF, would prefer to have integrated road maintenance plans and road inspection data derived from both systems. Even if the management systems are not integrated, it is not difficult to integrate data if the specifications of the output data from the systems are identical. Regarding the integration of CRMS and PKRMS, it is recommended that the integration of databases be considered first.

(4) Collection and Feedback of Best Practices in Regional Road Maintenance

CRIF is an organization responsible for monitoring and consulting on road maintenance in local governments across the country. Two pilot cities were selected to discuss how CRIF can improve the governance and communication of road maintenance in local government.

However, while there are some commonalities in road maintenance in local governments, each local government may have its own unique approach to road maintenance. Although the activities of this Project were limited to two cities, CRIF's challenge is to spread the activities to all cities in Indonesia after this Project termination. In doing so, it is recommended not only to focus the discussion on the problems and challenges of road maintenance in local governments, but also to collect and analyze examples of local governments that are considering ingenuity as best practices and feed them back to other local governments. For example, if there is a lack of human resources for in-house engineers, there might be examples that could be useful information for other cities, such as outsourcing road inspections to collect sufficient data, or optimizing inspection and repair priorities through data analysis to reduce the burden of daily road maintenance work.

CRIF will play a central role in establishing a platform where road maintenance officials from local governments across the country can gather to foster active discussions among local governments, which may lead to improvements in the condition of roads across the country.

In this Project, a study tour was held and CRIF and the two pilot cities invited road maintenance personnel from surrounding local governments to explain the results of this Project. The study tour was attended by participants from other cities, who expressed their positive opinions and expressed their desire to introduce the system. Thus, it is recommended that CRIF continues to play a central role in events and information dissemination to facilitate smooth communication among local governments.

(5) Review of the Latest Practices of Road Maintenance in Other Countries

In this Project, two training in Japan were held, and the opportunity to learn about the latest technologies and case studies in Japan was very effective for the Project activities. Thus, reviewing the latest cases and examples of road maintenance in other countries and considering

their introduction to Indonesia will continue to be an important activity in the future.

There are many forums where the latest technologies and applications for road maintenance are discussed not only in Japan but also in other countries around the world. For example, PIARC | World Road Association collects information and publishes guidelines on road projects and practices around the world, and anyone can review the latest information from the publication or conference in PIARC.

In addition, JICA has established a platform for road asset management, named as RAMP, where information on JICA road maintenance and asset management projects is collected and accumulated as knowledge that can be used effectively. It is possible to review information on JICA projects and technologies that have been implemented in other countries.

CRIF is expected to establish a task to collect such up-to-date and relevant information on road maintenance in the world, and to conduct activities to analyze and utilize the information.

(6) Introduction of Asset Management Concept into Road Maintenance

This Project targets the maintenance and management of local roads. On the other hand, the importance of road asset management is being discussed worldwide.

The basic concepts of road maintenance and road asset management are different. Road asset management is about maximizing the services provided by road assets and optimizing activities to achieve the related activities Roads are public assets that provide a variety of services, including safety, comfort, disaster prevention, and communication. In other words, asset management activities include the maintenance of roads to reduce the number of traffic accidents, roads that are resilient to disasters, and roadside facilities that support the economic activities of citizens and enhance communication.

In other words, road maintenance provides the basic conditions for activating these road asset management. A well-maintained road network enables the provision of a variety of road services. In other words, poor road conditions will not improve services by road assets.

CRIF and local governments in Indonesia are expected to develop the discussion from road maintenance to road asset management. In particular, natural disasters are increasingly causing serious damage to road networks in recent years due to the effects of climate change. Strengthening the resilience of road networks is one of the key issues in road asset management.

Road asset management encompasses road maintenance. It is expected that new measures will be considered based on an understanding of the basic concepts of road asset management by CRIF.

As future challenges, moreover, there are several concerns to be addressed after the termination

of the Project as indicated below.

(7) Official approval and revision of SOP on a regular basis (Output 1)

Role-sharing arrangement between the Planning and M&E sub-sections is illustrated in the SOP for the effective regional road administration operated by CRIF. At this moment, therefore, it is crucial to complete the SOP prepared by the Project with the official authorization of CRIF. Also, the SOP shall be revised on a regular basis as well as role-sharing arrangement as needed.

(8) Checklist for the database operations and management (Output 2)

Although the percentages were not a satisfactory level at this moment, it is expected that the items with the percentages will be increased as the project activities have progressed after the termination of the Project.

(9) Road maintenance works (Output 3 and Project Purpose)

[Output 3]

Although the average rating (74.3%) of the practical engineering method was very close to the target value (75%), this indicator was not achieved in conclusion. However, the rating results were quite satisfactory other than the laboratory test.

[Project Purpose]

Regarding the self-assessment results on the quality and project management for road maintenance works, the results (77.0% in Sukabumi and 72.1% in Tebing Tinggi) were lower than the target value (80%).

Therefore, the two target cities are required to promote the practical engineering methods as well as improve the quality and project management of road maintenance works through the effective utilization of project outcomes, such as good practices of the pilot projects.

4.4 MONITORING PLAN FROM THE END OF THE PROJECT TO EX-POST EVALUATION

By the time of the ex-post evaluation which will be executed three (3) years after the termination of the Project, the operation schedule to achieve the Overall Goal shown in Figure 4-1 shall be monitored annually by JICA Indonesia Office.

ANNEX-1: RESULTS OF THE PROJECT

(1) List of Experts

Table A-1.1 List of JICA Expert Team

Name	Position & Role
Dr. Kazuya Aoki	Team Leader / Road Maintenance 1
Mr. Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2
Dr. Bhoj Raj Pantha	PMS/Road Database
Mr. Shunji Hata	Road Maintenance Plan
Mr. Eiji Noguchi	Road Design
Mr. Takeo Sugimoto	Road Inspection
Dr. Kazuya Tomiyama	IRI measurement system
Mr. Hiroshi Ueda	Construction Supervision
Mr. Junichi Oshima Tetsuo Uno	PMS/Road Management System 1
Mr. Takaaki Hirakawa	Organization Management / Project Monitoring
Ms. Naoko Ono Ms. Mana Tanaka Mr. Ippei Kato	Training Plan / Gender
Mr. Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator

(2) List of Main Counterparts

Table A-1.2 List of Main Counterparts

Title	Name	Organization/Position
Project Director	Krisno Yuwono	Head of CRIF
Project Manager	Sari Satria Dwipayana	Head of Division for Road and Bridge DAK Provision, CRIF
Leader of WG-1	Bapak Amiruddin Yusuf	Engineer, Road and Bridge Administration Division, CRIF
Leader of WG-2	Bapak Muhamad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF
Leader of WG-3	Bapak Muhammad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF
	Brigitta Yolanda	Road & Bridge Administration Division, CRIF
	Akram Yonda Putra	Road & Bridge Administration Division, CRIF

	Sinta Nur Indah	Road & Bridge Administration Division, CRIF
	Robby Hidayat	Road & Bridge Administration Division, CRIF
	Dyah Nurnaningtyas	Road & Bridge Administration Division, CRIF
	Amiruddin Yusuf	Road & Bridge Administration Division, CRIF
	Purwadi	Road & Bridge Administration Division, CRIF
	Frandi Sahabat	Road & Bridge Administration Division, CRIF
	Djihan Utami	Road & Bridge Administration Division, CRIF
	Adena Reis Vanrika	Road & Bridge Administration Division, CRIF
	Rizky Mufty Aqsha	Public Works and Spatial Planning Agency in Tebing Tinggi
	Gernato Sirait	Public Works and Spatial Planning Agency in Tebing Tinggi
	Salmon Frans L	Public Works and Spatial Planning Agency in Tebing Tinggi
	Charles A. Nainggolan	Public Works and Spatial Planning Agency in Tebing Tinggi
	Lutpi Alip, S.T.	Public Works and Spatial Planning Agency in Sukabumi
	Tuti Astuti, S. Kom	Public Works and Spatial Planning Agency in Sukabumi
	Alvian Sani, S.STP	Public Works and Spatial Planning Agency in Sukabumi
	Dedi Sunarlan, A. Md	Public Works and Spatial Planning Agency in Sukabumi

(3) List of Trainings

TWG and WG meeting

A-1.3 List of Meetings Organized

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants
1	1st Technical Meeting (Kick-off Meeting)	Outline of the Project / Technical Working Group (TWG) /Project Monitoring & Baseline Survey	CFRI Office	18th September, 2019	CFRI members
2	Explanation of Pilot Selection and Pilot Project Meeting	Outline of Project / Explanation of Pilot Project / Explanation of Criteria and Procedure for Selection	Jakarta	14th November, 2019	9 candidates cities and CFRI In total of 23
3	1st TWG	Specification of all systems (CRMS, DPD-IRI and VIS) and database framework	CFRI Office	29th November, 2019	CFRI, Data Center in MPWH, DGH, IRI and BAPPENAS In total of 29
4	1st WG-1 Meting	Confirmation of information related to Activity 1-1 and 1-2	CFRI Office	11th December, 2019	CFRI Member of CFRI (Mr. Yussf and Yolanda)

5	1st Workshop in Sukabumi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Sukabumi	10 February, 2020	Deputy mayor of Sukabumi City, City staff and CFRI In total of 46
6	2nd Technical Meeting with Sukabumi City	Confirmation of various answers on questionnaire	Sukabumi	11th February, 2020	Key staff of BINAMARGA
7	1st Workshop in Tebing Tinggi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Tebing Tinggi	17th February, 2020	Mayor of Tebing Tinggi City, City staff and CFRI In total of 36
8	3rd Technical Meeting with Tebing Tinggi City	Confirmation of various answers on questionnaire	Tebing Tinggi	17th February, 2020	Key staff of BINAMARGA
9	2nd WG-1 Meeting	Confirmation of Budget Making Process	CFRI Office	20th February, 2020	WG member of CFRI
10	2nd TWG	Technical specifications and development schedule of all systems, and system integration concept with other applications	Online	24th June, 2020	CFRI, Sukabumi, Tebing Tingi and DGH In total of 45
11	1st WG-2 Meeting	Confirmation of Road Maintenance Activities and Road Inventory Data	Online	19th August, 2020	WG-2 Member from all stakeholders
12	3rd WG-1 Meeting	Discussion of the deterioration forecasting model in CRMS	Online	25th September, 2020	WG-1 member from CFRI, DGH, BAPPENAS and Pilot Two Cities
13	1st WG-3 Meeting	Confirmation of issues related to the Pilot Project including material procurement and future plan	Online	9th October, 2020	WG-3 member from CFRI, DGH, BAPPENAS and Pilot Two Cities
14	2nd WG-2 Meeting with Sukabumi	Confirmation of the procedures of budget and road maintenance plan in Sukabumi city	Online	9th November, 2020	WG-2 member from Sukabumi

15	3rd WG-2 Meeting with Tebing Tinggi	Confirmation of the procedures of budget and road maintenance plan in Tebing Tinggi	Online	26th November, 2020	WG-2 member from Tebing Tinggi
16	3rd TWG Meeting	Report of progress of system development	Online	24th September, 2021	CFRI, BAPENASS, others
17	4th WG-1 Meeting	Discussion of detail functions of the systems	Online	8th October, 2021	CFRI, DGH, IT center of PUPR, others
18	5th TWG	Discussion on the work plan for the 1st year Pilot Project	CRIF meeting room / Online	22th August 2022	CRIF, Sukabumi, Tebing Tingi and DGH
19	6th TWG	System Implementation Environment / Requirements of IRI Measurement & DPS-IRI and VIS / Work Plan of Pilot Project	CRIF meeting room / Online	23th September 2022	CRIF, Sukabumi, Tebing Tingi and DGH
20	7th TWG	Work Plan of Pilot Project in 2023 / Method for annual road condition reporting to SIPDJD	CRIF meeting room / Online	7th July 2023	CRIF, Sukabumi, Tebing Tingi
21	8th TWG	Sustainable implementation of Road Inspection	CRIF meeting room / Online	19th January 2024	CRIF
22	9th TWG	Sustainable implementation of Maintenance Planning, etc.	CRIF meeting room / Online	2nd February 2024	CRIF

Intensive Training

A-1.4 List of Intensive Training Organized

SN	Target of Training	Site	Date
1	Road Inspection	Sukabumi	April, 2022
2	Road Inspection	Sukabumi	September, 2022
3	Road Inspection	Tebing Tinggi	September, 2022
4	Road Inspection	Sukabumi	March, 2023

5	Road Inspection	Tebing Tinggi	March, 2023
6	Road Inspection	Sukabumi	May, 2023
7	Road Inspection	Tebing Tinggi	June, 2023
8	Road Inspection	Sukabumi	August, 2023
9	Road Inspection	Tebing Tinggi	September, 2023
10	Road Maintenance Plan and CRMS operation	Sukabumi	September, 2023
11	Road Maintenance Plan and CRMS operation	Tebing Tinggi	September, 2023
12	Road Inspection	Sukabumi	January, 2024
13	Road Inspection	Tebing Tinggi	February, 2024
14	Road Maintenance Plan and CRMS operation	Sukabumi	February, 2024
15	Road Maintenance Plan and CRMS operation	Tebing Tinggi	February, 2024

Training in Japan (1st in 2022)

A-1.5 Schedule and summary of the Training Program

Day	Theme	Lecturer
29 November	Road Maintenance Initiatives and Pavement Maintenance Management Systems	Ministry of Land, Infrastructure, Transport and Tourism
30 November	Road maintenance and management initiatives at the local government level	Kyoto City Government
1 December	Asset Management in Japan and the World Today and Implications for Practice in Indonesia	Kyoto University
	Scientific evidence-based management of social infrastructure and policy decision theory	Osaka University
	Introduction and discussion of the latest research cases from around the world	Osaka University
2 December	Tour of the Infrastructure Museum	Gifu University
5 December	Road maintenance and management initiatives at the local government level	Setagaya City
	Discussions with experts on this project	Kawasaki City
6 December	Joint research with the Indonesian government and case studies of pavement research in Japan	Public Works Research Institute

	Road maintenance and management initiatives at the local government level	Chofu City
7 December	Latest Pavement Reclaiming Machinery and its Deployment in Indonesia	SAKAI Heavy Industries, Ltd.
	Municipal road maintenance and comprehensive management contract	Oriental Consultants Global Co., Ltd.
8 December	Advanced Infrastructure Management Technology Using Spatial Information and its Application to Indonesia	PASCO Corporation

Training in Japan (2nd in 2023)

A-1.6 Summary of the lectures and site visits

Day	Theme	Content	Lecturer
20 June	Maintenance of the national roads	The participants learned about the foundational knowledge of roads in Japan, and were briefed on examples of maintenance, management, and repair, as well as disaster prevention measures in particular.	Ministry of Land, Infrastructure, Transport and Tourism Chubu Regional Development Burea
21 June	Factory tour for pavement technology and road waste treatment	The participants were briefed on the advantages of creating recycled material from road waste and using it as a raw material for road asphalt.	Taiyu Construction Co., Ltd.
	Demonstration and practical implementation of the latest road maintenance technology for toll roads	The tour included a hearing on the details of implementation as the only example of PPP (Public-Private Partnership) in Japan and a visit to the company's in-house road control center.	Aichi Road Concession Co., Ltd.
22 June	Regarding the supporters of social infrastructure maintenance	The current status of road management in Gifu Prefecture includes issues of the decreasing budget and manpower for maintenance and management. A unique system, the maintenance supporter system, for maintenance and management of regional roads by volunteers, was explained to the participants.	Gifu Prefecture
23 June	Improving the efficiency of road maintenance operations through the use of in-vehicle sensors and big data analysis and Michilog	The participants were briefed on the AI-based road maintenance and management service "MICHILOG". They received hands-on training on road maintenance vehicles equipped with MICHILOG and the maintenance tools actually in use.	Okazaki City, Aichi Prefecture/ AISHIN Corporation
26 June	Comprehensive evaluation method for the national roadside slopes	Based on the example of a slope disaster that is likely to occur in Japan, the participants learned about the analysis of disaster prevention information by machine learning, how to create	Kyushu University

		such data, and the used methods.	
	Reporting system on roads and parks by using LINE	The participants learned about a road reporting system from citizens using LINE and discussed the cost for development and maintenance. The participants also examined whether the system could be applied to WhatsApp.	Fukuoka City, Fukuoka Prefecture
27 June	Maintenance and management of bridges (Tour on Megami Ohashi)	The participants was briefed on how the bridges are maintained, with a portion of the bridge passing fees being used to pay for maintenance and management costs, and actually inspected the bridges.	Nagasaki Prefectural Public Corporation
28 June	Practice for tackling issues in bridge maintenance and management	The participants were explained the current status and issues of bridge maintenance and management in Japan, the problems with modular bridges, which are common in Southeast Asia, and the efforts of industry, government, and academia in Nagasaki, where many bridges are located.	Nagasaki University
	Nagasaki Prefecture's "Michimori System" in the framework of Industry-Government-Academia collaboration	The participants were briefed on the "Road Guard," Nagasaki Prefecture's unique qualification system for maintaining and managing roads and bridges, including how to train engineers and how the road management reporting system and road guarding system operate.	NPO Michimori Nagasaki

REGION-WIDE SEMINAR (6th March 2024)

A-1.7 Agenda of the Region Wide Seminar

1. Opening Remarks and Keynote Speech	
13:30 – 13:40 (10)	**Opening Remark** Mr. Sari Satria Dwipayana, Center for Regional Infrastructure Facilitation, MPWH
13:40 – 13:50 (10)	**Opening Speech** Mr. Kakuda Kazuyuki, Senior Representative, JICA Indonesia
13:50 – 14:00 (10)	**Keynote Speech from BAPENASS** Regional Road Development Policies and Strategies Mr. Adi Perdana, S.T., M.T., BAPENASS
2. Presentations	
14:00 – 14:20 (20)	**The Improvement of Regional Roads Governance Collaborated with JICA** Mr. Muhammad Taufik, S.T, M.T., Center for Regional Infrastructure Facilitation, MPWH
14:20 – 14:40 (20)	**Regional Roads Governance through Introduction of ICTs** Dr. Bhoj Raj Pantha, JICA Expert Team
14:40 – 15:00 (20)	**Knowledge Sharing for Regional Road Repair and Maintenance Works** Mr. Ueda Hiroshi, JICA Expert Team

15:00 – 15:20	(Tea Break)
15:20 – 15:40 (20)	**Experiences and Knowledge Sharing in Sukabumi City** Mr. Sony Hermanto, S.H, M.Si., Head of Public Works and Spatial Planning Agency, Sukabumi City
15:40 – 16:00 (20)	**Experiences and Knowledge Sharing in Tebing Tinggi City** Mr. Reza Aghista, S.T, M.Si, Head of Public Works and Spatial Planning Agency, Tebing Tinggi City
16:00 – 16:20 (20)	**Sustainable Regional Road Asset Management and Way Forwards** Dr. Aoki Kazuya, JICA Expert Team
3. Discussion and Closing Remarks	
16:20 – 16:50	Discussion / Q&A
16:50 – 17:00 (10)	**Closing Remark** Mr. Sari Satria Dwipayana Center for Regional Infrastructure Facilitation, MPWH

ANNEX-2: LIST OF PRODUCTS

Table A-2.1 shows the Project outputs.

Table A-2.1 List of Project Output

Output	Products	Note
Output-1	(1) City Road Management System (CRMS)	Installed in the server in MPWH
	(2) Data Processing System for IRI (DPS-IRI)	Installed in the PCs
	(3) Visual Inspection System (VIS)	Installed in the Tablet PCs
	(4) User Manual of City Road Management System (CRMS)	
	(5) User Manual of Data Processing System for IRI (IRI)	
	(6) User Manual of Visual Inspection System (VIS)	
	(7) SOP for regional road administration	
Output-2	(1) Database of regional road maintenance	Stored in the CRMS
	(2) Manual for Implementation of Road Inspection Work	
	(3) Budget Making Procedure Manual	
Output-3	(1) Regional Road Maintenance Manual	
	(2) Video Contents for e-Learning Platform	Uploaded into the server in MPWH

Project Design Matrix (PDM_1)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – August, 2022 (3 years) **Version No. 1**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure (CFRI), DGH and the local governments in the pilot areas **Date:** 24th September, 2019

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method			
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The percentage of the regional road maintenance projects completed by the local governments in the pilot areas to all regional road maintenance projects indicated in the annual road maintenance plan exceeds XX% within the financial year. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed XX% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.		
Outputs 1. The operational capability of CFRI is improved. 2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas. 3. The practical engineering method of regional road maintenance is developed through the pilot projects.	1-1 The self-ratings of CFRI on their operational capabilities exceed XX% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI. 2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas. 3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed XX% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	1-1 Questionnaire survey to CFRI and DGH 1-2 Performance checklist based on the SOP 2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet 3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.		

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CFRI.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Project Design Matrix (PDM_2)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – August, 2022 (3 years) **Version No. 2**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure (CFRI), DGH and the local governments in the pilot areas **Date:** 9th March, 2020

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		–	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	–	–
Outputs 1. The operational capability of CFRI is improved.	1-1 The self-ratings of CFRI on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI.	1-1 Questionnaire survey to CFRI 1-2 Performance checklist based on the SOP	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	–	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		–	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		–	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CFRI.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Project Design Matrix ($PDM_{2\text{-}1}$)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – August, 2023 (4 years[*4]) **Version No. 2-1**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure (CFRI), DGH and the local governments in the pilot areas **Date:** 29th January, 2021

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		–	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	–	–
Outputs 1. The operational capability of CFRI is improved.	1-1 The self-ratings of CFRI on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI.	1-1 Questionnaire survey to CFRI 1-2 Performance checklist based on the SOP	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	–	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		–	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		–	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

*[4]: Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched since April 2020 (perhaps until March 2021) for one year because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the implementation period for one year to mainly carry out the pilot projects which were entirely cancelled in 2020.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CFRI.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Project Design Matrix ($PDM_{2\text{-}2}$)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – March, 2024 (4.7 years[*4]) **Version No. 2-2**

Target Groups: Engineers/administrative staff in the Centre for Regional Infrastructure Facilitation (CRIF), DGH and the local governments in the pilot areas **Date:** 15th February, 2022

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		–	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CRIF.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CRIF exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	–	–
Outputs 1. The operational capability of CRIF is improved.	1-1 The self-ratings of CRIF on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CRIF.	1-1 Questionnaire survey to CRIF 1-2 Performance checklist based on the SOP	The staff of CRIF and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	–	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		–	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		–	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

*[4]: Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the same period for one year and eight months to mainly carry out the pilot projects which were entirely cancelled in 2020 and 2021.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CRIF.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Project Design Matrix ($PDM_{2\text{-}3}$)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – March, 2024 (4.7 years[*4]) **Version No. 2-3**

Target Groups: Engineers/administrative staff in the Centre for Regional Infrastructure Facilitation (CRIF), DGH and the local governments in the pilot areas **Date:** 15th September, 2023

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds six (6) areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		–	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CRIF.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CRIF exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	–	–
Outputs 1. The operational capability of CRIF is improved.	1-1 The self-ratings of CRIF on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CRIF.	1-1 Questionnaire survey to CRIF 1-2 Performance checklist based on the SOP	The staff of CRIF and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	–	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		–	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		–	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

*[4]: Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the same period for one year and eight months to mainly carry out the pilot projects which were entirely cancelled in 2020 and 2021.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CRIF.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

RECORD OF DISCUSSIONS

ON

THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

IN

THE REPUBLIC OF INDONESIA

AGREED UPON BETWEEN

SECRETARIAT GENERAL OF MINISTRY OF PUBLIC WORKS AND HOUSING

OF

THE REPUBLIC OF INDONESIA

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Jakarta, May 28 2019

Shinichi Yamanaka
Chief Representative
JICA Indonesia Office

Anita Firmanti
Secretary General
Ministry of Public Works and Housing,
Republic of Indonesia

Based on the minutes of meetings on the Detailed Planning Survey on the Project for the Improvement of Regional Roads Governance (hereinafter referred to as "the Project") signed on February, 2017 between Directorate General of Highways, Ministry of Public Works and Housing of Republic of Indonesia (hereinafter referred to as "DGH") and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA held a series of discussions with DGH and relevant organizations to develop a detailed plan of the Project.

DGH and JICA agreed the details of the Project and the main points discussed as described in the Appendix 1 and the Appendix 2 respectively.

Due to reorganization in Ministry of Public Works and Housing based on Ministrial Decree Number 03/PRT/M/2019 concerning Organization and Organization Governance in Ministry of Public Works and Housing, Secretariate General (hereafter referred to as Set Gen) cq Center of Facilitation for Regional Infrastructure (hereafter referred to as CFRI) is responsible to facilitate regional infrastructure development and since February 2019, Set Gen, DGH and JICA agreed to continue the Project under Set Gen.

Also since February 2019, Set Gen agreed as the counterpart to JICA, will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Indonesia.

The Project will be implemented within the framework of the Colombo Plan Technical Cooperation Scheme between the Government of Japan (hereinafter referred to as "GOJ") and the Government of Indonesia (hereinafter referred to as "GOI").

Appendix 1: Project Description
Appendix 2: Main Points Discussed
Appendix 3: Minutes of Meetings on the Detailed Planning Survey

Appendix 1

PROJECT DESCRIPTION

JICA informed that there is no change in the Project Description agreed on in the minutes of meetings on the Detailed Planning Survey on the Project signed on February, 2017 (Appendix 3).

I. BACKGROUND

The total extension of Indonesian road is approximately 523,974km, which approximately 90% of it is local road (provincial road: Approximately 10%, prefecture / municipal road: Approximately 80%). Approximately 90% of national road is managed in stable condition, on the other hands, only approximately 60%~70% of local road is managed in stable condition.

The factors of above issues are considered as the budget shortage for maintenances, an inappropriate budget allocation by the deficiency of budget making system, lack of the know-how of the maintenance. Specifically, Ministry of Public Works and Housing (MPWH) is in charge of supporting the local government to apply and execute the budget of the special subsidy about road maintenance management to the central government, but the budget are not allocated appropriately because application form are not unified in each local government. In the local government, the roads are damaged frequently at same point, because of lack of maintainable database.

Under above background, "National Middle development program" (RPJMN: 2015-2019), set goals that 75% of provincial road and 65% of prefecture / municipal road arrive at the stable state respectively, and MPWH founded local road Bureau in the ministry for grasping the current conditions of the maintenance of the local road and conducting an appropriate plan, maintenance, the development of the budget making system in cooperation with a local government, but the function is weak. Therefore the needs for this project are extremely high.

II. OUTLINE OF THE PROJECT

1. Title of the Project
   The Project for the Improvement of Regional Roads Governance
2. Overall Goal
   Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas
3 Project Purpose
   Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.

4 Objective
(1) The operational capability of CFRI is improved.
(2) The process for formulating the regional road maintenance plans is strengthened in the pilot areas.
(3) The practical engineering method of regional road maintenance is developed through the pilot projects.

5. Duration
The duration of the Project will be thirty six (36) months from the commencement

6. Project Site(s) and Beneficiaries
Jakarta and selected Pilot sites

7. Budget

8. Implementing Agencies
The Project organization chart is given in the Annex 3. The roles and assignments of relevant organizations are as follows:
(1) Set Gen
(a) Chairperson/Project Director
Head of Center of Facilitation for Regional Infrastructure, Set Gen will be responsible for overall administration and implementation of the Project.
(b) Vice Project Director
Director of Road Network Development, DGH will be responsible for technical issues of the Project
(c) Project Manager
Deputy Head of Road and Bridge Provision, Set Gen will be responsible for the administration of the Project.
(d) Project Members
Relevant engineers will be responsible for the managerial and technical matters of the Project.

(2) JICA
The JICA experts will give necessary guidance, advice and recommendations to Set Gen on any matters pertaining to the implementation of the Project.

9. Hand Over Outputs

III. ACTIVITES

The activities include, through pilot projects, policy and regulatory work, road database development, road programming and budgeting, advisory the local government in project implementation, training and dissemination.
The details of activities are explained in the Project Design Matrix (PDM).

IV. UNDERTAKINGS OF PARTIES

(1) Input by JICA

(a) Dispatch of Experts

- Chief Advisor / Road Maintenance
- Road Maintenance Plan
- Road Database
- Road Design
- Road Inspection
- Construction Supervision
- Road Management System
- Project Monitoring
- Training Plan / Project Coordinator
- Others as necessary

(b) Training

Japan and/or the Third Countries

(c) Machinery and Equipment

- Road Inspection Equipment
- Road Maintenance Equipment
- PC and Software for Road Management System in the pilot areas
- Others

In case of importation, the machinery, equipment and other materials under II-1 (1) (c) above will become the property of the GOI upon being delivered C.I.F. (cost, insurance and freight) to the Indonesia authorities concerned at the ports and/or airports of disembarkation.

(2) Input by Set Gen

Set Gen will take necessary measures to provide at its own expense:

(a) Services of Setjen's counterpart personnel and administrative personnel as referred to in II-2;
(b) Suitable office space for the Project Team with necessary equipment;
(c) Running expenses necessary for the implementation of the Project for transportation and accommodation only;
(d) 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 equipment provided by JICA;
(e) Information as well as support in obtaining medical service;
(f) Credentials or identification cards;
(g) Available data (including maps and photographs) and information related to the Project; and
(h) Expenses necessary for transportation within Indonesia of the equipment referred to in II-1 (1) as well as for the installation, operation and maintenance thereof;
(i) Ensure that the technologies and knowledge acquired by the Indonesia Nationals as a result of Japanese technical cooperation contributes to the economic and social development of Indonesia, and that the

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knowledge and experience acquired by the personnel of Indonesia from technical training as well as the equipment provided by JICA will be utilized effectively in the implementation of the project;

(j) Grant priveleges, exemptions and benefits to the JICA experts reffered to in II-1 (1) above and their families,***depend on duration*** which are no less favorable than those granted to experts and members of the mission and their families of third countries or international organization performing similar mission in Indonesia;

(k) Provide security related information as well as measures to ensure the safety of the JICA experts;

(l) permit the JICA experts to enter, leave and sojourn in Indonesia for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees;

(m) exempt the JICA experts from taxes and any other charges on the equipment, machinery and other material necessary for the implementation of the Project;

(n) exempt the JICA experts from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to them and/or remitted to them from abroad for their services in connection with the implementation of the Project; and

(o) meet taxes and any other charges on the equipment, machinery and other material, referred to in II-1 above, necessary for the implementation of the Project.

V. JOINT IMPLEMENTATION, MONITORING AND EVALUATION

JICA and the Set Gen will jointly and regularly monitor the progress of the Project through the Monitoring Sheets based on the Project Design Matrix (PDM) and Plan of Operation (PO). The Monitoring Sheets shall be reviewed every six (6) months.
Also, Project Completion Report shall be drawn up one (1) month before the termination of the Project.

JICA will conduct the following evaluations and surveys to mainly verify sustainability and impact of the Project and draw lessons. Setjen is required to provide necessary support for them.

1. Ex-post evaluation three (3) years after the project completion, in principle
2. Follow-up surveys on necessity basis

Joint Coordination Committee (hereafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be held at least once a year and whenever deems it necessary. JCC will approve an annual work plan, review overall progress, conduct evaluation of the Project, and exchange opinions on major issue that arise during the implementation of the Project. A list of proposed members of JCC is shown in the Annex 4.

VI. REPORTING

At the commencement of the Project, JICA will prepare and submit the Inception Report including the Monitoring Sheet ver.1 based on PDM and PO to Set Gen in English.

In addition, Set Gen and JICA experts will jointly prepare the following reports in English.

(1) The Monitoring Sheets based on PDM and PO on semiannual basis until the project completion
(2) Project Completion Report one (1) month before the termination of the Project.

VII. MISCONDUCT

All related personnel and organizations will keep the highest ethics and prevent any corrupt or fraudulent practices in the implementation of Technical Cooperation.

If JICA or the Counterpart (CFRI) receives information related to suspected corrupt or fraudulent practices in the implementation of Technical Cooperation, the Parties shall cooperate to take appropriate measures against such practices and provide the other party with such information as the other party may reasonably request, including information related to any concerned personnel of the contractor, consultant, government and/or public organizations.

JICA and the Counterpart will not, unfairly or unfavorably treat the person and/or organization which provided the information related to suspected corrupt or fraudulent practices in the implementation of Technical Cooperation.

VIII. MUTUAL CONSULTATION

The Parties will consult each other whenever any major issues arise in the course of Project implementation.

IX. AMENDMENTS

The record of discussions may be amended by mutual agreement between The Parties.

The ROD will be signed by authorized persons of each side who may be different from the signers of the record of discussions.

Annex 1 Project Design Matrix (PDM)
Annex 2 Plan of Operation (PO)
Annex 3 Implementation Structure
Annex 4 A List of Joint Coordinating Committee Members

Appendix 2

MAIN POINTS DISCUSSED

1. PDM & PO
   Both parties agreed on the contents of the Logical Framework (Project Design Matrix: PDM) and the tentative Plan of Operation (PO) as shown in Annex 1 and 2 respectively. The PDM and PO are to be flexibly revised according to the progress and achievement of the Project, upon mutual agreement between Setjen and JICA by signing the Minutes of Meetings, according to the R/D.

2. Synergizing Between PRIM and the Project
   Both parties confirmed that (1) Provincial Road Improvement and Maintenance Program (hereinafter referred to as "PRIM") will work on the project implementation level, meanwhile the project will work on the meso and macro level such as review/establish standard, norm, procedure, criteria, including technical guideline of Special Allocation Fund (hereinafter referred as "DAK) that is related to provincial/regency/city road (2) with regard to development of Road Management System (hereinafter referred to as "RMS"), the scope of PRIM should cover that of province and regency (kabupaten), named PRMS and KRMS respectively. The Project shall take care of modifying/developing RMS for city (kota) as well as umbrella function for integration of the three RMS.
   Both parties agreed that PRIM and the Project should conduct information sharing regularly and work closely so that synergy effects should be created.

3. Pilot area of the Project
   Both parties agreed that the pilot area shall be selected after the commencement of the Project. The Project shall conduct preliminary survey of candidate areas in order to select the most appropriate pilot areas. Both parties discussed and temporarily agreed the selection criteria which were: 1) excluding a provincial capital, 2) middle-sized population and 3) national spatial planning status such as national/provincial activity/strategic center.

4. Pilot project in the pilot area
   Both parties agreed that physical work of pilot projects should be implemented by the local government with its own expenses including DAK funded. JICA Experts should provide a technical advice on designing, implementing and supervising. As for Activity 3-4 in the PDM, the pilot project which shall be conducted in the area with high traffic volume, may encounter and need some specific considerations on additional technical aspects such as construction safety, traffic safety and traffic management. These things are also expected to be analyzed and documented in the results of the pilot projects.

5. Equipment
   As shown in the PDM, some essential equipment for road inspection and

maintenance such as portable IRI inspector, tamper, asphalt cutter, bitumen spray, etc is to be provided by JICA. Specifications and the number of respective equipment will be determined through mutual consultations between JICA Experts and the counterparts after the commencement of the Project.

6. Environmental and Social Considerations
   The Project is likely to have minimal adverse impact on the environment and society under the 'JICA Guidelines for Environmental and Social Considerations (April 2010)'.

7. Submission of BAST
   Both sides confirmed that the project is categorized as "Goods / Services" stipulated in Article 42 (1) c of Government Regulation No. 10/2011.
   In accordance with Regulation of Minister of Finance No. 191/ PMK.05 /2011, the executing agency shall submit BAST (handover delivery certificate of goods/services) to the Ministry of Finance of Indonesia. In order to secure the accuracy of BAST, JICA Indonesia Office will provide Setjen with data on semester basis as follows.
   -Goods: name and price (in effective currency) per item of equipment handed over during last six months
   -Services: total expenditure (in Japanese currency) of last six months for expert, training, and mission
   Setjen will make and sign BAST based on the data provided by JICA, and after obtaining JICA's confirmation, submit it to MOF.

Project Design Matrix (PDM_0)

Annex1

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:**XXX, 2019 – XXX, 2022 (Three (3) years) **Version No. 0**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure, (CFRI), DGH and the local governments in the pilot areas**Date:**26thFebruary, 2019

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas arerespectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method			
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The percentage of the regional road maintenance projects completed by the local governments in the pilot areas to all regionalroad maintenance projects indicated in the annual road maintenance plan exceeds XX% within the financial year. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed XX% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.		
Outputs 1. The operational capability of CFRI is improved. 2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas. 3. The practical engineering method of regional road maintenance is developed through the pilot projects.	1-1 The self-ratings of CFRI on their operational capabilities exceed XX% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI. 2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas. 3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed XX% on average. 3-2 Practical engineering methodsfor regional road maintenance are tested and carried out through the pilot projects.	1-1 Questionnaire survey to CFRI and DGH 1-2 Performance checklist based on the SOP 2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet 3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.		

Activities	Inputs		
	Japanese side	**Indonesian side**	
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI. 1-2 Confirm the current status and issues of regional road maintenanceincluding Norm, Standard, Procedure, and Criteria. 1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas. 1-4 Develop the database framework of regional roads across the country. 1-5 Arrange the development policy direction of regional roads across the country. 1-6 Prepare the proposal of budget allocation plan for regional road maintenance. 1-7 Develop the SOP for regional road administration including DAKbased on the results of the pilot projects in cooperation with CFRI. 1-8 Convene the region-wide seminars for the other local governments outside the pilot areas. 2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc.of the local governments in the pilot areas. 2-2 Confirm the current status and issues ofregional road maintenance in the pilot areas. 2-3 Conduct road inspections in the pilot areas. 2-4 Develop the database of regional road maintenance in the pilot areas. 2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration withCFRI. 2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration withCFRI. 2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance. 2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration withCFRI. 3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance. 3-2 Assist the local governments in the pilot areas to executepilot projects. 3-3 Supervise the pilot projects in collaboration withCFRI. 3-4 Analyze and document the results of the pilot projects, including safety and management aspects. 3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals. 3-6 Identify the technical issues on human resources development in the local governments of the pilot areas. 3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	1. Experts • Chief Advisor/Road Maintenance • Road Maintenance Plan • Road Database • Road Design • Road Inspection • Construction Supervision • Road Management System • Project Monitoring • Training Plan/Project Coordinator • Others as necessary 2. Training of counterpart personnel in Japan and/or the Third Countries 3. Provision of equipment • Road Inspection Equipment • Road Maintenance Equipment • PC and Software for Road Management Systemin the pilot areas • Others 4. Local expenses for the project activities as necessary	1. Personnel • Project Director • Project Manager • Counterpart personnel 2. Provision of the project office and facilities necessary for the project implementation 3. Expenses for the pilot projects executed by the local governments in the pilot areas 4. Administrative and operational expenses necessary for the project implementation • Electricity, water, communication, etc. • Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia • Others	1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas. 2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities. 3. The demarcation ofregional road maintenance activities between PRIM and the Project is retained. **Pre-condition** Understanding and cooperation in regional road maintenance are obtained from the project stakeholders. ***<Issues and Countermeasures>***

PRIM: Provincial Road Improvement and MaintenanceProgram
SOP: Standard Operating Procedure
DAK : Special Allocation Fund

Draft Plan of Operations (PO)

Version 0 Annex 2

Date 26 February, 2018

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year				2nd Year				3rd Year				Remarks	Monitoring: Issue	Monitoring: Solution
		I	II	III	IV	I	II	III	IV	I	II	III	IV			
	Month	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12			
Equipment																
Road Inspection Equipment	Plan															
	Actual															
Road Maintenance Equipment	Plan															
	Actual															
PC and Software for Road Management System in the pilot areas	Plan															
	Actual															
Others	Plan															
	Actual															
Training in Japan and/or Third Countries																
Road Maintenance	Plan															
	Actual															

Activities	Year	1st Year				2nd Year				3rd Year				Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
Sub-Activities		I	II	III	IV	I	II	III	IV	I	II	III	IV				
	Month	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12				
Output 1: The operational capability of CRFI is improved.																	
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CRFI.	Plan													JICA Expert Team	CRFI		
	Actual																
1-2 Confirm the current status and issues of regional road maintenance including Norm, Standard, Procedure, and Criteria.	Plan													JICA Expert Team	CRFI		
	Actual																
1-3 Convene the regular meetings on regional road maintenance with CRFI and local governments in the pilot areas.	Plan													JICA Expert Team	CRFI		
	Actual																
1-4 Develop the database framework of regional roads across the country.	Plan													JICA Expert Team	CRFI		
	Actual																
1-5 Arrange the development policy direction of regional roads across the country.	Plan													JICA Expert Team	CRFI		
	Actual																
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan													JICA Expert Team	CRFI		
	Actual																
1-7 1-7 Develop the SOP for regional road administration including DAK based on the results of the pilot projects in cooperation with CRFI.	Plan													JICA Expert Team	CRFI		
	Actual																
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan								▲				▲	JICA Expert Team	CRFI		
	Actual																
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																	
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan													JICA Expert Team	CRFI, Local govts of the pilot areas (LGPA)		
	Actual																
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
2-3 Conduct road inspections in the pilot areas.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRFI.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRFI.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CRFI.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																	
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
3-3 Supervise the pilot projects in collaboration with CRFI.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan													JICA Expert Team	CRFI LGPA		
	Actual																
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan								▲				▲	JICA Expert Team	CRFI LGPA		
	Actual																
Duration / Phasing	Plan																
	Actual																

Monitoring Plan	Year	1st Year				2nd Year				3rd Year				Remarks	Issue	Solution
		I	II	III	IV	I	II	III	IV	I	II	III	IV			
Monitoring																
Joint Coordinating Committee	Plan	▲ Kickoff			▲				▲				▲			
	Actual															
Set-up the Detailed Plan of Operations	Plan			▲												
	Actual															
Submission of Monitoring Sheet	Plan	▲		▲		▲		▲		▲		▲				
	Actual															
Reports/Documents																
Project Completion Report	Plan												▲			
	Actual															
Public Relations																
PR activities for regional road maintenance	Plan								▲				▲			
	Actual															

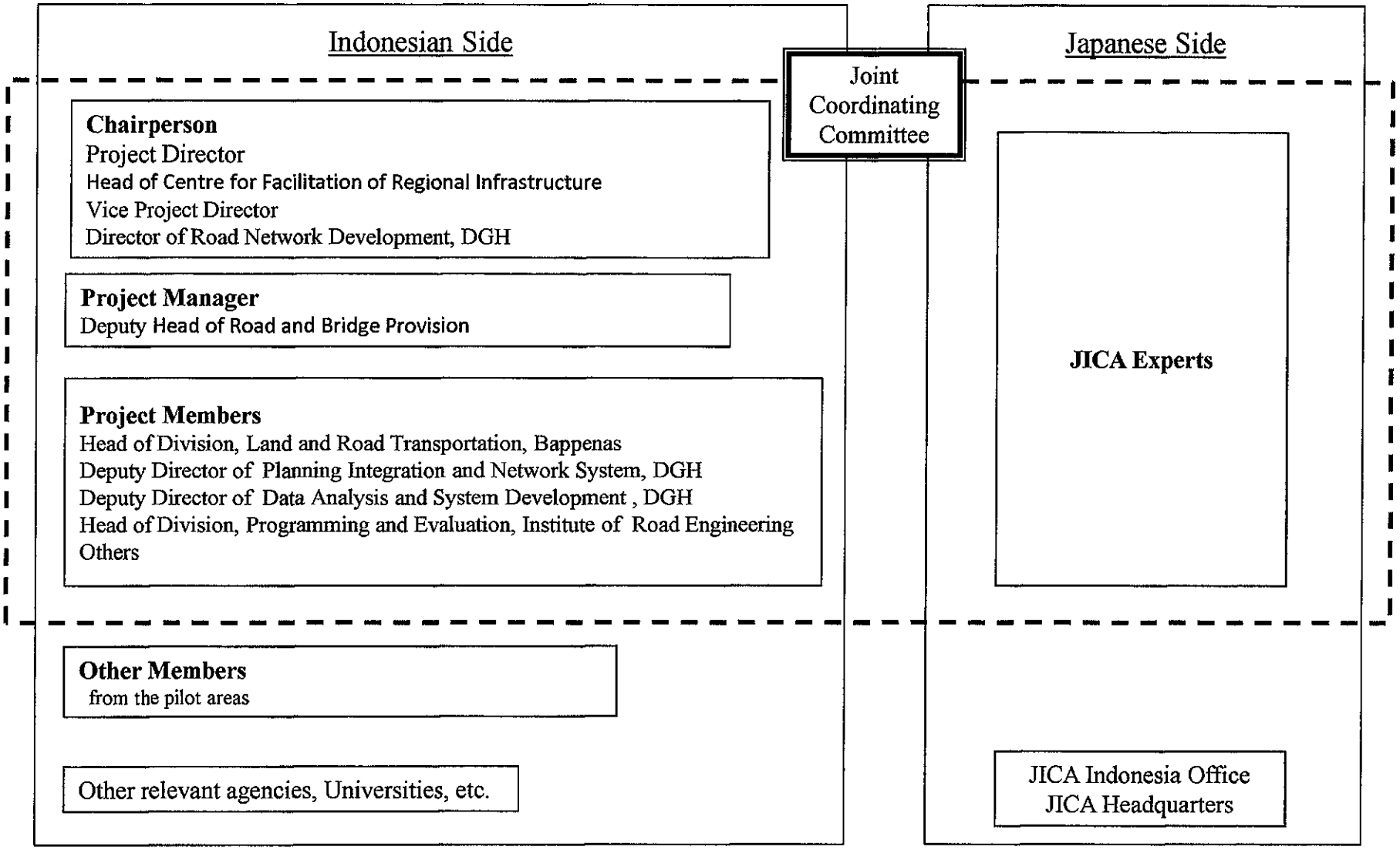
■ To complete project activities within the solid line.

■■■ To continuously conduct project activities during the dotted line.

▲ To conduct meetings/seminars, execute monitoring, and prepare reports.

Implementation Structure

Annex 3



LIST OF PROPOSED MEMBERS OF JOINT COORDINATING COMMITTEE

Chairperson: Project Director

Members:

JCC consists of the members from the following organizations:

(1) Indonesian Side

1) Project Director	Head of Centre of Facilitation for Regional Infrastructure
2) Vice Project Director	Director of Road Network Development, DGH
3) Project Manager	Deputy Head of Road and Bridge Provision
4) Project Members:	Head of Division Land And Road Transportation, Bappenas
	Deputy Director of Planning Integration and Network System, DGH
	Deputy Director of Data Analysis and System Development, DGH
	Head of Division, Programming and Evaluation, Institute of Road Engineering
	Others

(2) Japanese Side

1) JICA Experts

2) JICA Indonesia Office

MEMBERS OF TECHNICAL WORKING GROUP (TWG)

To be decided at the first JCC meeting

MINUTES OF MEETING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
DIRECTORATE GENERAL OF HIGHWAY
ON
TECHNICAL COOPERATION
FOR
IMPROVEMENT OF REGENCY/MUNICIPALITY ROADS GOVERNANCE IN INDONESIA

The Japan International Cooperation Agency (hereinafter referred to as "JICA") has dispatched the Detailed Planning Survey Team (hereinafter referred to as "the Team") to Government of Indonesia (hereinafter referred to as "Indonesia") from February 7 to 23, 2017 for the purpose of preparation of the technical cooperation project concerning "technical cooperation for the improvement of regency/municipality roads governance in Indonesia" (hereinafter referred to as "the Project").

During its stay in Indonesia, the Team exchanged its views and had a series of discussions for the purpose of working out the framework and contents of the Project with Directorate General of Highways, Ministry of Public Works and Housing (hereinafter referred to as "DGH").

As a result of discussions, both sides came to understanding concerning the matters referred to in the document attached hereto.

February , 2017

Nobuyuki Tsuneoka
Leader
Detailed Planning Survey Team
Japan International Cooperation Agency

Rachman Arief Dienaputra, M.Eng
Director of Road Network Development
Directorate General of Highways
Ministry of Public Works and Housing

ATTACHED DOCUMENT

1. RECORD OF DISCUSSIONS

Both sides agreed that the Record of Discussions (R/D), the draft of which is attached hereto, will determine the framework of the Project. R/D will be signed after the formal approval of both sides.

2. PROJECT TITLE

Both sides agreed that the Project title shall be modified from "Technical Cooperation for Improvement of Regency/Municipality Roads Governance" to "The Project for the Improvement of Regional Roads Governance".

The Team conveys the proposal to JICA Headquarters. The name will be fixed through the formal approval by both sides before the R/D signing.

3. OTHERS

Indonesian side requested postgraduate program in the application form. The Team explained that it is out of the technical cooperation scheme. However, JICA has started scholarship program under which there is a course for road asset management. The Team explained that the program is applicable for relevant persons engaged in the Project around the end of the Project.

Appendix Draft Record of Discussions

RECORD OF DISCUSSIONS

FOR

THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

AGREED UPON BETWEEN

DIRECTORATE GENERAL OF HIGHWAYS

OF

INDONESIA

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Dated XX XX 2017

Based on the minutes of meetings on the Detailed Planning Survey for the The Project for the Improvement of Regional Roads Governance (hereinafter referred to as "the Project") signed on February XX between Directorate General of Highways of Indonesia (hereinafter referred to as "the Counterpart") and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA held a series of discussions with the Counterpart and relevant organizations to develop a detailed plan of the Project.

The purpose of this record of discussions (hereinafter referred to as "the R/D") is to establish a mutual agreement for its implementation by both parties and to agree on the detailed plan of the Project as described in the followings and the Annexes, which will be implemented within the framework of the Note Verbales exchanged on [date] between the Government of Japan and the Government of Indonesia.

The Counterpart will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of Indonesia.

Both parties also agreed that the Project will be implemented in accordance with the "Basic Principles for Technical Cooperation" published in --- 2016 (hereinafter referred to as "the BP"), unless other arrangements are agreed in the R/D.

The R/D is delivered at Jakarta as of the day and year first above written. The R/D may be amended by a minutes of meetings between both parties, except the plan of operation to be modified in monitoring sheets. The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the R/D.

For	For
JAPAN INTERNATIONAL COOPERATION AGENCY	DIRECTORATE GENERAL OF HIGHWAYS
Naoki Ando Chief Representative JICA Indonesia Office	Rachman Arief Dienaputra Director of Road Network Development

Annex 1 Main Points Discussed
Annex 2 Project Design Matrix (PDM)
Annex 3 Plan of Operation (PO)
Annex 4 Implementation Structure
Annex 5 List of Proposed Members of Joint Coordinating Committee

Annex 1

MAIN POINTS DISCUSSED

1. PDM & PO
   Both parties agreed on the contents of the Logical Framework (Project Design Matrix: PDM) and the tentative Plan of Operation (PO) as shown in Annex 2 and 3 respectively. The PDM and PO are to be flexibly revised according to the progress and achievement of the Project, upon mutual agreement between DGH and JICA by signing the Minutes of Meetings, according to the R/D.

2. Demarcation Between PRIM and the Project
   Both parties confirmed that with regard to development of Road Management System (hereinafter referred to as "RMS"), the scope of Provincial Road Improvement and Maintenance Program (hereinafter referred to as "PRIM") should cover that of province and regency (kabupaten), named PRMS and KRMS respectively. The Project shall take care of developing RMS for city (kota) as well as umbrella function for integration of the three RMS.
   Both parties agreed that PRIM and the Project should conduct information sharing regularly and work closely so that synergy effects should be created.

3. Pilot area of the Project
   Both parties agreed that the pilot area should be a city (as of February 2017, in total 98), or more precisely administrative area of a city and its government. The pilot area shall be selected after the commencement of the Project. The Project shall conduct preliminary survey of candidate cities in order to select the most appropriate pilot areas. Both parties discussed and temporarily agreed the selection criteria which were: 1) excluding a provincial capital, 2) middle-sized population and 3) national spatial planning status such as national/provincial activity/strategic center.

4. Pilot project in the pilot area
   Both parties agreed that physical work of pilot projects should be implemented by the local government with its own expenses. JICA Experts should provide a technical advice on designing, implementing and supervising. As for Activity 3-4 in the PDM, the pilot project which shall be conducted in the city area may encounter and need some specific considerations on additional technical aspects such as construction safety, traffic safety and traffic management. These things are also expected to be analyzed and documented in the results of the pilot projects.

5. Equipment
   As shown in the PDM, some essential equipment for road inspection and maintenance such as portable IRI inspector, tamper, asphalt cutter and bitumen spray is to be provided by JICA. Specifications and the number of respective equipment will be determined through mutual consultations between JICA Experts and the counterparts after the commencement of the Project.

Project Design Matrix (PDM_0)

Annex 2

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** XXX, 2017 – XXX, 2020 (Three (3) years) **Version No. 0**

Target Groups: Engineers/administrative staff in the Directorate of Expressway, Urban Road and Regional Road Facilities (DEURRF) and the local governments in the pilot areas **Date:** 20th February, 2017

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX cities outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method			
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of DEURRF.	1. The percentage of the regional road maintenance projects completed by the local governments in the pilot areas to all regional road maintenance projects indicated in the annual road maintenance plan exceeds XX% within the financial year. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by DEURRF exceed XX% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.		
Outputs 1. The operational capability of DEURRF is improved. 2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas. 3. The practical engineering method of regional road maintenance is developed through the pilot projects.	1-1 The self-ratings of DEURRF on their operational capabilities exceed XX% on average. 1-2 The operations based on the SOP for regional road administration are executed by DEURRF. 2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas. 3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed XX% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	1-1 Questionnaire survey to DEURRF 1-2 Performance checklist based on the SOP 2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet 3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4	The staff of DEURRF and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.		

Activities	Inputs		
	Japanese side	**Indonesian side**	
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of DEURRF. 1-2 Confirm the current status and issues of regional road maintenance. 1-3 Convene the regular meetings on regional road maintenance with DEURRF and local governments in the pilot areas. 1-4 Develop the database framework of regional roads across the country. 1-5 Arrange the development policy direction of regional roads across the country. 1-6 Prepare the proposal of budget allocation plan for regional road maintenance. 1-7 Develop the SOP for regional road administration based on the results of the pilot projects in cooperation with DEURRF. 1-8 Convene the region-wide seminars for the other local governments outside the pilot areas. 2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas. 2-2 Confirm the current status and issues of regional road maintenance in the pilot areas. 2-3 Conduct road inspections in the pilot areas. 2-4 Develop the database of regional road maintenance in the pilot areas. 2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with DEURRF. 2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with DEURRF. 2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance. 2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with DEURRF. 3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance. 3-2 Assist the local governments in the pilot areas to execute pilot projects. 3-3 Supervise the pilot projects in collaboration with DEURRF. 3-4 Analyze and document the results of the pilot projects, including safety and management aspects. 3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals. 3-6 Identify the technical issues on human resources development in the local governments of the pilot areas. 3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	1. Experts • Chief Advisor / Road Maintenance • Road Maintenance Plan • Road Database • Road Design • Road Inspection • Construction Supervision • Road Management System • Project Monitoring • Training Plan / Project Coordinator • Others as necessary 2. Training of counterpart personnel in Japan and/or the Third Countries 3. Provision of equipment • Road Inspection Equipment • Road Maintenance Equipment • PC and Software for Road Management System in the pilot areas • Others 4. Local expenses for the project activities as necessary	1. Personnel • Project Director • Project Manager • Counterpart personnel 2. Provision of the project office and facilities necessary for the project implementation 3. Expenses for the pilot projects executed by the local governments in the pilot areas 4. Administrative and operational expenses necessary for the project implementation • Electricity, water, communication, etc. • Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia • Others	1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas. 2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities. 3. The demarcation of regional road maintenance activities between PRIM and the Project is retained. **Pre-condition** Understanding and cooperation in regional road maintenance are obtained from the project stakeholders. *<Issues and Countermeasures>*

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure

Draft Plan of Operations (PO)

Version 0 Annex 3
Date 26 February, 2017

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year				2nd Year				3rd Year				Remarks	Monitoring: Issue	Monitoring: Solution
		I	II	III	IV	I	II	III	IV	I	II	III	IV			
	Month	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12			
Equipment																
Road Inspection Equipment	Plan															
	Actual															
Road Maintenance Equipment	Plan															
	Actual															
PC and Software for Road Management System in the pilot areas	Plan															
	Actual															
Others	Plan															
	Actual															
Training in Japan and/or Third Countries																
Road Maintenance	Plan															
	Actual															

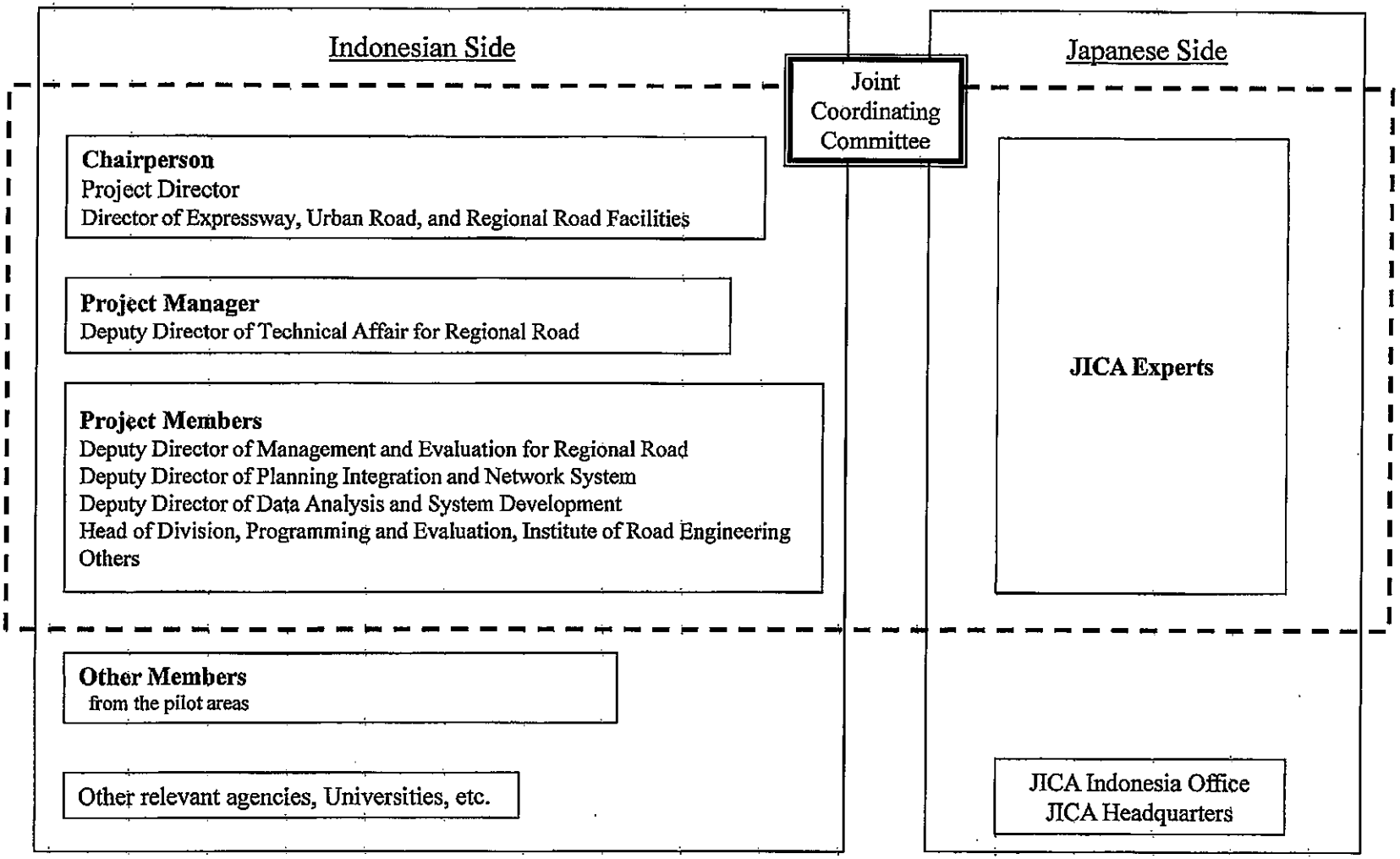
Activities / Sub-Activities	Year	1st Year				2nd Year				3rd Year				Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
		I	II	III	IV	I	II	III	IV	I	II	III	IV				
	Month	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12				
Output 1: The operational capability of DEURRF is improved.																	
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of DEURRF.	Plan													JICA Expert Team	DEURRF		
	Actual																
1-2 Confirm the current status and issues of regional road maintenance.	Plan													JICA Expert Team	DEURRF		
	Actual																
1-3 Convene the regular meetings on regional road maintenance with DEURRF and local governments in the pilot areas.	Plan													JICA Expert Team	DEURRF		
	Actual																
1-4 Develop the database framework of regional roads across the country.	Plan													JICA Expert Team	DEURRF		
	Actual																
1-5 Arrange the development policy direction of regional roads across the country.	Plan													JICA Expert Team	DEURRF		
	Actual																
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan													JICA Expert Team	DEURRF		
	Actual																
1-7 Develop the SOP for regional road administration based on the results of the pilot projects in cooperation with DEURRF.	Plan													JICA Expert Team	DEURRF		
	Actual																
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan				▲								▲	JICA Expert Team	DEURRF		
	Actual																
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																	
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan													JICA Expert Team	DEURRF, Local gov'ts of the pilot areas (LGPA)		
	Actual																
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
2-3 Conduct road inspections in the pilot areas.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with DEURRF.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with DEURRF.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with DEURRF.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																	
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
3-3 Supervise the pilot projects in collaboration with DEURRF.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan													JICA Expert Team	DEURRF LGPA		
	Actual																
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan				▲								▲	JICA Expert Team	DEURRF LGPA		
	Actual																
Duration / Phasing	Plan																
	Actual																

Monitoring Plan	Year	1st Year				2nd Year				3rd Year				Remarks	Issue	Solution
		I	II	III	IV	I	II	III	IV	I	II	III	IV			
Monitoring																
Joint Coordinating Committee	Plan	▲ Kickoff			▲				▲				▲			
	Actual															
Set-up the Detailed Plan of Operations	Plan		▲													
	Actual															
Submission of Monitoring Sheet	Plan	▲	▲			▲	▲			▲	▲					
	Actual															
Reports/Documents																
Project Completion Report	Plan												▲			
	Actual															
Public Relations																
PR activities for regional road maintenance	Plan				▲								▲			
	Actual															

■ To complete project activities within the solid line.
▥ To continuously conduct project activities during the dotted line.
▲ To conduct meetings/seminars, execute monitoring, and prepare reports.

Annex 4

Implementation Structure



Annex 5

LIST OF PROPOSED MEMBERS OF JOINT COORDINATING COMMITTEE

Chairperson: Project Director

Members:

JCC consists of the members from the following organizations:

(1) Indonesian Side

1) Project Director	Director of Expressway, Urban Road and Regional Road Facilities
2) Project Manager	Deputy Director of Technical Affair for Regional Road
3) Project Members:	Deputy Director of Management and Evaluation for Regional Road
	Deputy Director of Planning Integration and Network System
	Deputy Director of Data Analysis and System Development
	Head of Division, Programming and Evaluation, Institute of Road Engineering
	Others

(2) Japanese Side

1) JICA Experts

2) JICA Indonesia Office

MEMBERS OF TECHNICAL WORKING GROUP (TWG)

To be decided at the first JCC meeting

MINUTES OF MEETING
BETWEEN
MINISTRY OF PUBLIC WORKS AND HOUSING
IN THE REPUBLIC OF INDONESIA
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
ON
THE PROJECT FOR IMPROVEMENT OF REGIONAL ROAD GOVERNANCE

The Centre for Regional Infrastructure Facilitation (CRIF) in the Ministry of Public Works and Housing in the Republic of Indonesia and Japan International Cooperation Agency (hereinafter referred to as "JICA") hereby agree on the amendment of the Record of Discussions (R/D) on the Project for the Improvement of Regional Road Governance signed on May 28, 2019, as follows;

1. Main points discussed

(1) Duration of the project

Before	Amended Version
5. Duration The duration of the Project will be thirty six (36) months from the commencement.	5. Duration The duration of the Project will be fifty five (55) months from September 1, 2019.
Reasons JICA Expert team has not been dispatched since April 2020 due to the worldwide prevalence of COVID-19. After the restart, project duration needs to be extended. In addition, the commencement date is defined as the date of the first arrival of the JICA experts in Indonesia after the Record of Discussion is signed, based on the frame of the Project.	

2. Project Design Matrix

(1) Project Purpose

Before	Amended Version
Objectively Verifiable Indicators	
1. The percentage of the regional road maintenance projects completed by the local governments in the pilot areas to all regional road maintenance projects	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with completion rate[*2] of more than 90% for

indicated in the annual maintenance projects indicated in the annual road maintenance plan exceeds XX% within the financial year. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed XX% on average.	the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CRIF exceed 70% on average. [*1] : The regional road maintenance projects include all the components, i.e., originally planned projects as well as contingency and additional ones. [*2] : The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, i.e., (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan. [*3] : The maintenance projects here represent the specific ones originally planned from the beginning of 2019, i.e., excluding the contingency and additional maintenance projects.

Reason:

Since the completion rate reached around 90% in both pilot cities in 2019, this percentage shall be retained during the project period. Also, as it is not sufficient to measure the achievement of the Project Purpose with the fulfillment of the completion rate only, the self-assessment of road maintenance projects are complemented for the indicator 1.

The self-assessment results of the annual plan in 2019 just went beyond 60% (baseline) in the two cities, so the target value is established in 80% with 20% increase from the baseline value.

As the satisfaction rating on CRIF consultations was 51.9% as the baseline value, the target value was established in 70% with nearly 20% increase of the baseline value.

(2) Output

1) Output 1

Before	Amended Version
Objectively Verifiable Indicators	
1-1 The self-rating of CFRI on their operational capabilities exceed XX% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI.	1-1 The self-rating of CRIF on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CRIF.
Reason: Finalized based on the result of the self-rating survey on the operational capabilities of CRIF. The target value is established as 80%, which is nearly 20% increase of the baseline value (59.2%) extracted from the self-rating survey.	
Means of Verification	
1-1 Questionnaire survey to CFRI and DGH 1-2 Performance checklist based on the SOP	1-1 Questionnaire survey to CRIF 1-2 Performance checklist based on the SOP
Reason: As the questionnaire survey is carried out for the improvement status of CRIF operational capabilities through their self-assessment, "DGH" was deleted from the means of verification.	

2) Output 3

Before	Amended Version
Objectively Verifiable Indicators	
3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed XX% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.
Reason: Finalized based on the result of the self-rating survey on the practical engineering method for engineers, and technicians working in pilot cities. The target value is established as 75%, which is nearly 20% increase of the baseline value (53.6%) extracted from the self-rating survey.	

3) INPUT (Japanese Side)

Before	Amended Version
1. Experts · Chief Advisor / Road Maintenance · Road Maintenance Plan · Road Database · Road Design · Road Inspection · Construction Supervision · Road Management System · Project Monitoring · Training Plan/Project Coordinator · Others as necessary 2. Training of counterpart personnel in Japan and/or the Third Countries 3. Provision of equipment the machinery and equipment · Road Inspection Equipment · Road Maintenance Equipment · PC and Software for Road Management System in the pilot areas · Others 4. Local expenses for the project activities as necessary	1. Experts · Team Leader / Road Maintenance 1 · Deputy Team Leader / Road Maintenance 2 · PMS / Road Database · Road Maintenance Plan · Road Design · Road Inspection · Construction Supervision · PMS / Road Management System 1 · Organization Management / Project Monitoring · Training Plan / Gender · PMS / Road Management System 2 / Project Coordinator 2. Training of counterpart personnel in Japan and/or the Third Countries 3. Provision of equipment · Road Inspection Equipment · Road Maintenance Equipment · PC and Software for Road Management System in the pilot areas · Others 4. Local expenses for the project activities as necessary
Reason: Fixed based on the result of the discussion	

3. Implementation Structure

Before	Amended Version
As attached in the original R/D	As Annex 3 of this Minutes of Meeting
Reason: Change of name and organization structures according the Ministerial Regulation No 13/2020, and Ministerial Decree No. 72/2022	

4. LIST OF PROPOSED MEMBERS OF JOINT COORDINATING COMMITTEE

Before	Amended Version
Members: JCC consists of the members from the following organizations (1) Indonesian Side 1) Project Director Head of Centre for Facilitation of Regional Infrastructure 2) Vice Project Director Director of Road Network Development, DGH 3) Project Manager Deputy Head of Road and Bridge Provision 4) Project Members Head Division, Land and Road Transportation, Bappenas Deputy Director of Planning Integration and Network System, DGH Deputy Director of Data Analysis and System Development, DGH Head of Division, Programming and Evaluation, Institute of Road Engineering Others	Members: JCC consists of the members from the following organizations (1) Indonesian Side 1) Project Director Head of Centre for Regional Infrastructure Facilitation 2) Vice Project Director Director for Road and Bridge Management System and Strategy, DGH 3) Project Manager Head of Division of Specific Allocation Funds For Roads and Bridges, CRIF 4) Project Members Head of Division Land and Road Transportation, Bappenas Head of Integration System of Road and Bridge Network Subdirectorate, DGH Head of Road and Bridge Data and Information System Development Subdirectorate, DGH Director for Public Works Polytechnic Head of Subnational Roads Subdirectorate, DGH Head of Centre for Data and Information Technology Others (Two pilot cities)

(2) Japanese Side 1) JICA Experts 2) JICA Indonesia Office MEMBERS OF TECHNICAL WORKING GROUP (TWG) To be decided at the first JCC meeting	(2) Japanese Side 1) JICA Experts 2) JICA Indonesia Office MEMBERS OF TECHNICAL WORKING GROUP (TWG) (1) Indonesian Side Representatives from the CRIF Representatives from DGH Representatives from the pilot cities Others (2) Japanese Side JICA Experts
Reason: JCC members; Updated to reflect the change of name and organization structures according the Ministerial Regulation No 13/2020, and Ministerial Decree No. 72/2022 TWG members; Updated through the discussions of JCC	

This amendment will become effective as of the signing date shown below.

Annex1: Record of Discussions (signed on May 28, 2019)
Annex2: Amended Project Design Matrix
Annex3: Implementation Structure
Annex4: Amended List of Joint Coordinating Committee Members

Jakarta, 29 July 2022

Mohammad Zainal Fatah
Secretary General
Ministry of Public Works and Housing.
Republic of Indonesia

Takehiro Yasui
Chief Representative
JICA Indonesia Office

MINUTES OF MEETING

OF

THE 1st MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 24th September, 2019

The first meeting of Joint Coordinating Committee was held in Meeting Room in CFRI, Heritage Building 4th Floor, South Jakarta, on 24th September 2019 under the chairmanship of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda, presented materials and attendance list are attached.

JICA and CFRI Team made presentations on the following subjects:

1.1. Outline of the Project with Work Plan

1.2. Selection of the Pilot Area

1.3. Technical Working Group (TWG)

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the contents of explanation for 1.1, 1.2 and 1.3 above.
2. JCC approved the contents of Work Plan and Monitoring Sheet Ver.1.
3. JCC approved the procedure and criteria for pilot site selection, and finally ten (10) candidates of pilot sites have been selected. CFRI enquired about the criteria for the final steps and requested to consider public transport facility (On selection criteria (step-2)), by adding types of terminal (terminal A, terminal B, or terminal C).
4. CFRI requested JICA Team to hold the explanation meeting of pilot project for ten (10) candidate cities for the final step to select the pilot sites. CFRI requested the venue for that meeting by inviting 2 (two) representatives of the 10 cities and 1 (one) representative from regional planning board (Bappenas). JICA Team agreed to consult this issue with JICA HQ and inform CFRI later.
5. CFRI requested to JICA Team some changes of quantity in Machinery, Equipment and Facilities to be delivered in this project:
   a) IRI Profiler, from 2 in quantity to 5 for local government, CFRI, DGH and IRE
   b) Mobile Inspection System, from 2 in quantity to 5 for local government, CFRI, DGH and IRE
   c) Road Database (PMS) for central government (CFRI), from 1 in quantity to 3 for CFRI, DGH and IRE

   These additions are needed because CFRI and other C/Ps members shall use them to study and understand about how the machinery and equipment work for the system in order to assist the local governments in carrying out their tasks or to provide other regions that need the equipment. JICA Team agreed to consult this issue with JICA HQ and inform CFRI later.
6. CFRI raised the concern that the project team also take into consideration the traffic and intersections in the cities, as well as several aspects such as minor improvement, install the traffic signs, and develop

the flyover or underpass. To address the CFRI concern, the project team responded that the points raised would be surely contribute to have better road network and they are to be discussed further in the TWG meeting, whether those might be incorporated into the system that the project team will formulate in the project. In case additional expertise is necessary to include the points raised, the project team will communicate and discuss with CFRI and JICA office.

7. JICA Team requested to assign the Working Group members from CFRI and other related departments. CFRI agreed to assign the members from CFRI, DGH and IRE. Mr. Fadil, from Sub-Directorate for Integrated Planning and Road Network system, suggested to also include the persons from Sub-Directorate for Metro and Big Cities under the DGH, Bappenas, Sub-Directorate for Integrated Planning and Road Network system, and Sub-Directorate of Data Analysis and System Development for Output-1. For Output-2, he suggested to include the Sub-directorate of Planning and Programming of Road Preservation, and Sub-directorate of Integrated Planning and Road Network System. Meanwhile, for Ouput-3, he proposed the team to incorporate with Sub-directorate of Monitoring and Evaluation of Road Preservation and DGH Branch Office.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

Jakarta, 24th September 2019

Mr. Tomoyuki Kawabata
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

Meeting of Joint Coordinating Committee

<The Project for the Improvement of Regional Roads Governance>

September24. 2019 14:00

Attendance List

No	Name / Nama	Department & Position / Departemen & Posisi	Signature / Tanda tangan
1	Kazuya Aoki	[redacted]	
2	Masafumi Tamauchi		
3	Bhoj Raj Pantha		
4	Yumichi Oshima		
5	Ryusuke KANEKO		
6	F. Gracia		
7	Pratiwi Nursusilowati		
8	Fadic A.N		
9	Astri N.S		
10	Anitya Darmaningtyas MP		
11	Ade Maulana		
12	Selviana S		
13	NOVI B		
14	AKRAM YONDA		
15	SATRIA		
16	Frandi Sahabat		
17	Sinta Nur Indah		
18	ASTRI N.S		
19	Eka Widya		
20	Hery.		

Meeting of Joint Coordinating Committee

<The Project for the Improvement of Regional Roads Governance>

September24. 2019 14:00

Attendance List

No	Name / Nama	Department & Position / Departemen & Posisi	Signature / Tanda tangan
21	Cade Kurnia	[redacted]	
22	Muh. Taufik		
23	CESAR ICHTIARSO		
24	Dewi Idhayani		
25	Chihiro Ishii		
26	Mei Lia Dwi S.		
27	Dedy G		
28	Riono Supangkat		
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MINUTES OF MEETING

OF

THE 2nd MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 15th July, 2020

The second meeting of Joint Coordinating Committee was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda presented materials and attendance list are attached.

JICA and CFRI Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring Sheet Ver.2 & Project Indicators
3. Project Schedule under Covid-19

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the Monitoring Sheet Ver.2.
2. JCC approved the Project Indicators which are described in the updated Project Design Matrix (PDM)
3. JCC confirmed the present project implementation style and tentative schedule under COVID-19.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

15th July 2020

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

THE 2nd MEETING OF JOINT COORDINATING COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	2nd Joint Coordination Committee Meeting	**Sheet**	6 pages
Location	Online (Zoom Meeting)	**Date**	15th July 2020

Participants:	▪ *C/P members from CFRI, DGH (BINAMARGA), BAPPENAS, Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert in Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details please refer to attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		Outline of Discussion and Conclusions
1.0	1.1	The JCC meeting was commenced by Mr. Dedy and expressed an apology from Mr. Riono that he cannot attend this meeting because he had suddenly scheduled another meeting with the Ministry of Finance.
	1.2	Mr. Dedy informed brief information about what would be discussed at this meeting such as progress report, the things that need to be done in the future and the obstacles encountered in the field under the covid-19 situation. He also invited Mr. Honzu, Senior Representative of JICA Indonesia Office, to give an opening speech.
	1.3	Mr. Honzu gave an Opening Speech for the JCC meeting, and he stated that he just arrived in Indonesia last week. He thanked to all attendees for their attendance in this meeting and given the brief explanation about this project. He also expected that even though most of the activities of this project will be affected by COVID-19, the members must still collaborate properly to achieve the expected outcome.
2.0		***Progress Report***
	2.1	Dr. Aoki, Team Leader of this project, presented the progress report by dividing the progresses into two time period; (1) from beginning until the end of March 2020 which will be inconsistent with the Monitoring Sheet Version 2, (2) from April 2020 until 15th July, 2020, the progress under COVID-19 situation. He informed that a new project counterpart, Directorate of Technical Affairs for Road and Bridge (Bintek), was added in this project.
	2.2	Dr. Aoki informed about the modification of the project implementation plan in the Japanese side version 2 that Mr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system.
3.0		***Presentation -2: Project Monitoring Sheet Ver.2 & Project Indicators***
	3.1	Mr. Hirakawa presented the Project Monitoring Sheet version2 and project indicators. He explained current condition of modification in Project Design Matrix (PDM) version 1 and updated to PDM version 2. He informed that JICA Team will prepare the matrix and summary

Item		Text	Action
		how to monitor the system, the target values that must be achieved so that we could see the result every year.	
	3.2	The indicator 1 and indicator 2 of project purpose such as the completion status with the target >90% and self-assessment with the target >80% in both Sukabumi and Tebing Tinggi Cities have been explained. The indicator 1 and 2 of project purpose can be analysed for the strength and the weakness.	
	3.3	Mr. Hirakawa explained that the survey output for self-ratings of CFRI on their operational capabilities was 59.2% on average and the output for self-ratings of engineers and technicians at the pilot city government on their practical engineering method was 53.6% on average.	
4.0		***Presentation -3: Project Schedule under Covid-19***	
	4.1	Dr. Aoki explained the project activities from April to July 15, 2020 under COVID-19 that the tasks are being continued to achieve the target by remote work and he stated that even during COVID-19 pandemic some meetings had been held such as the 2nd TWG Meeting on June 2020 and others meetings with CFRI and MPWH Data Center.	
	4.2	The main project activities by remote work have been continued. He also stated that the project period extension due to the COVID-19 shall be discussed later, and assignment schedule of JICA Team have not been rescheduled yet. The 1st training in Japan planned in September 2020 will be postponed.	
5.0		***Discussions***	
	5.1	Mr. Dedy informed to all attendees that the Sub Directorate of Regional Road in Bina Marga as a new unit division in Ministry of Public Works and Housing who will handle the technical guidance for the local government of this project.	
	5.2	Mr. Dedy summarized the average result of questionnaire that only reaches 50% and still lack to achieve the target. He requested to Bina Marga to cooperate with CFRI to conduct the technical guidance and training to the local government. An official letter regarding this request will be submitted to the Sub Directorate of Regional Road in Bina Marga. He hoped the target value of this project not only applied in bSukabumi and Tebing Tinggi cities, but also can be applied to all cities in Indonesia.	
	5.3	Mr. Dedy asked to JICA Team to discuss about building of deterioration forecasting model that can predict the road conditions to estimate required road maintenance to formulate medium-term budget plan that will be included in the DAK in the next 5 years.	
	5.4	Mr. Dedy informed that the current situation of transportation between Jakarta and Pilot sites. Suklabumi City can still be visited by the car transportation, but when visiting the Tebing Tinggi City by airplane, it is required to comply with some administration issue and health protocol.	
	5.5	Representative of Sukabumi City stated that currently they are awaiting the arrival of JICA Team and has prepared the requested data by JICA Team,. Also Sukabumi City informed that they are conducting the road maintenance work as regular works.	
	5.6	Representative of Sukabumi City explained that the CFRI staff and Local Team of JICA may visit to Sukabumi City, and informed current condition in Sukabumi City is safe zone of COVID-19. However, the visitor still must comply with the health protocol or local policy.	

Item		Text	Action
	5.7	Mrs. Susan as the Head of Bina Marga in Tebing Tinggi City explained the condition Tebing Tinggi City under COVID-19 that Tebing Tinggi City are awaiting the arrival of JICA Team to conduct the survey, and she insisted to still comply with the health protocol and local policy during the site survey.	
	5.8	Mrs. Susan suggested to JICA Team and CFRI to choose the other site as the pilot site of this project, if possible. Also, she requested to Mr. Dedy about the possibility of Tebing Tinggi City to be given the additional budget for this project, due to the limited budget under COVID-19 condition.	
	5.9	Mr. Dedy responded that fund and budget for DAK for this year is decreasing. Thus, the local government are requested to prepare some technical data to apply for DAK funds.	
	5.10	Dr. Aoki understood the situation and happy to both cities for the response and actions. He stated the current condition that the Japanese experts cannot come to Indonesia and cannot predict also the arrival to Indonesia. However, the Japanese experts can assist by the remote work and the local team in Indonesia also can assist CFRI and both Sukabumi and Tebing Tinggi City.	
	5.11	Dr. Aoki understood the comment from Mr. Dedy about deterioration forecasting model for the road maintenance plan. Mr. Aoki proposed some option to install the deterioration model in CRMS such as CFRI will develop the common model to apply for all cities or cities government will produce the model by themselves, will install the complicated model that requires a lot of data and will install the simple model that easy to use with the actual situation. Dr. Aoki also emphasized the trade-off between system complexity and CRMS functions	
	5.12	Mr. Dedy emphasized that as long as the CRMS can predict the budget requirement in the next 5 years any method to predict deterioration will be fine and he entrust the way to the JICA Team.	
	5.13	Dr. Pantha said that technically the JICA Team can develop the deterioration model, but each city will have technical issues and he suggested to hold further meeting to discuss about this issue. Mr. Dedy agreed to arrange that meeting.	
	5.14	Mr. Cesar from BAPPENAS asked when the system development of this project is completed. Mr. Dedy responded the system development (first version) will be completed at the end of 2020.	
	5.15	Mr. Sutedjo from BAPPENAS supported and agreed on the deterioration model that model will requires a lot of data and variable, also the time series are required to develop this model. He also added for the development of this model needed more consideration if JICA Team will develop it.	
	5.16	Mr. Dedy reconfirmed to Bina Marga regarding the numbering of road segments still does not have a regular pattern and he asked help of Bina Marga to resolve this issue because this number will be as basis in the CRMS development as well.	
	5.17	Mr. Fathur from Bina Marga responded that Bina Marga Team has discussed that issues with Mr. Marsudi. Mr. Marsudi answered those issues will be needed a lot method to create the pattern of numbering so that there is no large gap between the regional and national roads. He worried between the regional and national roads that will there is a deviation because the differences of measurement class of IRI. He also proposed to JICA Team to discuss with Bina Marga about the class of IRI for measurement.	

Item		Text	Action
	5.18	Mr. Dedy responded that IRI measuring in the regional road mostly using the class 3 or 4 of IRI. He explained this project will use a new method which uses the action camera and after that will be verified. Also, IRI measurement system will be calibrated to check the sustainability with using the actual measurement.	
	5.19	Dr. Aoki clarfied that will use IRI measurement between class 2 and 3 in this project. Because class 2 is measuring the roughness of pavement directly by laser technology and class 3 can estimate the roughness by using smartphone. In this project, we will use the acceleration data that can estimate the roughness directly and later processed using data processing system which will also make the IRI with less dependent of vehicle driving speed. JICA Team also will conduct the test to calibrate the data with the actual measurement.	
	5.20	Mr. Dedy expected the Bina Marga is to be able to use the system in the field to measure IRI and train to the local government after the covid-19 is getting better.	
	5.21	Mr. Simon from Bina Marga asked whether there are any modules of CRMS related to the connectivity for the road widening, underpass, flyover, etc. where the roads in the city of metro require the mid-term planning.	
	5.22	Mr. Dedy answered and explained that the goals of this project is to develop and manage the maintenance roads in the small town and if the Bina Marga wants to develop this system, they may improve to be applied to the roads in metro city. He suggested Bina Marga to extend the cooperation contract with JICA Team.	
	5.23	Dr. Aoki explained that this project will try to develop comprehensive system to cover all situation. Even though, the first target of this project is Sukabumi and Tebing Tinggi City, JICA Team will consider the common function to be customized based on the cities condition in Indonesia.	
	5.24	Mr. Dedy expected that local government will be not only as a user but also as the developer who can modify the system in the future.	
	5.25	Mr. Honzu, senior representative of JICA, explained that the Japanese experts are still waiting the decision from Headquarters related to the schedule of this project especially the training to be held in Japan and he suggested to conduct the online training that will be flexible to implement this project smoothly in the current situation.	
	5.26	Mr. Dedy responded that training is still important in this project, but if the JICA will conduct the training online first under the COVID-19 situation it is still acceptable then after the condition is getting better the offline training could continue including training in Japan.	
	5.27	Mr. Ikeda from JICA Bina Marga informed that he has some experienced of maintenance road of local government. He has some idea to improve this project and will discuss with JICA Team directly. Dr. Aoki will contact Ikeda san to discuss further for this project.	

Item		Text	Action
6.0		***Others***	
	6.1	Mr. Dedy asked the next schedule of TWG Meeting and Dr. Aoki responded him that hewill inform the detail for next schedule of this project later. Dr. Pantha proposed to local government if there are things to be conveyed and discussed, they can contact directly to JICA Team or can propose for technical meeting.	
7.0		***Closing Remark***	
	7.1	Mr. Dedy closed the meeting by thanking to all attendees. He waited for the next TWG and JCC Meeting.	

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 15th July 2020

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Dedy Gunawan	CFRI		
2	Taufik	CFRI		
3	Saddam Amin			
4	Fathurrahman	Bina Marga / Directorate General of Highways		
5	J Sutedjo	Bappenas / National Development Planning Agency		
6	Kazuya Aoki	JICA Team		
7	Ryusuke Kaneko	JICA Team		
8	Bhoj Raj Phanta	JICA Team		
9	Akram Yolanda	CFRI		
10	Masafumi Yamauchi	JICA Team		
11	Takaaki Hirakawa	JICA Team		
12	Juneichiro Ikeda	JICA Indonesia		
13	Takeo Sugimoto	JICA Team		
14	Eiji Noguchi	JICA Team		
15	Junichi Oshima	JICA Team		
16	Hiroshi Ueda	JICA Team		
17	Luzmi Malia Izza	JICA Team		
18	Wieby Wiguna W.	JICA Team		
19	Mei Lia	JICA Team		
20	Sinta	CFRI		

21	Shunji Hata	JICA Team		
22	Ishii	Reprepsentative of JICA		
23	Frandi	CFRI		
24	Simon	Dit. SSPJ, Bina Marga / Directorate General of Highways		
25	Pudji	Bappenas / National Development Planning Agency		
26	Cesar	Bappenas / National Development Planning Agency		
27	Yusuf Amir	CFRI		
28	Dewi Idhayani	Representative of JICA Indonesia		
29	Honzu	Representative of JICA		
30	Toni	Bappenas / National Development Planning Agency		
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMITEE MEETING (JCC)

Date & Time: Wednesday, 15th July 2020

Attendance List

No	Name	Position / Institution	Phone / E-mail	Signature
1	[illegible]	[redacted]		
2	[illegible]			
3	ALVIAN SANI			
4	Rika Sulaeman			
5	Adi Chandra			
6	Tuti Astuti			
7	Irfan			
8	Dadang Diansyah			
9	Bambang Jati			
10	Widiawan Sukarno			
11	Cucu Sunggapar			
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DAFTAR HADIR RAPAT

Hari/Tanggal : RABU / 15 JULY 2020
Agenda : ICC MEETING
Tempat : BINA MARGA KOTA TEBING TINGGI

No.	Nama	Jabatan	No.Hp	Tanda Tangan
1.	RUSMIATY HARAHAP, ST	KADIS PUPR		
2.	REZA AGHISTA, ST	KABID BM PU		
3.	Jamaluddin, ST.	Kasi BM PU		
4.	SALMON F., ST	KASI DM PU		
5.	CHARLES, ST	STAF PUPR		
6.	Adolf Bastian Silaban, ST	STAF BM PUPR		
7.	Zulkarnain, ST.	Staff BM. PUPR		
8.	M. ARIF NUGRAHA, ST	Staf BM PUPR		

MINUTES OF MEETING

OF

THE 3rd MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 20th January, 2021

The third meeting of Joint Coordinating Committee (JCC) was held on 20th January 2021 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring
3. Progress of Development of CRMS, DPS-IRI and VIS

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the Monitoring Sheet Ver.3.
2. JCC approved the modified Project Design Matrix (PDM).
3. JCC confirmed the schedule for the development of CRMS, VIS and DPS-IRI.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

20th January 2021

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

THE 3rd MEETING OF JOINT COORDINATING COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	3rd Joint Coordination Committee Meeting	**Sheet**	6 pages
Location	Link Zoom Meeting	**Date**	20th January 2021

Participants:	▪ *C/P members from CFRI, DGH (BINAMARGA), BAPPENAS, Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert (Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		**Outline of Discussion and Conclusions**
1.0	1.1	The JCC meeting was commenced by Mr. Dedy and expressed an apology from Mr. Riono that he cannot attend this meeting because of his sudden another internal meeting.
	1.2	Mr. Dedy gave a welcome greeting to the meeting participants. He explained the purpose of the meeting, and informed that the JICA Expert Team (JET) would submit several progress reports of the Project. He informed that this Project has been running since 2019 and should have been completed in 2022, but due to the Covid-19 condition, there were some delays in project activities. Therefore, there is a possibility of the Project being extended until 2023. At the end of his welcome greeting, he invited Mr. Honzu, the Senior Representative of JICA Indonesia Office, to give an opening speech on behalf of JICA.
	1.3	Mr. Honzu mentioned that he was grateful for holding the 3rd JCC Meeting, and informed that due to the COVID-19 pandemic conditions there were some delays in the Project activities. He mentioned that today we will confirm the updated situation and the outcomes that have been achieved so far. He also hopes to discuss about rescheduling of the Project if needed in this meeting
2.0		***Progress Report***
	2.1	Dr. Aoki, the Team Leader of the Project, presented the progress report. He mentioned that as explained by Mr. Dedy the Project is experiencing some delays, so that the JET has requested to JICA HQ to rearrange the Project period and extend for 1 year given that the Project activities will be resumed in April 2021. This issue will be discussed later when the COVID-19 situation calms down and timing of resuming of the Project activities will be decided.
	2.2	He provided additional information regarding the e-learning system. He presented the basic concepts of the e-learning system during this JICA Project and after termination of JICA Project for sustainability. He also mentioned that MPWH has developed the common platform of e-learning system named "E-Pelatihan". He further informed that JET and MPWH organized the first meeting on December 28, 2020 and agreed to use MPWH E-Pelatihan platform.
	2.3	
3.0		***Presentation -2: Project Monitoring***

		Mr. Hirakawa, who presented the Project Monitoring, explained briefly about the Project Design Matrix (PDM). In the presentation also, he proposed to modify the PDM because the JET has not been dispatched since April 2020. It would be required to extend the implementation period for one year in order to carry out the pilot projects twice as originally planned, however could not implemented yet due to the entire cancellation of the first year activities in 2020.
	3.1	He informed that JET has proposed to JICA HQ to provide the online lectures for basic courses and JET members will prepare the materials of online lectures.
4.0		***Presentation -3: Progress of Development of CRMS, DPS-IRI and VIS***
	4.1	Dr. Pantha explained the current status of system development for 3 systems, such as City Road Management System (CRMS), Visual Inspection System (VIS) and Data Processing System for IRI (DPS-IRI).
	4.2	He explained the current progress of CRMS which is being developed based on the design platform agreed in the meeting held on 10th June, 2020. As the current progress of CRMS development, he presented some basic features of some modules has almost completed and development of some modules is yet to start. The trial version is possibly be released around May 2021.
	4.3	Mr. Kaneko explained the current status of VIS development. He informed that the initial development of basic function of VIS have been Completed (ver.1), such as map view, list view, the process of creating a visual inspection, etc. The next step is the creating of interfaces along the workflow and the development of features that link with CRMS such as data import and export.
	4.4	For the current progress of DPS-IRI development, Mr. Sugimoto presented that initial development of major function of DPS-IRI have been completed (ver.1), such as import video data, convert field data (positioning, acceleration) into GIS data, edit GIS data, calculate IRI value, etc. For the next step, it is planned to carry out adjustment of IRI calculation by using practical field measurement data.
	4.5	Mr. Sugimoto reported that the test survey for data verification have been done in Japan to collect the practical field measurement data to adjust and improve IRI analysis. The driving speed during the IRI driving test were10 km/h, 20 km/h and 30 km/h. The results from these speeds will then be compared. The data of the test measurement is currently under processing.
	4.6	Mr. Sugimoto further informed that JET will carry out the similar test measurement in Indonesia, which has different environments and conditions from Japan and make readjustments of DPS-IRI to suit with local conditions.
5.0		***Discussions***
	5.1	Mr. Dedy introduced Mr. Avicenna as the Head of Sub Directorate of Regional Roads of Highways
	5.2	Mr. Panca from Technology Development commented that that the DGH has already developed the IRMS for national road management. Why didn't this Project just apply the IRMS system?
	5.3	Mr. Dedy responded that the IRMS have been developed aiming to be used for National Road. On the other hand, CRMS aims to be used for city road management, and each city will run this system directly.
	5.4	Mr. Avicenna appreciated this cooperation project, and he hopes for an adjustment in the CRMS because the road construction between national and regional roads is different. He also hopes that it will be implemented quickly and the shortcomings can be updated.
	5.5	Mr. Dedy stated that MPWH and regional governments can predict the future demand for road

		maintenance budget to meet the level of road stability.
	5.6	Dr. Pantha also thanked to Mr. Avicenna for his appreciation and stated that JICA Team also will work together with the DGH for system integration.
	5.7	Mr. Toni from BAPPENAS also appreciated the CRMS and commented that it could be tested this year. If this CRMS is successful, he hopes that it can also be implemented in the district / Kabupaten. Then, Mr. Toni asked how is the coaching / training / transfer of knowledge to the regional governments for sustainable implementation. He expressed that BAPPENAS could access this CRMS for monitoring.
	5.8	Mr. Reza from Tebing Tinggi City and Mr. Alip from Sukabumi City commented that both cities are ready for further directions from the Project and the development of the CRMS.
	5.9	Mr. Dedy responded to Mr. Toni's question from BAPPENAS that the district program already exists, namely PKRMS. For the sustainability of this CRMS CFRI and the JICA Team will work together with the Polytechnics of MPWH and BPSDM (Human Resources Development Agency) to transfer knowledge / training to them first. Then, the CFRI will make a policy for program sustainability that for the DAK proposal, the CRMS program can be used.
	5.10	Mr. Dedy also informed that training / transfer knowledge will be used e-learning platform of BPSDM because training is possible and effective during the Covid-19 pandemic conditions by holding online training. He also explained that the Deterioration Model which uses variables from the IRMS to be modified or adjusted. For the classification of road damage classes can be divided into 4 categories, namely good, lightly damaged, heavily damaged and bad.
	5.11	Dr. Aoki informed that the JICA Team might come to Indonesia in April, but this is still tentative and may change depending on conditions and regulations in Japan and in Indonesia. He also thanked BPSDM for allowing their e-learning platform to be used for online training activities. Currently the JICA Team is studying the e-learning system owned by BPSDM. He hoped that JET can start the online training using this e-learning system soon, and all people are welcomed to discuss for the contents because the content of the training is not entirely technical.
	5.12	Mr. Honzu from the representative of JICA Indonesia Office commented that he will support the provision of e-learning system, and work with JICA HQ if necessary. Regarding the project schedule, JICA Indonesia Office will consider it positively if the extension is necessary to achieve the project goal.
	5.13	Mr. Dedy concerned for the IRI measurement about driving speed as 30-40km/hour. He asked to JICA Team to consider the accuracy of surveyed data in case of low speed of the vehicle because it is experienced that the IRI measurement accuracy would be less accurate if the speed was below 40 km/hour.
	5.14	Dr. Tomiyama introduced briefly his another test result in Japan and it stated that IRI data in low-speed running by survey vehicle has reliable accuracy.
	5.15	Mr. Taufik from Technology Development suggested that IRI measurement can be done at night to avoid traffic congestion and any obstacle in day times. He also asked about the provision in this Project for IRI survey.
	5.16	Mr. Tomiyama understood the suggestion from Mr. Taufik about survey in night, and added his comment that rain does not affect the calculation results of the accelerometer.
	5.17	Dr. Pantha answered that basically the JICA Team provided not only the software but also the hardware, such as an action camera for data collection.
	5.18	Mr. Dedy responded that regarding the policy on the use of this system, perhaps a policy or mandate would be made to use this system on the basis of DAK.

	5.19	Mr. Taufik asked about the responsibility of repairing in case of any damage of the system or the hardware.
	5.20	Mr. Dedy answered that we plan to connect the technicality with the budgeting system so that the local government will inevitably maintain and use this system.
	5.21	Mr. Reza from Tebing Tinggi City gave additional suggestions to be able to consider the problem of insufficient lighting if the IRI measurements were carried out at night, and asked the JICA Team for helping to provide standard parameters in the survey such as speed and level of light requirements.
	5.22	Mr. Toni from BAPPENAS commented that the technical matters in the system will be aligned with the cost for applying for DAK. He asked about the output of this sytem, whether in the future it could be combined with the existing system in Bina Marga (Highways Department) in order to collect all road stability data.
	5.23	Mr. Dedy answered that SiPDJD can be used to get data of stability for all roads. Meanwhile, the output of the CRMS is to help local governments with budgeting plan and prediction of future costs for road maintenance. The issue of system integration with Bina Marga (Highways Department) can be discussed later after this system is completed.
6.0	6.1	***Closing Remark*** Mr. Dedy closed and thanked to all attendees. He also appreciated for the suggestions that were delivered in the today's meeting, which shows that the meeting participants still have attention to the local roads.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Dedy Gunawan	CFRI		
2	Taufik	CFRI		
3	Saddam Amin			
4	Kazuya Aoki	JICA Team		
5	Ryousuke Kaneko	JICA Team		
6	Bhoj Raj Phanta	JICA Team		
7	Masafumi Yamauchi	JICA Team		
8	Takaaki Hirakawa	JICA Team		
9	Juneichiro Ikeda	JICA Indonesia		
10	Takeo Sugimoto	JICA Team		
11	Junichi Oshima	JICA Team		
12	Shunji Hata	JICA Team		
13	Ishii	Reprepsentative of JICA		
14	Naoko Ono	JICA Team		
15	Kazuya Tomiyama	JICA Team		
16	Luzmi Malia Izza	JICA Team		
17	Wieby Wiguna W.	JICA Team		
18	Mei Lia	JICA Team		
19	Reihan Oktavio	JICA Team		
20	Cesar	Bappenas / National Development Planning Agency		

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
21	Dewi Idhayani	Representative of JICA Indonesia		
22	Honzu	Representative of JICA		
23	Toni	Bappenas / National Development Planning Agency		
24	Andri Septian			
25	Budi Awan	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
26	Pratiwi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
27	Windy	Ministry of Public Work and Housing		
28	Tegar Rizkiadi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
29	Soviani Undaristia			
30	Shofi Azkaria			
31	Taufik Sumardi	Technology Development / Highways Department		
32	Panca	Technology Development / Highways Department		
33	Avicennia	Head of Sub Directorate of Regional Roads of Highways Department		
34	Nida Ashma			
35	Karni Natalia			
36	Handhi	Directorate of Transportation		
37	Dini Audrie	CFRI		
38	Nazib Faizal	Head of Center of Data and Information / Ministry of Public Work and Housing		
39				
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Rosa Aglinta	[redacted]	[redacted]	
2	Jammah S.G. Hsb			
3	SALmon F. L.			
4	Adolf B. Silaban			
5	Zulkarnain			
6	M. ARIF NUGRAHA			
7	Charles			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Wednesday, 20th January 2021

Attendance List

No	Name	Position / Institution	Phone / E-mail	Signature
1				
2	Lutpi Alip	[redacted]	[redacted]	
3	HADI PURNOMO			
4	Alvian Sari			
5	Ali Chandra			
6	Rika Sulaeman			
7	Gisca Puspita Sari			
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MINUTES OF MEETING

OF

THE 4th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 15th February, 2022

The 4th meeting of the Joint Coordinating Committee (JCC) was held on 15th February 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of Center for Regional Infrastructure Facilitation (CRIF). The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring
3. Progress of System Development of CRMS, DPS-IRI and VIS
4. Extension of the Project Period
5. Activity Plan for the First Half of 2022

After discussions, JCC approved and confirmed the following points:

[Approved]

1. Monitoring Sheet Ver.4
2. Necessity to extend the Project Period for Activities in Indonesia until March 2024

[Confirmed]

3. Project Progress under the Covid Pandemic Situation
4. Schedule for the Development of CRMS, VIS and DPS-IRI
5. Necessity of the Discussion about the Server Arrangement for the Systems at TWG Meeting
6. Activity Plan for the First Half of 2022

Mr. Krisno Yuwono, Head of CRIF, declared the meeting closed with his appreciation for all attendees.

15th February 2022

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of Center for Regional
Infrastructure Facilitation
Ministry of Public Works and Housing

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THE 4th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	4th Joint Coordination Committee Meeting	**Sheet**	4 pages
Location	Link Zoom Meeting	**Date**	15th February 2022
Participants:	▪ *C/P members from* CRIF, *DGH (BINAMARGA), Centre of Data and Information Technology, International Cooperation Bureau (MPWH), Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert (Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details, please refer to the attached Attendance List*		
Meeting Materials	▪ *Handouts of Presentation (attached)*		
Recorded by:	JICA Team		

Item		Outline of Discussion and Conclusions
1.0	1.1	Mr. Taufik declared to commence the 4th JCC meeting, and Mr. Krisno Yuwono was introduced as the new Head of Center for Regional Infrastructure Facilitation (CRIF) and the chairman of JCC.
	1.2	Mr. Krisno gave an opening speech and explained the purpose of the 4th JCC Meeting, one of which was to discuss the extension of the project period.
	1.3	Mr. Honzu, Senior Representative of JICA Indonesia Office, gave an opening speech to express the best wishes to the JCC meeting.
2.0		***Progress Report***
	2.1	Dr. Aoki presented the progress report of activities of this project, and reported that the Monitoring Sheet Version 4 was prepared and submitted.
3.0		***Presentation -2: Project Monitoring***
	3.1	Mr. Hirakawa presented the results of Project Monitoring. In the presentation, he proposed to modify the project period because the JICA Expert Team (JET) has not been dispatched since April 2020. Thus, it would be required to extend the period to conduct road maintenance cycles in two seasons.
	3.2	He informed that as the JET members could not visit Indonesia, JET and its counterpart had tried to carry out parts of the project activities, such as arrangements of meetings and online lectures. When JET visited Sukabumi City in December 2021, JET collected the data about the completion status and self-assessment of road maintenance work. Although the completion rate of road maintenance projects is retained with a high percentage, the self-assessment composed of quality and project management is still a low percentage (60%). As the target value is 80%, it is crucial for the Project to effectively carry out the pilot projects for the improvement of the quality and

		project management for road maintenance.
	3.3	Mr. Hirakawa assumed that the lengths (km) of road inspections and repairs in Sukabumi were reduced from FY 2019 to 2020 due to the budget allocation for COVID-19 measures (i.e., budget diversion from road maintenance budget to COVID measures). However, it is assumed that the lengths of inspections and repairs would be restored if the budget is allocated for road maintenance as in the past.
4.0		***Presentation -3: Progress of Development of CRMS, DPS-IRI and VIS***
	4.1	Dr. Pantha explained the current status of system development for 3 systems, such as City Road Management System (CRMS), Visual Inspection System (VIS) and Data Processing System for IRI (DPS-IRI).
	4.2	He explained the current progress of CRMS that basic features of most of the modules were almost completed as version 1, and few modules such as integration, reporting and documents, are partially developed. However, JET is still necessary to verify output of the modules with the real data collected from the actual field.
	4.3	Dr. Pantha also explained the current status of VIS development that most of them are completely developed as version 1.
	4.4	As for the current progress of DPS-IRI development, Dr. Pantha presented that most of the modules have already been developed as version 1. For the improvement of the IRI calculation module, JET is planning to conduct the test survey in 2 pilot cities (Sukabumi and Tebing Tinggi) for final adjustment under actual conditions and to fix the measurement method in actual situations.
5.0		***Subjects of Discussion: Extension of the Project Period***
	5.1	Dr. Aoki presented a proposal for the extension of the project period. While the initial project period is from September 2019 up to July 2022, JET proposed that the project period will be extended to March 2024 in order to implement the road maintenance cycle in two dry seasons in Indonesia and conduct training for technical transfer to achieve the goals of the project.
6.0		***Subjects of Discussion: Activity plan for the first half of 2022***
	6.1	Dr. Aoki explained the plan of activities that will be conducted in the first half of 2022. For the Output 1, JET will collect data using the DPS-IRI, VIS first, and that data will be exported to the CRMS for verification of system outputs. And the output format and budget allocation procedures will be discussed among JET, CRIF and Pilot cities.
	6.2	For the Output 2, JET plans to visit both pilot cities to conduct the demonstration of the new systems, and test operation using the DPS-IRI and VIS. Also, the budget making procedure will be discussed in the pilot cities.
	6.3	Lastly, for the Output 3, JET will survey and discuss the selection method of the location for this year's pilot project. Regarding the introduction of the equipment and materials for the pilot projects, JET is considering using those produced in Indonesia due to the difficulties of importing from overseas under the situation of COVID-19.
	6.4	He also informed that online training will resume in February. JET has already prepared the training materials to be delivered during the training.
7.0		***Discussions***
	7.1	Mr. Dimas from PUSDATIN (Centre of Data and Information Technology) of MPWH, asked again about how to handle the IRI measurement at bumps, which he asked at a previous TWG

		meeting. In addition, he asked about the necessity for local governments to set up their on-premises servers, while PUPR uses cloud servers.
	7.2	Dr. Pantha answered that the bumps would affect IRI analysis, then the DPS-IRI has a function that can eliminate the factors (noise factors), such as the speed bump, stops at intersections, train crossing or others, for the IRI calculation. Prof. Tomiyama also agreed with this statement.
	7.3	Regarding the server, Dr. Pantha explained that it may be desirable to set up a server considering operational costs and continuity of the system utilisation. The disadvantage of using a cloud server is that the local governments have to pay a usage fee of the service and that should not lead to abandonment of the system.
	7.4	Mr. Dimas informed that MPWH once provided a server to the local government, but the server was not well managed. He said that the maintenance of a cloud server is easier, and the maintenance cost is cheaper. In terms of security and capacity of data, cloud services seem to have greater merits. Pak Dimas is willing to make a calculation in case of using cloud servers if needed.
	7.5	Mr. Krisno responded that even though the local government's web server is managed by a different agency/institution, there should be no problem. The issue of server maintenance should be considered, and a commitment from the local governments for sustainable maintenance should be required. However, this matter cannot be decided in this meeting, then further review and survey will be required.
	7.6	Dr. Aoki agreed with Mr. Krisno that another meeting to discuss the details for the server should be arranged.
	7.7	Ms. Grace from the Bureau of Budget Planning and Foreign Cooperation of MPWH, reminded the procedure of project extension and modification of Record of Discussion (RD). She suggested that CRIF report to the General Secretariat with MoM that mentioned the project extension and the previous Record of Discussions (RD).
	7.8	Ms. Pratiwi from the Bureau of Budget Planning and Foreign Cooperation of MPWH, reminded that if there is something that has already been handed over to the local governments, the information must be updated according to the updated RD.
	7.9	Mr. Honzu explained the procedures that the result of today's JCC meeting will be reported to JICA HeadQuarters (HQs), and after the decision by HQs, the revised RD which includes the extension of project period shall be signed by both parties. If necessary, the JICA Indonesia Office will issue the letter to the Director General and the Secretary General.
	7.10	Ms. Ishii, JICA Indonesia Office, supplemented the procedure as follows; After reporting the result of today's meeting to the HQs, the HQs will prepare the Minutes of Meeting (MoM) to modify the RD, and MPWH (PUPR) will confirm the contents of MoM. If the contents of the MoM are agreed, the MoM will be signed by both sides, and it is the procedure for the modification of RD.
8.0		***Conclusions***
	8.1	Mr. Krisno concluded the meeting, as below: 1. Even during the Covid-19 pandemic, project activities are still going well. 2. For the extension of the project period to be processed soon, CRIF will request to JICA Indonesia Office to issue a letter to the Secretariat General and CRIF will make an explanation to the Secretary General.

9.0		***Closing Remark***
	9.1	Mr. Krisno Yuwono declared the meeting closed with his appreciation to all attendees.

MINISTRY OF PUBLIC WORKS AND HOUSING
SECRETARIAT GENERAL
CENTER FOR REGIONAL INFRASTRUCTURE FACILITATION
Jalan Pattimura Nomor 20 – Kebayoran Baru - Jakarta 12110 Telepon 021-7246248 Faksimili 021-7246248

No : HL 0105-Sf/73 Jakarta, 25 February 2022

Encl :

Re : Request for the covering letter for the extension period of the project for improvement of regional road governance

To :
Mr. Shigeo Honzu
Senior Representative
JICA Indonesia Office

Dear Mr.Honzu,

Regarding the extension of the Project for Improvement of Regional Road Governance that will be expired in May 2022 and also referring to the Minutes of Meeting (MoM) 4th Joint Coordinating Comitee on February 15th 2022, The JICA Indonesia Office will issue the letter to the Secretary General of MPWH concerning the detail information of the project along with the revised Record of Discussion (RoD)

We would like to request the JICA Indonesia Office to issue the mentioned letter above so that we can continue to work together in this project towards fruitful outcomes.

Thank you for your kind attention, cooperation and your respond at your earliest convenience.

Sincerely Yours,

Krisno Yuwono,ST.,MT.
Head of Center for Regional Infrastructure Facilitation

CC:
1. Secretary General of MPWH (as a report);
2. Director General for Highways, MPWH

PINDAI KODE QR UNTUK CEK DOKUMEN PDF TTE OLEH BSrE

Japan International Cooperation Agency

JICA Indonesia
Sentral Senayan II, 14th Floor
Jl. Asia Afrika No. 8, Jakarta 10270, INDONESIA
Tel: (62-21) 5795-2112 (hunting) Fax: (62-21) 5795-2116

Ref.No: 028/PRJ/04/2022

Jakarta, April 12th 2022

To:
Mr. Krisno Yuwono ST., MT.
Head of Center for Regional Infrastructure Facilitation
Ministry of Public Works and Housing

Subject: Response to the Request for the Covering Letter for the Extension Period of the Project for the Improvement of Regional Road Governance

Dear Sir,

We would like to express our sincere appreciation to your support on our activities in Indonesia, especially on the project for the Improvement of Regional Road Governance

With reference from your letter no.HL 0105-Sf/73 dated on 25 February 2022 regarding the request to send the cover letter to the Secretary General for the extension period of the captioned project, currently, JICA Headquarter is in the process of finishing the draft of Minutes of Meeting for Record of Discussion modification to extend the Project period. After the draft is complete, we will send a letter to the Secretary General containing all detailed explanation needed concerning the extension of the Project shortly.

By this letter, we hereby submit to you as well, the Minutes of Meeting (MoM) 4th Joint Coordinating Committee which has been signed from our side. Thank you for your kind assistance and cooperation.

Yours Sincerely,

HONZU Shigeo
Senior Representative
JICA Indonesia Office

CC: Secretary General of Ministry of Public Works and Housing

Attachment : Signed Minutes of Meeting of 4th Joint Coordinating Committee

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno Yuwono	Head of CFRI		
2	Sari Satria	CFRI		
3	Taufik	CFRI		
4	Saddam Amin	JICA Assistant		
5	Kazuya Aoki	JICA Team		
6	Ryousuke Kaneko	JICA Team		
7	Bhoj Raj Phanta	JICA Team		
8	Masafumi Yamauchi	JICA Team		
9	Takaaki Hirakawa	JICA Team		
10	Juneichiro Ikeda	JICA Indonesia		
11	Takeo Sugimoto	JICA Team		
12	Shunji Hata	JICA Team		
13	Ishii	Reprepsentative of JICA		
14	Kazuya Tomiyama	JICA Team		
15	Luzmi Malia Izza	JICA Team		
16	Mei Lia	JICA Team		
17	Dewi Idhayani	Representative of JICA Indonesia		
18	Honzu	Representative of JICA		
19	Pratiwi Nursusilowati	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
20	Dini Audrie	CFRI		

21	Rahayu Santoso Putri			
22	Akhbar			

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	ALVIAN SANI	[redacted]		
2	ADI CHANDRA			
3	LIA WILIYANI			
4	Rika Sulaeman			
5	Sisca Puspita S			
6	Ajeng Dwi L			
7	M. Ibrahim Idris			
8	TINA. MARYANI			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Roza Aghoska	[redacted]		
2	Rizky Muffly			
3	Salmon Frarsh			
4	Gerrard Simait			
5	Charles Manggolon			
6	Aria Leo B.			
7	Zulkarnain			
8	Adolf B. Silaban			
9	M. Arif Nugraha			
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MINUTES OF MEETING

OF

THE 5th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 22nd June, 2022

The 5th meeting of Joint Coordinating Committee (JCC) was held on 22nd June 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of Center for Regional Infrastructure Facilitation (CRIF). The meeting agenda, presented materials and attendance list are attached.

CRIF made presentations on the change of CP members.

After discussions, JCC approved the change of CP members as the following table:

Before	Amended Version
• Head of the Center of Facilitation for Regional Infrastructure • Director of Road Network Development, DGH • Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure • Head of Division Land and Road Transportation, Bappenas • Deputy Director of Planning Integration and Network System, DGH • Deputy Director of Data Analysis and System Development, DGH • Head of Division, Programming and Evaluation, Institute of Road Engineering • Others (Two pilot cities)	• Head of Center for Regional Infrastructure Facilitation • Director for Road and Bridge Management System and Strategy, Directorate General of Highways • Head of Division of Specific Allocation Funds for Roads and Bridges, Center for Regional Infrastructure Facilitation • Head of Division Land and Road Transportation, Bappenas • Head of Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways • Head of Road and Bridge Data and Information System Development Subdirectorate, Directorate General of Highways • Director for Public Works Polytechnic • Head of Subnational Roads Subdirectorate, Directorate General of Highways • Head of Centre for Data and Information Technology • Others (Two pilot cities)

Mr. Krisno Yuwono, Head of CFRI, declared the meeting closed with his appreciations for all attendees.

22nd June 2022

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of the Center for Regional Infrastructure Facilitation
Ministry of Public Works and Housing

THE 5th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	5th Joint Coordination Committee Meeting	**Sheet**	2 pages
Location	Link Zoom Meeting	**Date**	22nd June 2022

Participants:	▪ *C/P members from CRIF, International Cooperation Bureau (MPWH), Public Works Polytechnic, BAPPENAS, DGH (BINAMARGA, Sukabumi City)* ▪ *JICA Indonesia Office* ▪ *JICA Team* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		Outline of Discussion and Conclusions
1.0	1.1	Mr. Taufik declared to commence the 5th JCC meeting.
	1.2	Mr. Krisno gave an opening speech and explained the purpose of the 5th JCC Meeting, one of which was to discuss about the change of CP members of Indonesia side.
	1.3	Mr. Honzu, Senior Representative of JICA Indonesia Office, gave an opening speech to express the best wishes to the JCC meeting.
		Presentation : Change of CP Members
2.0	2.1	On behalf of CRIF, Mr. Taufik, official of CRIF, made a presentation on the change of CP members. He proposed adding new CP members and change the official name of the department of CPs according to the newly published official documents and project progressed. As new members, 1) Director for Public Works Polytechnic, 2) Head of Subnational Roads Sub-Directorate, Directorate General of Highways and 3) Head of Centre for Data and Information Technology were proposed and approved by JCC.
3.0		***Discussion***
	3.1	Dr. Aoki thanked the new members from three departments, and requested to receive technical support and discussion on sustainable use of technologies to be introduced in the Project.
	3.2	Mr. Rikal Andani from Public Works Polytechnic asked about the e-learning system which is being developed in the Project.
	3.3	Dr. Pantha explained that the training contents is being prepared and the platform for the e-learning system will be prepared in the MPWH which can be used for technology transfer to nationwide regional offices. JICA Team would like to discuss about the procedure of development of e-learning system with Public Works Polytechnic as they are expertise in road and bridge inspections in Indonesia.

	3.4	Mr. Rikal Andani in Public Works Polytechnic asked the current status and progress of the systems to be developed and introduced in this project.
	3.5	Dr. Pantha explained that three systems are being developed, such as 1) DPS-IRI, 2) VIS and 3) CRMS. The first versions of them have been completed released in Sukabumi city for trial implementation. We are planning to carry out a trial operation in Tebing Tinggi city, and after that we will discuss the next version to calibrate and update based on the opinions of system users. During the project period, version upgrades are repeated and when the project is over, the completed system is transferred. The CRMS covers pavement management and other road facilities, however bridge management is not covered.
	3.6	Mr. Krisno suggested to hold an another meeting between Public Works Polytechnic and JICA Team to discuss the further detail of the project progress. Ms. Ishii, JICA Indonesia Office, confirmed the organization structure change and inviting new participant. She said that from now on we have to update the MoM for RD modification and JICA HQs will approve it in one or two weeks. We will try to accelerate the process, and we would like to ask for cooperation of PUPR.
4.0		***Closing Remark***
	4.1	Mr. Krisno Yuwono declared the meeting closed with his appreciations to all attendees.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 22nd June 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno Yuwono	Head of CRIF		
2	Taufik	CRIF		
3	Kazuya Aoki	JICA Team		
4	Bhoj Raj Phanta	JICA Team		
5	Kazuya Tomiyama	JICA Team		
6	Luzmi Malia Izza	JICA Team		
7	Rikal Andani	Public Works Polytechnic		
8	Adi Chandra	Bina Marga DPUTR Sukabumi		
9	Mana Tanaka	JICA Team		
10	Maudy Artanti			
11	Grace	International Cooperation Bureau (MPWH)		
12	Alvynia V	International Cooperation Bureau (MPWH)		
13	Pratiwi Nursusilowati	International Cooperation Bureau (MPWH)		
14	Annisa Rindiana F			
15	Fakhrunisa			
16	Ishii	Representative of JICA		
17	Shigeo Honzu	Representative of JICA		
18	Dewi Idhayani	Representative of JICA		
19	Dika	Bappenas		
20	Ade Maulana	Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways (DGH		

MINUTES OF MEETING

OF

THE 6th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 20th January, 2023

The 6th meeting of the Joint Coordinating Committee (JCC) was held on 20th January 2023 under the chairmanship of Mr. Krisno Yuwono, Head of Center of Regional Infrastructure Facilitations (CRIF). The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
   1.1. Progress of Activities
   1.2. Progress of System Development (CRMS/DPS-IRI/VIS)
   1.3. Report of the Pilot Project in 2022
   1.4. Project Monitoring
2. Report of 1st Training in Japan in 2022
3. Activity plan for the first half of 2023

After discussions, JCC approved and confirmed the following points:

[Approved]

1. Progress of activities and Project Monitoring described in the draft of Monitoring Sheet Ver.5.

[Confirmed]

1. Activity plan for the first half of 2023
2. Start the discussion for inclusion of the systems developed in the Project in Ministerial regulation with DGH
3. Necessary of further cooperation in establishing the introduced technology in the Project, such as CRMS, DPS-IRI and VIS, and its expansion to other cities
4. Necessary of additional verification of pothole patching using Cold Mix Asphalt material, Aqua Patch, in the second pilot project in 2023

Mr. Krisno Yuwono, Head of CFRI, declared the meeting closed with his appreciation for all attendees.

20th January 2023

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of the Center of Regional
Infrastructure Facilitations
Ministry of Public Works and Housing

THE 6th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	6th Joint Coordination Committee Meeting	**Sheet**	4 pages
Location	Meeting room in CRIF / Link Zoom Meeting	**Date**	20th January 2023

Participants:	▪ *C/P members from CRIF, Public Works Polytechnic, DGH(BINA MARGA), Sukabumi City and Tebing Tinggi City* ▪ *JICA Headquarters* ▪ *JICA Indonesia Office* ▪ *JICA Expert Team (JET)* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		**Outline of Discussion and Conclusions**
1.0	1.1	Mr. Krisno gave an opening speech and informed the issues and plans needed to be discussed in the 6th JCC Meeting.
	1.2	Mr. Kawahara from JICA HQ gave a speech for the project. He said that the systems of CRMS, DPS-IRI, and VIS are being developed and will be used properly in the pilot cities in due time. He also expected to know what the trainees learned from the training in Japan in November 2022. Finally, he said that JICA always supports all parties who are involved in this project.
	1.3	Mr. Nakajima from JICA Indonesia Office, gave a brief introductory speech that the project is going very well. He mentioned that the JICA Indonesia Office wants to support expanding the project outcome to other cities in Indonesia.
2.0		***Presentation:***
	2.1	***Progress of Activities*** Dr. Aoki briefly reported the progress of the project activities. He also informed that the CRMS systems have been installed in the PUSDATIN server. JET had also conducted the OJT in two pilot cities, and the training in Japan has been conducted regarding the Road Maintenance Policy and Infrastructure Asset Management in Japan.
	2.2	***Progress of System Development (CRMS/DPS-IRI/VIS)*** Dr. Pantha presented the progress of system development which includes CRMS, DPS-IRI and VIS. JET will develop the e-learning contents that comprise all things regarding the developed systems. E-learning contents will be uploaded in MPWH Online Training Platform. Dr. Pantha reported that the systems have been tested for the penetration test and security check in November 2022 and the vulnerability tests were conducted three times between January 14 and 20 and all tests are successful through PUSDATIN inhouse test and third party conducted by German based security company.

	2.3	Dr. Pantha showed the interface system in CRMS and briefly explained several functions in the interface. He reported the current progress of VIS. Among three apps of VIS, the data synchronization (with CRMS database) of main app (Pavement Visual Inspection) has been already completed whereas data synchronizations from Road Facility and Field Verification apps are partially developed.
	2.4	The development of DPS-IRI had been completed already. However, due to interruption of selling Garmin Camera in Indonesia, adjustment should be made to incorporate GoPro Camera for the system as it is more easily available in local market in Indonesia.
	2.5	MPWH already has the platform of human resources e-learning directory, the JET will upload the video contents and training materials to the said platform. Dr. Pantha informed that the JET will conduct the intensive training that is scheduled to be implemented in May 2023.
	2.6	***Report of the Pilot Project in 2022*** Mr. Noguchi presented the initial results of pilot project activities in 2022. In 2023, the second pilot project will be conducted for the rehabilitation work. Mr. Noguchi also explained the work procedures for pothole patching in general and using the Aqua Patch. In addition, the construction method for crack sealing using the MD Seal was also described.
	2.7	Mr. Noguchi presented the result of Aqua Patch Cold Mix Material after one month that gave better quality, workability, and environmentally friendlier than the local product. Smoother surface results in a more comfortable drive. However, The price for Aqua Patch is much more expensive than the JMTM-31 product. It should be reflected in the life cycle cost for maintenance if it is proven that the durability of the aqua patch is better than that of local products.
	2.8	Mr. Noguchi informed that it is mandatory to clean the crack area before applying the sealant material (MD Seal). In addition, the MD seal does not provide good enough adhesion on concrete pavement. Both possibilities are causing the peeling off material that occurred in Tebing Tinggi.
	2.9	***Project Monitoring*** Mr. Hirakawa presented the project design matrix, including the Project Purpose and all three Outputs, i.e., 1) the operational capability of CRIF is improved, 2) the process for formulating the regional road maintenance plans is strengthened in the pilot areas, and 3) the practical engineering methods of regional road maintenance are developed through the pilot projects.
	2.10	He reported that according to annual assessments the skills/knowledge of C/P have been improved every year. Regarding the Project Purpose, for instance, satisfaction ratings of the pilot city governments on the consultations by CRIF increased from 62% to 65% (target value 70% by the end of the project). Overall, the indicators on spider charts and other figures tend to increase gradually. It could be concluded that the Project has favorably moved forward.
	2.11	He raised the concerned that DAK for the two target cities will not be allocated in 2023, so they shall consider securing the budget for the road maintenance through other budget sources, such as governor provincial aid, city government budget, etc. In addition to this remark, he pointed out that the Indonesian side needs to expand the project concepts outside the 2 pilot cities.
	2.12	He recommended that at least two key personnel shall be assigned in each city. Also, the Bina Marga section in two pilot cities shall have the opportunities to share the knowledge and skills among the Bina Marga section as countermeasures for the sudden personnel transfer.
	2.13	***Report of 1st Training in Japan in 2022*** Mr. Taufik from CRIF, trainees of training in Japan, presented the result of twelve-days training. He explained that with the land of Indonesia that is larger than Japan, the total length of roads in Indonesia is less than in Japan. What is known is that city road governance and asset management were initiated in Japan in 2013 due to a road accident in a tunnel that collapsed and hit road users. In the aftermath, the Japanese government began to focus on handling prevention rather than development.

	2.14	Mr. Taufik presented the lessons learned from the training in Japan. For reporting road damage, the Japanese government involves the public to report road hazards encountered and can be reported through the application. Actually, reporting of road damage by the public has been implemented in several regions in Indonesia, but indeed the facilities in Indonesia are not as adequate as the Japanese government.
	2.15	Mr. Taufik stated that CRIF plans to encourage local governments to focus more on road damage prevention activities rather than road repairs. Moreover, advising local governments to involve public participation in reporting road damage. Also, CRIF will optimize the existing system to its full potential.
		Activity plan for the first half of 2023
	2.16	Dr. Aoki explained the activities plan for the first half of 2023. He emphasized preparing the hierarchical training (3 layers) and support plan for ongoing training and trial implementation.
	2.17	Dr. Aoki explained the plan of intensive training for all process of road maintenance work. The first training will focus more on road inspection and the second training will emphasize on planning methods. Schedule of training will be decided based on the discussion in the WG meeting.
	2.18	Dr. Aoki informed that the training contents will be developed by outsourcing to a video production company. The video will be uploaded to the platform of the e-learning system in coordination with the human resource department in MPWH.
3.0		***Discussion***
	3.1	Mr. Krisno mentioned the issue of Ministerial Decree of the introduced systems, and he requested JET to consider the system integration between CRMS and PKRMS in the same platform. He also responded regarding the e-learning platform necessities to invite the Human Resources Development Agency who has the responsibility for the e-learning system in the next meeting.
	3.2	Mr. Krisno informed that the Polytechnic of PU requested to send the project related materials to them so that they can learn how to use the system. He added that the information regarding the materials provided by JICA in 2022 had all been used up. He requested JET to ensure budgeting funds for road maintenance during this project.
	3.3	Mr. Krisno requested JET to discuss the topic for next training in Japan.
	3.4	Dr. Aoki responded regarding the integration between CRMS and PKRMS. JET needed to discuss this matter with the related agency. Also, regarding the issue of inclusion of CRMS, DPS-IRI and VIS in the Ministerial Decree, JET would like to join the necessary meeting and provide the technical information.
	3.5	Dr. Aoki agreed to share the system and technical documents specifications to the Polytechnic of PU for their references.
	3.6	Regarding the request for additional material such as Aqua Patch, Dr. Aoki stated that he was also very happy to know that the results were good in Sukabumi and Tebing Tinggi. He mentioned that it is important in this Project to consider the sustainable procurement and implementation with new materials after the termination of the Project. This matter shall be discussed when the work plan of the second pilot project will be compiled.
	3.7	Dr. Pantha responded to the server capacity planning issue. In the previous meeting, Dr. Pantha explained that the server capacity is required for the dissemination to two cities in Indonesia. If the system will be used by many cities, then the required server capacity will also increase accordingly.

	3.8	Mr. Rikal from Public Works Polytechnic stated that the purpose of the Public Works Polytechnic to join this project is that the Public Works Polytechnic could become a training center. Therefore, he asked to be involved in training for carrying out road inspections or works. He also stated that the Public Works Polytechnic is ready to become the trainers for the continuation of this system.
	3.9	Dr. Pantha responded that a system of CRMS has been installed to the server and Mr. Rikal is welcome to get familiar with the system. Dr. Aoki invited the Public Works Polytechnic to join the intensive training in Sukabumi and Tebing Tinggi cities.
	3.10	Mr. Arif from Tebing Tinggi expected that the visit to the pilot site this year would adjust to the schedule of activities in Tebing Tinggi City. Tebing Tinggi City will start the overlay works in an estimated time of August 2023.
	3.11	Mr. Adi from Sukabumi informed that the estimated time to work on the overlay is in March 2023 after the local budget (APBD) is being approved.
	3.12	Mr. Krisno suggested to both cities to submit their schedule of road maintenance works immediately.
4.0		***Closing Remark***
	4.1	Mr. Krisno Yuwono declared the meeting closed with his appreciation to all attendees.

ABSENSI RAPAT

ACARA : Project for the Improvement of Regional Roads Governance Meeting of JCC
HARI/TANGGAL : Jumat, 20 Januari 2023
TEMPAT : Ruang Rapat PFID, KemenPUPR
PEMIMPIN RAPAT : Krisno Yuwono, ST, MT (Kepala PFID)

NO	NAMA	JABATAN/INSTANSI	NO. TELEPON/HP	ALAMAT EMAIL	TANDA TANGAN
1.	Kazuya Aoki	JICA Team	[redacted]	[redacted]	
2.	MASAFUMI YAMAUCHI	JICA Team			
3.	Shunji Hata	JICA Team			
4.	Tsuyoshi Nokajima	JICA Indonesia Office			
5.	Krisno Y	PFID			
6.	Bhoj Raj PANTHA	JICA Team			
7.	SATRIA	KABID BID JALAN			
8.	Muhamad Taufik	PFID Bid Jalan			
9.	Brigitta Yolada P.	PFID Staff Jalan			
10.	AKRAM YOLDA P	PFID Staff			
11.	Dewi Idhayani	JICA Indonesia			

NO	NAMA	JABATAN/INSTANSI	NO. TELEPON/HP	ALAMAT EMAIL	TANDA TANGAN
12.	Toru Tsuchihashi	of Bina Marga JICA Long Term Expert	[redacted]	[redacted]	
13.	Saddam Amin	Assistant			
14.	Mana Tanaka	JICA Expert			
15.	Takaaki HIRAKAWA	〃 (Monitoring)			
16.	Mei Lia Dwi Saputri	JICA Team			
17.	Farag	〃			
18.	Luzmi Malia Izza	JICA Team			
19.	Oktav	JICA Team			
20.	Dyah N.S	PFID			
21.	Yusuf	PFID			
22.	Dzihan U.I	PFID			
23.	Robby	PFID			

NO	NAMA	JABATAN/INSTANSI	NO. TELEPON/HP	ALAMAT EMAIL	TANDA TANGAN
24.	Frandi Sanabard	Staff / PPID	[redacted]	[redacted]	

MINUTES OF MEETING

OF

THE 7th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 15th September 2023

The 7th meeting of the Joint Coordinating Committee (JCC) was held on 15th September 2023 under the chairmanship of Mr. Krisno Yuwono, Head of Center of Regional Infrastructure Facilitations (CRIF). The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team (JET) and CRIF made presentations on the following subjects:

1. Progress Report
   1.1. Progress of Activities
   1.2. Intensive Training on Road Inspection
   1.3. Road Maintenance Planning and Intensive Training
   1.4. Piloto Project in 2023
   1.5. Project Monitoring
2. Report of 2nd Training in Japan in 2023
3. Activity plan for the remaining duration of the project
   3.1. Main activities and schedule
   3.2. Study Tour
   3.3. Confirmation of important issues

After discussions, JCC approved and confirmed the following points:

[Approved]

1. Monitoring Sheet Ver.6
2. PDM (version 2-3) revised with the target setting for the Overall Goal

[Confirmed]

1. Progress of the activities since 6th JCC in January 2023.
2. Activity plan for the remaining duration of the project. The detailed schedule of activities shall be coordinated between CRIF and JET.

Mr. Krisno Yuwono, Head of CRIF, declared the meeting closed with his appreciation for all attendees.

15th September 2023

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of the Center of Regional
Infrastructure Facilitations
Ministry of Public Works and Housing

THE 7th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	7th Joint Coordination Committee Meeting	**Sheet**	3 pages
Location	Meeting room in CRIF / Link Zoom Meeting	**Date**	15th September 2023
Participants:	▪ *C/P members from CRIF, Public Works Polytechnic, DGH (BINA MARGA), Sukabumi City and Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Expert Team (JET)* *For details, please refer to the attached Attendance List*		
Meeting Materials	▪ *Handouts of Presentation (attached)*		
Recorded by:	JICA Team		

Item		Outline of Discussion and Conclusions
1.0	1.1	Mr. Krisno gave an opening speech and informed the issues and plans needed to be discussed in the 7th JCC Meeting.
	1.2	Mr. Honzu as the senior representative of JICA given a speech that the project has going well. He informed that this meeting was held with the aim of discussing the remaining work for the next 6 months. He also appreciated that the training in Japan had been successfully implemented and give a good achievement.
2.0		***Presentation:***
2.1	2.1.1	***Progress Report*** ***Progress of Activities*** Dr. Aoki briefly presented the project progress. He informed the main activities since 6th JCC in January 2023. All activities have been carried out well. Dr. Aoki also informed the progress of other output from this project such as Budget Making Procedure Manual, Road Inspection Guideline, SOP for Regional Road Administration and E-learning Contents.
2.2	2.2.1	***Intensive Training on Road Inspection*** Mr. Sugimoto presented the intensive training on Road Inspection. He presented the activities done in the recent intensive training and the target of data collection for annual plan in Sukabumi City and Tebing Tinggi City; 154 roads and 200 roads respectively by the end of December 2023. He mentioned that there are 2 issues need to be resolved to achieve the Target of the data collection that is vehicle for field work and human resources.
2.3	2.3.1	***Road Maintenance Planning and Intensive Training*** Dr. Pantha explained the reason why we need to formulate Medium-Term Plan (MTP) and Annual Plan (AP). First of all, the Local Governments or cities in Indonesia are requested to prepare Medium-Term Plan and Annual Plan. Also, BAPPENAS encouraged the cities to prepare the Medium-Term Plan based on the analysis of deterioration forecasting. He explained that the CRMS is developed to support cities in formulating both MTP and AP in a transparent

		and systematic way using data stored in the CRMS Database, provides a tool to formulate both pavement and other road facilities. The outputs from CRMS (Maintenance Plan) will provide a draft maintenance plan, and the final decision on the maintenance plan shall be made by Planners/Engineers based on the output from the CRMS.
	2.3.2	Dr. Pantha explained about the Budget Making Procedure Manual which will be the guideline/checklist to be utilized by the person who is assigned to formulate the maintenance plans or check the plans prepared by another assigned person. He also highlighted the activivities carried out in the recent intensive training conducted in both cities.
2.4		***Report of the Pilot Project***
	2.4.1	Mr. Noguchi reported the progress of the Pilot Project in 2023. The activities in 2023 have been carrying out based on the Work Plan confirmed in the TWG meeting, and in Tebing Tinggi City, the activity has been completed. On the other side, in Suklabumi, the activity is under preparation and will be started in late September.
2.5		***Project Monitoring***
	2.5.1	Project monitoring was presented by Mr. Hirakawa, and he presented the progresses of the Project, such as the improvement of the operational capability of CRIF, strengthening the process for formulating the road maintenance plan, development of the practical engineering methods, and dissemination of the implementation approaches to the regional roads outside the pilot cities.
	2.5.2	He explained that the Overall Goal of this project is to implement approaches of the Project are disseminated to the regional roads outside the pilot cities. The target was set at 6 areas (cities) in consultation with CRIF.
	2.5.3	Mr. Hirakawa also pointed out the upcoming challenges, and one of them was that the performance checklist of SOP shall be effectively utilized to clarify the tasks and responsibilities of the Planning and M&E Sub-sections in the Roads and Bridges Section.
3.0		***Report of 2nd Training in Japan in 2023***
	3.1	Mr. Taufik from CRIF as the one of participants of training in Japan in 2023, presented outcome of the training. Mr. Taufik explained the lesson learnt during the training that is to prioritize preventive rather than corrective work in road construction, in addition to prevent the recurrence of similar incidents, the service life of the certain road will be longer and reduces Life Cycle Cost (LCC). He also highlighted the utilization of the latest technology in the form of web-based applications in order to optimize road management activities and develop a public complaint system through social media applications to be able to report to the local government if there are disturbances or problems related to road facilities via the LINE application.
	3.2	He also explained the work that can be implemented in the Indonesia Government that is maintain and preserve for existing road assets. In this case it is more important to focus on maintenance and preservation rather than new construction only as the basis for implementation of Asset Management, apply the concept of preventive maintenance and increasing the service life of roads and reducing road maintenance costs in the future. Furthermore, improving road stability standards in order to obtain better quality and functional roads, provide a reporting system and involving other parties, especially academics and the surrounding community, in road maintenance activities and optimizing the database system that already exists at the Ministry of MPWH in implementation of asset management.
4.0		***Activity plan for the remaining duration of the project*** ***Main Activity and Schedule***
4.1	4.1.1	Dr. Aoki explained the remaining activities plan until the end of project. Also, there are other outputs to be provided in March 2024 such as Regional Road Maintenance Manual, Project Completion Report and Technical Report. He explained the plan of region-wide seminar which will be held in the beginning or the middle of March 2024.

		Study Tour
4.2	4.2.1	Mr. Kato proposed the study tour to invite the other cities to Sukabumi and Tebing Tinggi City for provision of the opportunities to disseminate knowledge, experience and know-how introduced in the Project.
		Confirmation of important issues
4.3	4.3.1	Dr. Aoki appreciated for the cooperation and participation to all participant in the Project activities. He informed the optimization of road maintenance work process with the basic concepts, and he emphasized how to change the road maintenance work in local governments to change and adjust with the new systems introduced in the Project.
	4.2.2	However, Dr. Aoki understand the situation of transitional period for the introduction of new technologies and there is a difficulty to change a new method at once. He suggested to CRIF to make a phase-wise approach and accept data from new methods accordingly. Thus, Dr. Aoki recommended to endorse the road maintenance plan prepared by the cities in step by step.
		Discussion
	4.3.1	Mr. Krisno stated that CRIF would encourage the local governments to use CRMS and other systems (DPS-IRI and VIS). Also, CRIF also plans to create a portal to combine between CRMS and PKRMS, but the issue is that CRIF should create a guideline module/manual.
	4.3.2	Mr. Krisno stated that he currently knows that until now the Sukabumi City and Tebing Tinggi City have not yet completed the data requested by the JICA team, therefore he will encourage the cities to submit the data by December 2023.
5.0	5.1	Mr. Krisno informed that the regencies and provinces already know about PKRMS and now we will introduce CRMS to cities in Indonesia.
	5.2	Mr. Zulkarnain in Tebing Tinggi City said that he had a good understanding of the CRMS system. However, there is a slight problem in Tebing Tinggi City regarding data collection which conflicts with other activities and there are no human resources to do it, and he will commit to collect the data next month.
	5.3	Mr. Asep, in Sukabumi City, said that progress of road inspection reached 40%. He also raised the issue related to uploading new Mayor's Decree data, which may replace the old Mayor's Decree. He worried that the already uploaded might be replaced by the new Mayor's Decree. As for overall use of CRMS, he reported that Sukabumi City has no problems.
	5.4	Therefore, Mr. Taufik proposed that CRMS should be able to store previous data and asked to access old Mayor's Decree that had been uploaded. However, for analysis we will still use the new Mayor's Decree.
	5.5	Dr. Pantha replied that JICA Team will keep and save the old Mayor's Decree in the system as archive data.
	5.6	Regarding the schedule of remaining tasks, Mr. Krisno will discuss it internally first because CRIF will have DAK consultation activities in the end of October to the end of November 2023. He worried it will be mismatch with the schedule of Project activities.
6.0		***Closing Remark***
	6.1	Mr. Krisno Yuwono declared the meeting closed with his appreciation to all attendees.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Friday, 15th September 2023

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno Y	[redacted]		
2	M. Taufik			
3	Honzu			
4	Nakajima			
5	Nakazaki			
6	BHOJ RAJ PANTHA			
7	Kazuya Aoki			
8	YAMAUCHI			
9	Hiroshi UEDA			
10	Takaaki HIRAKAWA			
11	Faray			
12	Reiban Putra Oktavio			
13	Robby Hidayat			
14	Adera Reis Vinatika			
15	Yusril			
16	Dewi Idhayani			
17	Mei Lia Dwi S.			
18	Luzmi Malia Izza			
19				
20				

MINUTES OF MEETING

OF

THE 8th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 13th March 2024

The 8th meeting of the Joint Coordinating Committee (JCC) was held on 13th March 2024 under the chairmanship of Mr. Krisno Yuwono, Head of Center of Regional Infrastructure Facilitations (CRIF). The meeting agenda and presentation materials are attached.

JICA Expert Team made presentations on the following subjects:

1. Outputs and Achievement of the Project
2. Project Monitoring and Evaluation
3. Recommendation for Sustainable Implementation

After discussions, JCC confirmed the following points:

[Confirmed]

1. Completion of all project activities
2. Action plan to achieve the overall goal by CRIF

Mr. Krisno Yuwono, Head of CRIF, declared the meeting closed with his appreciation for all attendees.

13th March 2024

Mr. Kazuyuki Kakuda
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of the Center of Regional
Infrastructure Facilitations
Ministry of Public Works and Housing

THE 8th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	8th Joint Coordination Committee Meeting	**Sheet**	2 pages
Location	Meeting room in CRIF / Link Zoom Meeting	**Date**	13th March 2024
Participants:	▪ *C/P members from CRIF, Public Works Polytechnic, DGH (BINA MARGA), Sukabumi City and Tebing Tinggi City,* ▪ *JICA Headquarters* ▪ *JICA Indonesia Office* ▪ *JICA Expert Team (JET)* *For details, please refer to the attached Attendance List*		
Meeting Materials	▪ *Handouts of Presentation (attached)*		
Recorded by:	JICA Team		

Item		Outline of Discussion and Conclusions
1.0		***Opening***
	1.1	Mr. Krisno gave an opening speech in the last JCC Meeting and welcomed the JICA Team to present the last report and progress that has been achieved.
	1.2	Mr. Kakuda, Senior representative of JICA Indonesia, commented on behalf of JICA that he appreciated the contribution that CRIF had made during the project. He also expressed his gratitude to all parties involved. The hope is that this last JCC meeting can provide support for the future after the project ends and be disseminated to all cities in Indonesia.
	1.3	Mr. Krisno conveyed the results of his discussions with the Japanese government during his visit to Japan to meet with JICA HQs and MLIT. He asked the Japanese government to approve and continue this project because there are still many obstacles that need to be helped to overcome, especially local government capacity, because all cities in Indonesia must understand the outputs of the Project. He hoped that next year this project can be continued for phase 2.
	1.4	Mr. Yanagisawa from JICA HQs expressed his thanks to all members involved in this project. The Project has carried out all the necessary discussions and activities. He also looks forward to the output of this project which has achieved its target and can be disseminated throughout the city.
		Discussions
	2.1	Mr Zulkarnain from Tebing Tinggi City expressed his gratitude for being involved in the Project. He hopes that in the future the Project outputs can be applied and used because it is very helpful in road assessment surveys.
	2.2	Mr Barlian Hadi, representing the head of PUPR Agency of the Sukabumi City, expressed his

2.0		gratitude for the cooperation between the Ministry of Public Works and Housing and JICA. Sukabumi felt very helpful in terms of technical assistance and knowledge regarding road repairs and JICA continued to encourage Sukabumi City to continue to be better in using CRMS. He stated that the Sukabumi City felt grateful.
	2.3	Mr. Krisno conveyed the possibility of socializing or introducing CRMS to all cities (98 cities) in Indonesia this year after obtaining approval of the Ministerial from Bintek Bina Marga.
	2.4	Mr. PU Rikal Polytechnic, commented that this CRMS will be realized soon even though the approval is still waiting for a response from Bina Marga. PU Polytechnic is ready to assist in its implementation and hopes that the training will be spread throughout Indonesian cities so that PU Polytechnic can be involved in the training.
	2.5	Mr. Krisno mentioned that the most important thing is that CRIF will continue to follow up with DGH regarding the status of the letter for the Ministerial Regulation. He also stated that CRIF targets that by 2024 CRMS will have been distributed to all cities in Indonesia and CRIF will be able to collect city road data.
	2.6	Dr. Aoki also expressed his gratitude and appreciated the cooperation that has existed between the Ministry of Public Works and Housing and JICA.
3.0		***Closing Remark***
	3.1	Mr. Krisno Yuwono declared the meeting closed with his appreciation to all attendees.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 13th March 2024

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno	[redacted]		
2	kazuyuki kakuda			
3	Tom Tsuchiya shi			
4	Muh. Taufik			
5	Saddam Chair			
6	Joshua Armando			
7	Brigitta Yolanda P.			
8	Frandi Sahabat			
9	Tsuyoshi Nakajima			
10	Mei Lia Dwi S.			
11	Kazuya Aoki			
12	Masafumi YAMAUCHI			
13	Takaaki HIRAKAWA			
14	Tetsuo UNO			
15	Shunji HATA			
16	Dewi Idhayani (Didi)			
17	Saddam Amin			
18	PANTHA BHOJ RAJ			
19	Luzmi Malia I.			
20				

TO CR of JICA Indonesia OFFICE

PROJECT MONITORING SHEET

Project Title : The Project for the Improvement of Regional Roads Governance
Version of the Sheet: Ver. 1

Name: Kazuya Aoki
Title: Team Leader
Submission Date: 30th September, 2019

I. Project Monitoring Sheet I & II *as Attached*

Project Monitoring Sheet I (Version 1: 30th September, 2019)

Project Design Matrix (PDM_1)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – August, 2022 (3 years) **Version No. 1**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure (CFRI), DGH and the local governments in the pilot areas **Date:** 24th September, 2019

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method			
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The percentage of the regional road maintenance projects completed by the local governments in the pilot areas to all regional road maintenance projects indicated in the annual road maintenance plan exceeds XX% within the financial year. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed XX% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.		
Outputs 1. The operational capability of CFRI is improved.	1-1 The self-ratings of CFRI on their operational capabilities exceed XX% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI.	1-1 Questionnaire survey to CFRI and DGH 1-2 Performance checklist based on the SOP	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.		
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet			
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed XX% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4			

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CFRI.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Plan of Operations (PO)

Version 1
Date 24 September, 2019

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks	Monitoring: Issue	Monitoring: Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																								
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30				
	Actual																																							
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24				
	Actual																																							
PMS / Road Database	Plan	30		21			21							27			21			30					21				30			18			21		30			
	Actual																																							
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30				
	Actual																																							
Road Design	Plan			18			18					30			30									30			30		18							21				
	Actual																																							
Road Inspection	Plan			18			30					30									21			30							21								
	Actual																																							
Construction Supervision	Plan											30			45									30			45			30									
	Actual																																							
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18				
	Actual																																							
Organization Management / Project Monitoring	Plan	14			25		20			15				20			15			20			15			15			15			15				21				
	Actual																																							
Training Plan / Gender	Plan			15								15												30											15					
	Actual																																							
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20				
	Actual																																							
Equipment																																								
Road Inspection Equipment	Plan																																							
	Actual																																							
Road Maintenance Equipment	Plan																																							
	Actual																																							
Road Management System	Plan																																							
	Actual																																							
PC and Software for Road Management System in the pilot areas	Plan																																							
	Actual																																							
Others	Plan																																							
	Actual																																							
Training in Japan and/or Third Countries																																								
Road Maintenance	Plan																																							
	Actual																																							

Activities / Sub-Activities	Year	1st Year												2nd Year												3rd Year												Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
		I			II			III			IV			I			II			III			IV			I			II			III			IV						
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8				
Output 1: The operational capability of CFRI is improved.																																									
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.	Plan																																					PMS / Road Database	CFRI		
	Actual																																								
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.	Plan																																					PMS / Road Database	CFRI		
	Actual																																								
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.	Plan			△			△					△					△						△					△						△			PMS / Road Database	CFRI IRE		
	Actual																																								
1-4 Develop the database framework of regional roads across the country.	Plan																																					PMS / Road Database	CFRI IRE		
	Actual																																								
1-5 Arrange the development policy direction of regional roads across the country.	Plan																																					PMS / Road Database	CFRI		
	Actual																																								
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan																																					PMS / Road Database	CFRI		
	Actual																																								
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.	Plan																																					PMS / Road Database	CFRI		
	Actual																																								
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan																																					PMS / Road Database	CFRI		
	Actual																																								
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																																								
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI, Local gov'ts of the pilot areas (LGPA)		
	Actual																																								
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA		
	Actual																																								
2-3 Conduct road inspections in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA		
	Actual																																								
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA		
	Actual																																								
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA		
	Actual																																								
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA		
	Actual																																								
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Plan																																					PMS / Road Management System 1	CFRI LGPA		
	Actual																																								
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA		
	Actual																																								

Project Monitoring Sheet II (Version 1: 30th September, 2019)

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks		Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV						
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8				
Expert																																									
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30					
	Actual																																								
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24					
	Actual																																								
PMS / Road Database	Plan	30		21			21							27			21			30				21					30			18			21	30					
	Actual																																								
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30					
	Actual																																								
Road Design	Plan			18			18					30			30									30				30		18							21					
	Actual																																								
Road Inspection	Plan			18			30					30								21			30									21									
	Actual																																								
Construction Supervision	Plan											30			45									30			45			30											
	Actual																																								
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18					
	Actual																																								
Organization Management / Project Monitoring	Plan	14			25			20			15			20			15			20			15			15			15			15				21					
	Actual																																								
Training Plan / Gender	Plan			15								15												30											15						
	Actual																																								
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20					
	Actual																																								
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																																									
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan																																					Road Design	CFRI LGPA		
	Actual																																								
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan																																					Road Design	CFRI LGPA		
	Actual																																								
3-3 Supervise the pilot projects in collaboration with CFRI.	Plan																																					Road Design	CFRI LGPA		
	Actual																																								
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan																																					Road Design	CFRI LGPA		
	Actual																																								
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan																																					Road Design	CFRI LGPA		
	Actual																																								
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan																																					Road Design	CFRI LGPA		
	Actual																																								
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan																								△												△	Road Design	CFRI LGPA		
	Actual																																								
Duration / Phasing	Plan																																								
	Actual																																								

Monitoring Plan	Year	1st Year												2nd Year												3rd Year												Remarks		Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV						
Monitoring																																									
Joint Coordinating Committee	Plan	△	Kickoff					△						△						△						△						△				△					
	Actual																																								
Set-up the Detailed Plan of Operations and Project Indicators	Plan							△																																	
	Actual																																								
Submission of Monitoring Sheet	Plan	△						△						△						△						△						△									
	Actual																																								
Monitoring Workshop	Plan							△						△						△						△						△				△					
	Actual																																								
Reports/Documents																																									
Work Plan	Plan	△																																						
	Actual																																								
Project Completion Report	Plan																																				△				
	Actual																																								
Public Relations																																									
Preparation of PR materials	Plan																																								
	Actual																																								

■ To complete project activities within the solid line.

▥ To continuously conduct project activities during the dotted line.

△ To conduct meetings/seminars, execute monitoring, and prepare reports.

TO CR of JICA Indonesia OFFICE

PROJECT MONITORING SHEET

Project Title: The Project for the Improvement of Regional Roads Governance
Version of the Sheet: Ver. 2

Name: Kazuya Aoki
Title: Team Leader
Submission Date: 31th March, 2020

I. SUMMARY

1 PROGRESS

1-1 PROGRESS OF INPUTS

1-1-1 Indonesia Side

(1) Personnel

Project Director and Project Manager were identified under Record of Discussion (hereinafter to be called as "R/D") and assigned in last September 2019. The rest of counterpart personnel was selected through the progress of the Project. In September 2019, 9 personnel for three Working Group (hereinafter referred to as "WG") have been assigned (3 personnel for each WG) from the Center of Facilitation for Regional Infrastructure (hereinafter referred to as "CFRI"). Other related departments of the Ministry of Public Works and Housing (hereinafter referred to as "MPWH"), such as Department General of Highway (hereinafter referred to as "DGH"), Center for Data and Information Technology and Institute of Road Engineering (IRE) have been assigned their officials as representative of their respective division. Further 16 personnel from pilot cities (6 personnel from Sukabumi City and 10 personnel from Tebing Tinggi City) are assigned in February 2020. BAPPENAS has also been assigning their officials as member of JCC and WG in all meetings.

Table 1 Main Counterparts

Title	Name	Organization/Position
Project Director	Riono Suprapto	Head of CFRI
Project Manager	Dedy Gunawan	Head of Division for Road and Bridge Provision, CFRI
Leader of WG-1	Bapak Amiruddin Yusuf	Engineer, Road and Bridge Administration Division, CFRI
Leader of WG-2	Bapak Muhamad Taufik	Engineer, Road and Bridge Administration Division, CFRI

Leader of WG-3	Bapak Sari Satria Dwipayana	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CFRI

(2) Provision of the project office and facilities necessary for the project implementation
Project office space has been allocated in the building of CFRI office.

(3) Expenses for the pilot projects executed by the local governments in the pilot areas
As the pilot projects will be executed in the latter half of 2020, it is too early to indicate this information at this moment.

(4) Administrative and operational expenses necessary for the project implementation
Expense agreed at R/D has been secured and handled by the Indonesia side

1-1-2 Japanese Side

(1) Experts
In accordance with the amended contract agreed in August 2019 between JICA and JICA Expert Team, number of experts has increased into a total 11 experts. Experts have been assigned since September 1, 2019, and at the end of March 2020, all experts have been assigned for a total of 15.27 Man/Month (hereinafter to be called as "MM") out of the Project total assignment of 68.0 MM (assignment in Indonesia only). Detailed are given in the Project Monitoring Sheet II (PO).

Table 2 Dispatched Experts

Experts	Position	Total (MM)
Kazuya Aoki	Team Leader / Road Maintenance 1	2.17 MM
Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2	1.2 MM
Bhoj Raj Pantha	PMS/Road Database	2.4 MM
Shunji Hata	Road Maintenance Plan	1.4 MM
Eiji Noguchi	Road Design	1.23 MM
Takeo Sugimoto	Road Inspection	1.2 MM
Hiroshi Ueda	Construction Supervision	0.0 MM
Junichi Oshima	PMS/Road Management System 1	1.7 MM
Takaaki Hirakawa	Organization Management / Project Monitoring	1.87 MM
Naoko Ono	Training Plan / Gender	0.5 MM
Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator	1.6 MM
Total (by end of March, 2020)		15.27 MM

(2) Training of counterpart personnel in Japan and/or the Third Countries
Under the Project, two times training in Japan are planned, and the first training in Japan will be conducted in September 2020 tentatively.

(3) Provision of Equipment

At the 1st Joint Coordination Committee meeting (hereinafter called as "JCC") held on September 24, 2019, specification of procurement equipment was approved by the counterparts. The furniture (desks and chairs) for the project office were installed by JICA Expert Team. Detailed of provided equipment are given in the Attachment-1.

(4) Local expenses for the project activities as necessary

Local expense has been utilized mainly for consultant cost, office equipment, so far.

1-2 PROGRESS OF ACTIVITIES

Project activities to achieve the project purpose under Work Plan were agreed at the 1st JCC. Project activities described in Project Monitoring Sheet I (Project Design Matrix: PDM) summarized in the Table 3 shown below. Progress of each activity is described accordingly in the sections that follow.

Table 3 Outline of Project Activities

Outputs	Activity No.	Activities
Common Activities to All Outputs	0-1	Development and Discussion of the Work Plan and the Monitoring Sheet
	0-2	Setting PDM Indicators
	0-3	Holding Joint Coordination Committee (JCC) Meetings
	0-4	Conducting the Training in Japan
	0-5	Drafting the Project Completion Report
Outputs 1: The operational capability of CFRI is improved.	1-1	Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
	1-2	Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
	1-3	Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
	1-4	Develop the database framework of regional roads across the country.
	1-5	Arrange the development policy direction of regional roads across the country.
	1-6	Prepare the proposal of budget allocation plan for regional road maintenance.
	1-7	Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
	1-8	Convene the region-wide seminars for the other local governments outside the pilot areas.
Outputs 2: The process for formulating the regional road maintenance plans is strengthened in the pilot	2-1	Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
	2-2	Confirm the current status and issues of regional road maintenance in the pilot areas.

areas.	2-3	Conduct road inspections in the pilot areas.
	2-4	Develop the database of regional road maintenance in the pilot areas.
	2-5	Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
	2-6	Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
	2-7	Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
	2-8	Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.
Outputs 3: The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1	Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
	3-2	Assist the local governments in the pilot areas to execute pilot projects.
	3-3	Supervise the pilot projects in collaboration with CFRI.
	3-4	Analyze and document the results of the pilot projects, including safety and management aspects.
	3-5	Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
	3-6	Identify the technical issues on human resources development in the local governments of the pilot areas.
	3-7	Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

1-2-1 Common Activities to All Outputs

[0-1] Development and Discussion of the Work Plan and the Monitoring Sheet

The draft Work Plan was discussed with counterparts in September 2019, and agreed at the 1st JCC.

[0-2] Setting PDM Indicators

See Section 1-3 ACHIEVEMENT OF OUTPUT and 1-4 ACHIEVEMENT OF THE PROJECT PURPOSE.

[0-3] Holding Joint Coordination Committee (JCC) Meetings

Outline of JCC is summarized in Table 4. Member of JCC was set as agreed at R/D and assigned in September 2019.

Table 4 Outline of JCC

Chair	Head of the Center of Facilitation for Regional Infrastructure
Meeting Frequency	About every 6 months In principal, meetings are held to discuss the Work Plan and the interim progress reports and the final report.
Roles	▪ Discussion and approval on the annual work plan of the Project ▪ Assessment of the situation regarding achievement and progress of the annual work plan of the Project ▪ Investigation and exchange of opinions on issues in the Project implementation process ▪ Facilitate to overcome any critical issues (if occur) during the Project

	implementation
Members	**Indonesia** ▪ Head of the Center of Facilitation for Regional Infrastructure ▪ Director of Road Network Development, DGH ▪ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure ▪ Head of Division Land And Road Transportation, BAPPENAS ▪ Deputy Director of Planning Integration and Network System, DGH ▪ Deputy Director of Data Analysis and System Development, DGH ▪ Head of Division, Programming and Evaluation, Institute of Road Engineering ▪ Others **Japan** ▪ The Japanese Embassy in Indonesia ▪ JICA Indonesia Office ▪ JICA Expert Team Members, etc.

(1) 1st JCC

The 1st JCC was held on September 24, 2019, chaired by the Head of the Center of Facilitation for Regional Infrastructure, Mr. Riono Suprapto with total of 28 participants. In the first JCC meeting, Work Plan was discussed and approved by the meeting. The minute of JCC meeting is attached (Attachment-2).

(2) 2nd JCC

The 2nd JCC was scheduled on March 12, 2020, however, it was postponed due to the outbreak of COVID-19.

[0-4] Conducting the Training in Japan

At the 1st JCC, JICA Project Team explained briefly the plan of Training in Japan. Training will be conducted twice during the project period. JICA Expert Team discussed the first draft of the training schedule with C/P in February 2020. C/P requested the JICA Expert Team that the duration of the training could be less than 10 days, and the time could be early September.

[0-5] Drafting the Project Completion Report

Project Completion Report is planned to be submitted in August 2022.

1-2-2 Activities for Output 1

[1-1] Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.

(1) Official documents (Decree/Decision/Regulation/Circulation) related to roles/responsibilities, human resources, technical competency, etc. were requested to CFRI officials and they confirmed the availability of documents. CFRI officials have tried to collect all requested documents including documents related to Activity 1-1 to provide collectively, however there are some documents which are

not available. All collected documents were provided to JICA Expert Team.

(2) Preliminary review of roles/responsibilities, human resources, technical competency, etc. were carried out based on partial translation of provided documents and direct hearing from CFRI officials. Reviewing of roles and responsibilities will be kept continuing in accordance with progress of translation. As for roles and responsibilities related to budget planning for cities, it seems that CFRI only support to BAPPENAS in checking the proposal and documents on the BAPPENAS's system called "KIRISNA".

[1-2] Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.

(1) In order to confirm the current status and issue of regional road maintenance, a list of documents/information requested by the JICA Project Team were discussed in the joint meeting (CFRI officials and JICA Expert Team) held on 18th September 2019.

(2) CFRI officials have already confirmed the availability/unavailability of the requested documents/information and they have already collected relevant agencies and provided all available documents to the JICA Project Team.

(3) The reviewing and analysis of documents to under the current status and issues of regional roads maintenance is being carried out in accordance with progress of translation of collected documents.

(4) Regional road maintenance issues were also discussed during 1st Workshop in Sukabumi and Tebing Tinggi. It was a good opportunity to directly discuss with city leaders as well as officials who practically involved in road inspection, maintenance budget planning, and maintenance project implementation. During field visit in Sukabumi and Tebing Tinggi, city officials explained that they are not only struggling with pavement maintenance but also sidewalk and drains also.

(5) A detailed questionnaire surveys were carried out in Sukabumi and Tebing Tinggi City to understand the current status of the road maintenance. The answers and relevant documents sent by cities are now under translation.

[1-3] Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.

(1) The meeting with CFRI are regularly organized by combining all 3 WGs as Technical Working Group (hereinafter to be called as "TWG") or by WG separately (WG-1, WG-2, WG-3). The first Technical Working Group (TWG) meeting was held in November 29, 2019. Other regular meetings of WG-1 and 2 are being carried with CFRI members. Regular meetings with CFRI officials are being carried out every month when JICA expert(s) assign in Jakarta.

(2) The first technical meeting with official of Sukabumi City and Tebing Tinggi City were held in February 10 and 11, 2020 in Sukabumi and February 17 and 18 in Tebing Tingging. All relevant officials of each city were participated the meeting and shared the actual road maintenance related works and issues they

are currently carrying out.

(3) JICA Project, CFRI and Local Government (Sukabumi City and Tebing Tinggi City) jointly organized the first regional workshop in respective city on February 10, 2020 in Sukabumi City and February 17 in Tebing Tinggi City respectively. JICA experts presented the paper in the following topics in the workshop.

1. Basic Policy of Road Maintenance
2. Road Maintenance Review in Indonesia
3. Road Maintenance Review in Japan
4. Project Activity and Output in Pilot Cities

(i) Workshop in Sukabumi City

Workshop in Sukabumi City was chaired by Mr. Riono, head of CFRI. Mr. Andri Setiawan Hamami, Deputy Mayor of the City led Sukabumi side and JICA Senior Representative Mr. Kawabata also participated the Workshop and delivered opening remarks. A total of 46 people participated the Workshop including senior officials from Sukabumi City.

(ii) Workshop in Tebing Tinggi

Workshop in Tebing Tinggi City was chaired by Ir. H. Umar Zunaidi Hasibuan, Mayor of the City. Head of CFRI, Mr. Riono and JICA Senior Representative Mr. Kawabata also participated the Workshop and delivered opening remarks. A total of 36 people participated the Workshop including senior officials from Tebing Tinggi City.

[1-4] Develop the database framework of regional roads across the country.

(1) Database framework was prepared and discussed with WG-1 member in September and November. The draft database framework, outline of City Road Management System (CRMS), Road Inspection System (IRI measurement system and data processing system for IRI value calculation, and visual inspection system) was discussed in the 1st TWG held on November 29, 2019 and agreed on the database framework and outline design of respective system. While finalizing the database framework the following steps were taken:

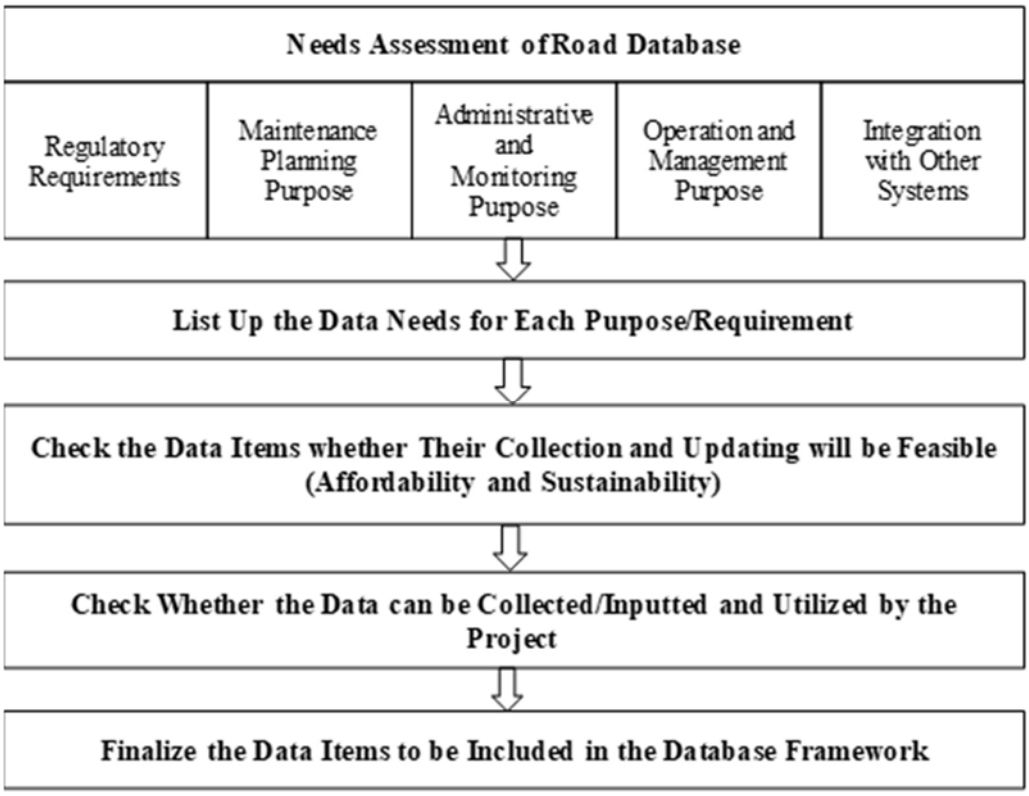


Figure 1 Steps Taken in Formulating Database Framework

The Project is developing a comprehensive City Road Management System (CRMS) and the data needed for CRMS will be collected, processed and verified by two sub-systems, namely Visual Inspection System (VIS) and Data Processing System for IRI Value Calculation (DPS-IRI), which are also to be developed under the Project. The outline of activities and functions of CRMS, VIS and DPS-IRI are summarized in the following sections.

(a) City Road Management System (CRMS)

The specification of CRMS was discussed and confirmed with counterpart member at 1st TWG Meeting held of 29 November 2019. JICA experts presented preliminary design of the system interface also. Indonesian counterparts have strongly requested to design the system as simple as possible considering the technical capability of city officials and sustainability of the system. The final version of system specification (TOR) were prepared taking concerns of counterpart members into consideration. The outline design of CRMS were also discussed with some IT companies to ensure that CRMS can be developed by local IT companies. The following functions are included in the CRMS design.

Table 5 Planned Functions in CRMS

CRMS Functions in (CFRI Version)	CRMS Function in Local Government Version

1. Data Management • Data input, Data Importation from Local Governments, Integration, Output, etc.	1. Data Management • Data Input (Data from Road Inventories, Road Assets, Inspections, Traffic Volume, and Repairs)
2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists	2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists
3. Assessment and Analysis • Benchmarking Assessment, Pavement Performance Comparison	3. Assessment & Analysis • Assessment of Pavement Deterioration Performance, Setting of Priorities for Repairs
4. Budget Allocation Planning • Setting of Conditions, Simulation of Budget Allocation Plans	4. Formulation of Maintenance Plan • Supporting the Formulation of Annual, Mid- and Long-term Budget Plans for Local Level
5. Reporting • Prepare Report as Necessary	5. Reporting • Prepare Report as Necessary

The overall structure of CRMS is shown in Figure 2.

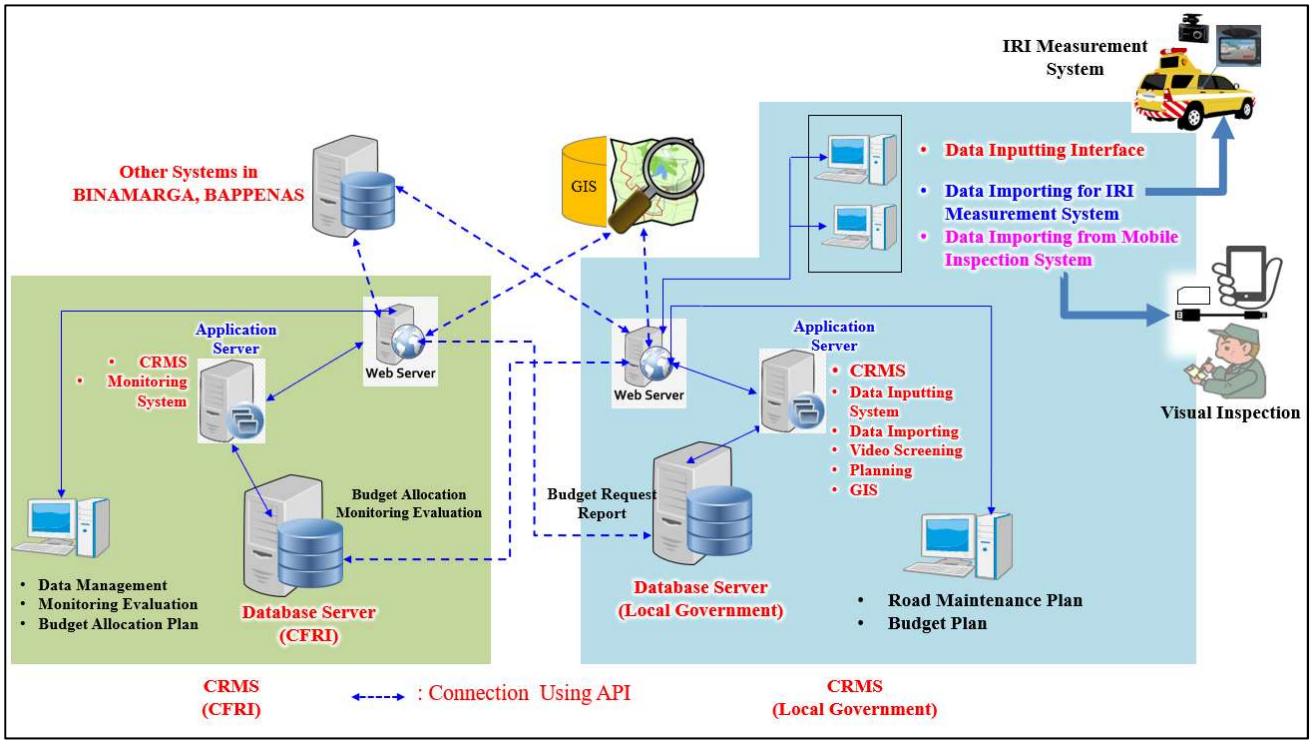


Figure 2 Overall Structure of CRMS

(b) Visual Inspection System (VIS)

Prior to the VIS system development, the JICA Project Team discussed and drafted the VIS development

specification. The development of VIS to support the implementation of Visual Inspection and Field Verification is a key activity of the Project, especially for on-site data collection. Inspection results data recorded on-site is stored in CRMS. Therefore, when designing and developing VIS, the data compatibility between VIS and CRMS must be considered. The VIS design includes the following functions and requirements.

Table 6 Function/Requirements of VIS

No.	Function/Requirements	Remarks
1	Display current location of the user by GPS function of the device.	
2	Import & Display on the map for Inspection results	Vehicle Inspection (IRI values) / Screening Survey results / Visual Inspection (Road, Facility) / Field Verification / Common Inventory Data
3	Input & Record & Export for Inspection results	Visual Inspection (Road, Facility) / Field Verification
4	Take & Record photos with location information of the damage point	XY coordinate
5	Register & Display the area where the Inspection was completed on site	

The outline of VIS is shown in Figure 3.

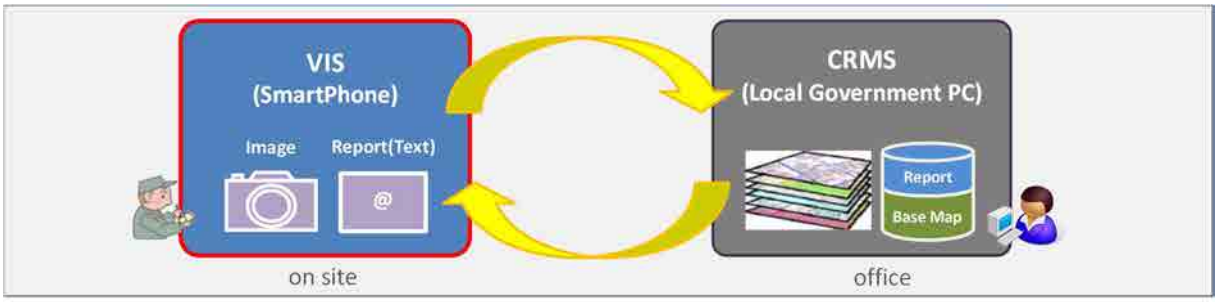


Figure 3 Outline of VIS

(c) Data Processing System for IRI Value Calculation

Prior to the system development of the Data Processing System for IRI Value Calculation (DPS-IRI), draft system specifications for the system functions, processes, and data formats were organized, based on action-camera test measurement and system requirements discussion by the JICA Project Team.

Table 7 Function/Requirements of DPS-IRI

No.	Function/Requirements	Type	Remarks
1	Import Video data and G-metrix	Import/Export	Video data (mp4 format) G-metrix (fit format)
2	Display GPS location and Video viewer, Image viewer	Display	

3	Convert Video to series of Images at time interval	Conversion	
4	Overlay and make a link between G-metrix and series of Images	Analysis	G-metrix (XY, Acceleration, Time)
5	Processing module for IRI value calculation	Analysis	
6	Display Base map and processed data	Map/GIS	Open source GIS and base map data
7	Convert "XY to Point" and "Point to Line"	Map/GIS	
8	IRI value shall be added as attribute information of the Line data	Map/GIS	
9	Perform Geospatial analysis, GIS processing, data editing	Map/GIS	
10	Define and change parameter values in parameter settings	Setting	such as interval value used in processing

(2) JICA Project Team has prepared bidding documents for development of CRMS, Road Visual Inspection System (VIS) and Data Processing System for IRI Value Calculation (DPS-IRI). Bidding process to select local IT company(s) has already started. Request for Proposal was issued on February 5, 2020 and proposal submission deadline was February 28, 2020. RFP was distributed to five (5) local IT companies. As a result, three (3) local IT companies submitted proposals. JICA Project Team will evaluate their proposals and select the local IT company.

[1-5] Arrange the development policy direction of regional roads across the country.

(1) National development plan and National development vision were collected from CFRI. City development plan and road sector development plan were recently collected from Sukabumi City and Tebing Tinggi City. However, all documents were in Indonesian language and currently under planning for translation. Upon partial completion of translation, relevant sections of the development/policy related documents will be reviewed and analyzed.

1-2-3 Activities for Output 2

[2-1] Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.

(1) For pilot areas selection, JICA Project Team prepared the procedure and criteria for the selection. The process is divided into two steps; the Step-1 is to select approximately 10 candidate cities from all cities in Indonesia using the first criteria, and the next Step-2 is to select two pilot areas finally using the second criteria focusing on technical and management perspective of road maintenance work. The procedure and criteria for the Step-1 have been finalized through the discussion with counterparts. Selection criteria for Step-1 and Step-2 are described in Table* and Table* shown below.

Table 8 Selection Criteria (Step-1)

1. Provincial capital cities to exclude (as stipulated in the RD)

2. Cities with middle-sized population[1] (as stipulated in the RD)

3. Cities having national spatial planning status such as national / provincial activity / strategic center (as stipulated in the RD)

4. Cities scheduling mayor election in the year 2020 to exclude (due to potential problems for continuity of pilot project)

5. Cities within Metropolitan Areas to exclude

6. Cities in the Provinces PRIM or PHJD Program is implemented to exclude

7. Cities having good accessibility to select in order to have close and constant contact to the cities for better understanding and more technical transfer (as limitation of JICA experts and C/Ps)

1 Population is clarified into four sections, middle-sized population stands for one hundred thousand to one million in accordance with Clause 2 of Article 41 in Law 26 in 2007.

Table 9 Selection Criteria (Step-2)

1. Experiences (Capabilities) in Systematic Road Maintenance Management
- Road Inspection (Using equipment or visual) ---------- Preferable
- Maintenance Planning (systematic planning) ---------- Preferable
- Implementation of Repair Work ---------- Mandatory

2. Dominant Pavement Type
- Cement Concrete (CC)
- **Asphalt Concrete (AC)** ---------- Preferable
- **Bituminous Surface Treatment (BST)** ---------- Preferable
- Macadam Pavement (MP)
- Gravel Pavement (GP) / Earthen Pavement (EP)

3. The Budget Ratio for New Construction Vs Maintenance/Repair Works
- Realization/Endorsement of Importance of Maintenance Works ---------- Balanced is preferable

4. Track Records of Implementation of DAK and Governance
- Achievement Level of DAK Execution ---------- High level is preferable
- Achievement Level of Governance ---------- High level is Preferable

5. Method of Maintenance/Repair Work Execution
- Direct Execution
- Contracting Out ---------- Preferable

6. Human Resources (Civil Engineer: Design and Supervision Repair Works)
- Shall have sufficient number ----- Shall assign at least one (full-time) for Pilot Project Implementation

7. IT Environment ---------- Preferable

8. Willingness and Motivation to be a Pilot Area as per the Project's Policy
- Commitment Letter or Letter of Intent to Participate as Pilot Area ---------- Mandatory

(2) Selected candidate cities in the Step-1 are shown in the Table 10. The selected results and all procedure for selection (Step-1 and Step-2) were explained by JICA Project Team and approved at the 1st JCC.

Table 10 Selected candidate cites in the Step-1

No	City Name	Province	Population (unit thousand)
1	Tasikmalaya	West Java	664

No	City Name	Province	Population (unit thousand)
2	Sukabumi	West Java	331
3	Cirebon	West Java	322
4	Tegal	Central Java	251
5	Singkawang	West Kalimantan	226
6	Prabumulih	South Sumatra	189
7	Banjar	West Java	183
8	Tebing Tinggi	North Sumatra	166
9	Parepare	South Sulawesi	147
10	Payakumbuh	West Sumatra	137

(3) The meeting of Explanation of Pilot Site Selection & Pilot Project have been held on November 14, 2019 by inviting the selected 10 cities, and 9 cities except Prabumulih City attended. Attended cities were requested to submit the answer sheet for the questionnaire and the commitment letter of participation to Pilot project to ensure willingness and motivation for the pilot project. Finally 8 cities have submitted the required documents to JICA Project Team by October 28, 2019.

(4) JICA Expert Team and counterparts evaluated the submitted documents from 8 cities and finally two cities, Sukabumi and Tebing Tinggi, have been selected as pilot areas. The final selection results have been announced to two cities by CFRI after MPWH's approval. The final evaluation result is described in Table 11 shown below.

Table 11 Final evaluation result

No	City Name	Province	Evaluation scores
1	Tasikmalaya	West Java	13.0
2	Sukabumi	West Java	17.3
3	Cirebon	West Java	-
4	Tegal	Central Java	13.9
5	Singkawang	West Kalimantan	12.3
6	Prabumulih	South Sumatra	-
7	Banjar	West Java	13.5
8	Tebing Tinggi	North Sumatra	14.2
9	Parepare	South Sulawesi	12.5
10	Payakumbuh	West Sumatra	13.2

[2-2] Finding out of the current status and issues of regional road maintenance in the pilot area

(1) The reviewing and analysis of documents to understand the current status and issues of regional roads maintenance in pilot area is being carried out in accordance with progress of translation of collected documents from Sukabumi and Tebing Tinggi City.

(2) Regional road maintenance issues were also discussed during 1st Workshop in Sukabumi and Tebing Tinggi City. It was a good opportunity to directly discuss with city leaders as well as officers who practically involved in road inspection, maintenance budget planning, and maintenance project implementation. During field visit in Sukabumi and Tebing Tinggi, city officers explained that they are not only struggling with pavement maintenance but also sidewalk and drains also.

(3) A detailed questionnaire surveys were carried out in Sukabumi and Tebing Tinggi City to understand the current status of the road maintenance. The answers and relevant documents sent by cities are now under translation.

[2-3] Implementation of road inspections in the pilot areas

(1) Approval of Inspection method

The method of Vehicle Inspection (IRI measurement using action-camera) and Visual Inspection (using mobile device), and the development of Road Inspection System (Data processing system for IRI value calculation, and Visual inspection mobile system) were discussed in the 1st TWG held on November 29, 2019. Basically agreed on the Inspection method and outline design of the Road Inspection System.

(2) Equipment selection for IRI measurement

A test measurement comparing two types of Action-Cameras was performed in Jakarta. The performance was evaluated, in consideration of the mounting, settings (record interval, resolution, etc.), sensor accuracy (GPS, acceleration, etc.), exporting acquired data. At the moment, the Garmin manufactured camera is the first choice in terms of practical use. In order to standardize IRI measurement method toward actual operation, the next step is to discuss details of the measurement methods and settings in consideration of the current situation of the Road inspection work in the pilot area.

Table 12 Comparison of Action-camera Specifications

Feature	Garmin VIRB Ultra 30	GoPro Hero 8
Capture type	Video/Image	Video/Image
Endurance time Capturing mode: Video Resolution: 1080 Frame rate: 30	90 mins	90 mins
In-vehicle Charging	Enable	Enable
In-vehicle Mounting	Easy/Stable	Easy/Stable
Sensor	GPS/Acceleration	GPS/Acceleration
In-vehicle GPS signal	Good/Stable	Poor/Unstable

Exporting sensor data	Easy G-metrix(*.fit) in micro-SD card	A bit difficult Post-processing is required

(3) Detailed survey in Pilot area

Detailed surveys included site-visiting were performed in two pilot cities, Sukabumi City (February 10-11, 2020) and Tebing Tinggi City (February 17-18, 2020), to understand the current situation of the Road inspection work.

The main findings of the current situation related to the Road Inspection work in two cities are as follows.

- Periodic inspection (Visual) is implemented by contractor in the period of three months from October to end of December every year. (Outsourcing)
- Daily patrol is implemented directly by Bina Marga staff.
- The findings of the inspection work is manually recorded on site by paper note, and there is no database system to store and manage and show the results of the work efficiently.
- It is necessary to understand the details of the Road Inspection work method based on the contract document such as requirements, specifications, implementation report, to the contractor of the annual periodic inspection contract.

1-2-4 Activities for Output 3

[3-1] Conducting Detailed Engineering Survey for the Pilot Projects and Specification Design

(1) According to the questionnaire responses, 2 cities use the following standards for road inspection and road design. Next task is confirmation of the level of understanding and usage through future pilot project activities.

Table 13 Standards for road inspection and road design

No.	Title of the Document	Publication Year	Publisher
1.	*General Technical Specification regarding Road Works 2010*	2010	Ministry of Public Works and Housing
2.	*Regulation of the Minister of Public Works / No 13/PRT/M/2011*	2011	Ministry of Public Works and Housing
3.	Regulation of Ministry of Public Work and Housing No 33/PRT/M/2016 *Regarding Technical Guideline of Special Allocation Fund (Dana Alokasi Khusus /DAK) Implementation.*	2016	-
4.	*Pavement Manual No 04/SE/DB/2017*	2017	Ministry of Public Works and Housing

5.	*Pavement Manual No 02/M/BM/2017*	2017	Ministry of Public Works and Housing

(2) In each city of Sukabumi and Tebign Tinggi, the staff in charge basically determines how to repair the damaged road. The detailed design before ordering the repair work may be carried out by the staff in charge or outsourced. In addition, surveys considered necessary for detailed design are not implemented, so check which level of detailed design / drawing is being prepared. In addition, it is necessary to obtain tender documents / contract documents for detailed design related to repair work in each city and to analyze them.

[3-2] Assisting Local Government in Executing Pilot Projects

(1) After the 1st workshop, joint site reconnaissance was carried out in each city, mainly at sites to be repaired.
[Situation]

・ There is a place where a pothole is generated, and the drainage condition is poor. (Sukabumi City)

・ There are places where pavement repair (patching) is performed frequently. (Before and after the railroad crossing, at the intersection) (Sukabumi City, Tebing Tinggi City)

・ There are places where the sidewalk is difficult to use. (Sukabumi City)

・ Some pavement collapse points cannot be handled by maintenance. (Tebing Tinggi City)

(2) Basically, the number of pilot projects will be two or three in response to requests from each cities, and the JICA Project Team will accept the requests of each cities.

(3) Construction / design / repair at these site may progress in the future. It is necessary to confirm what kind of construction the pilot project is positioned in the city's annual plan.

(4) At each site, grasp the causes of pavement deterioration (overloading, poor roadbed construction, temperature control of asphalt compounds, water stagnant on the pavement surface, etc.) and develop repair plans that can respond to the factors.

[3-5] Review and Revise Existing Manuals of Road Maintenance

(1) There is no road maintenance manual in 2 cities, and they follow the regulations of each city. We will grasp the content of the regulations and confirm that the operation is in accordance with the PU / CFRI notice.

1-3 ACHIEVEMENT OF OUTPUT

1-3-1 Monitoring Method

(1) Monitoring of the Project Achievements

Monitoring is routine work that is project-internal. During the implementation of the Project, monitoring

operations are conducted so as to check whether or not project activities are implemented and project outputs are produced as planned. If it is necessary, the modification of the Project is considered and carried out. Monitoring is a pillar of the project management because the Project manages the objectives based on the indicators and revises the Activities and Outputs in response to the various changes during the implementation period.

Monitoring activities shall be conducted mainly by the counterpart (C/P) in consideration of the project sustainability after the termination of the Project. Under this concept, the Monitoring System (MS: refer to the Attachment-3) shall consensually be established in cooperation with C/P and JICA Expert Team.

(2) Monitoring System

In order to confirm the progresses of the Outputs and Project Purpose achieved by the project activities, C/P and JICA experts monitor the progresses based on the MS. The specific contents of the MS are as follows:

(1) Components of PDM (narrative summary, indicators, means of verification);
(2) Monitoring method (persons/organizations in charge, frequency, remarks);
(3) Target value (baseline value, final target value); and
(4) Achievements of each financial year (FY 2019, 2020, 2021, and 2022).

The project achievements will be monitored and filled out in the MS on the basis of the progress. Also, each form (questionnaire, data entry sheet, etc.) necessary for data collection will be designed accordingly, and the forms for data collection will be organized in cooperation with C/P.

The MS will be modified if some difficulties are found during the implementation. Ultimately, it is expected that the monitoring activities will contribute to the project sustainability through the establishment of user-friendly and simplified MS.

1-3-2 Output 1: Improve the operational capability of CFRI.

(1) Self-ratings of CFRI on their operational capabilities

From the aspects of the evaluation items in Table 14, the self-rating survey on the operational capabilities of CFRI was carried out, and the total rating on average (average rating) was extracted through the calculation of each evaluation item (12 questions). As shown in the Table 14, since the average rating as the baseline value was 59.2% extracted from the 1st questionnaire survey, it seems realistic to establish the target value in 80% with nearly 20% increase of the baseline value.

Also, there are five (5) evaluation items below the average rating (59.2%), *i.e.*, "Q6: Approach for prioritizing road maintenance projects (54.0%)", "Q9: Road condition survey skills (50.0%)", "Q10: Road structure

design for pavement (53.3%)", "Q11: Knowledge of technical specification on road maintenance (55.6%)", and "Q12: ICT application to regional road maintenance (56.0%)." Specially, approach for prioritizing road maintenance projects (Q6), road condition survey skills (Q9), and road structure design for pavement (Q10) whose ratings were below 55% shall be improved through the training and/or workshops on the related items.

Additionally, since all the evaluation items of "practical aspects (Q9-12)" were below the average rating, these aspects shall be prioritized to be enhanced for the attainment of the target value.

By observing the shape of the self-rating results as shown in the Figure 4, because the rating results were polygonal shape, not round one, it is desirable to come to a "round shape" balanced among each evaluation item.

Table 14 Result of CFRI self-ratings on their operational capabilities

	1st survey (Mar. 2020) 10 respondents
I. Administrative Aspects	
Q1. Technical policy development for regional roads	**64.0%**
Q2. Planning skills for regional road administration	**64.0%**
Q3. Budget planning for regional road administration	**60.0%**
Q4. Procedure of proposal assessment for regional road administration	**64.0%**
Q5. Database management for regional road administration	**62.0%**
Q6. Approach for prioritizing road maintenance projects	**54.0%**
Q7. Monitoring and evaluation skills for regional road administration	**62.0%**
Q8. How to provide administrative advice & supports for local gov'ts	**64.0%**
II. Practical Aspects	
Q9. Road condition survey skills	**50.0%**
Q10. Road structure design for pavement	**53.3%**
Q11. Knowledge of technical specification on road maintenance	**55.6%**
Q12. ICT application to regional road maintenance	**56.0%**
Total Rating on Average (Q1 – Q12)	**59.2%**

Source: Results of the Questionnaire Survey (Form 2) of the Monitoring System

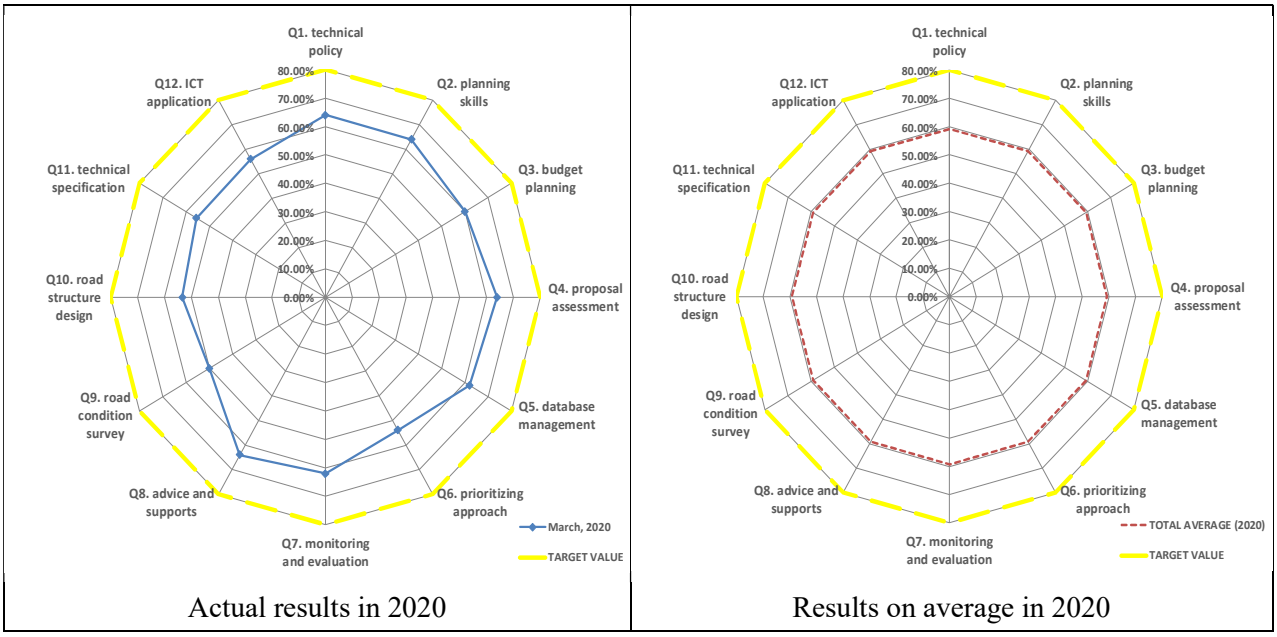


Figure 4 Tendency of CFRI self-ratings on the operational capabilities in 2020 (actual and average ratings)

1-3-3 Output 3: Develop the practical engineering method.

(1) Self-ratings of engineers and technicians at the pilot city governments on their practical engineering method of regional road maintenance

From the point of the evaluation items in Table 15, the self-rating survey on the practical engineering method for engineers and technicians was carried out, and the average rating was extracted through the calculation of each evaluation item (15 questions). As shown in the Table 15, since the average rating was 53.6% (baseline value) extracted from the 1st questionnaire survey, it seems realistic to establish the target value in 75% with 20% increase from the baseline value.

Moreover, there are five (5) evaluation items below the average rating (53.6%), *i.e.*, "Q3: ICT application to city road maintenance (41.1%)", "Q6: Efficient use of inspection equipment (37.1%)", "Q10: Efficient use of repair equipment (49.0%)", "Q13: Laboratory testing skills and knowledge (45.0%)", and "Q15: Safety practices for workers and road users during the implementation (50.5%)." Specially, practical skills for ICT application (Q3), inspection equipment (Q6), and laboratory test (Q13) shall be enhanced for the capacity development of the engineers and technicians in two pilot cities through the technical training programs and/or seminars based on the rating results which were significantly low (less than 45%). Therefore, it is required to provide technical staff in both pilot cities with the instructions and advice for the evaluation items as explained above because those items were not sufficiently performed in the pilot cities.

Table 15 Result of self-ratings of engineers and technicians working in pilot cities on their practical engineering method

	1st survey (March 2020) 21 respondents		
	Sukabumi	Tebing Tinggi	TOTAL
I. Planning Aspects			
Q1. Planning skills and knowledge of road maintenance projects	60.0%	57.8%	**59.1%**
Q2. Road condition survey skills for city roads	61.7%	46.7%	**55.2%**
Q3. ICT application to city road maintenance	53.3%	28.9%	**41.1%**
Q4. How to prioritize road maintenance projects	58.3%	48.9%	**54.3%**
Q5. Inspection skills of road improvement	56.7%	57.8%	**57.1%**
Q6. Efficient use of inspection equipment	52.0%	28.9%	**37.1%**
II. Implementation Aspects			
Q7. Road structure design for pavement, *e.g.*, drainage and bridge	61.7%	51.1%	**57.1%**
Q8. Cost estimation of road maintenance projects	58.3%	55.6%	**57.1%**
Q9. Repair skills of road improvement	60.0%	55.6%	**58.1%**
Q10. Efficient use of repair equipment	56.4%	40.0%	**49.0%**
Q11. Pothole maintenance skills	60.0%	60.0%	**60.0%**
Q12. Efficient use of local materials for road maintenance	53.3%	71.1%	**61.0%**
Q13. Laboratory testing skills and knowledge	41.8%	48.9%	**45.0%**
Q14. Schedule management of road maintenance projects	55.0%	55.6%	**55.2%**
Q15. Safety practices for workers and road users during the implementation	43.3%	60.0%	**50.5%**
Total Rating on Average (Q1 – Q15)	**55.5%**	**51.1%**	**53.6%**

Source: Results of the Questionnaire Survey (Form 5) of the Monitoring System

By observing the results of evaluation items, the shape became more polygonal than the one of CFRI self-rating results as indicated in the Figure 5. Thus, the Project shall seek the self-rating results to be a “round shape” balanced among each evaluation item.

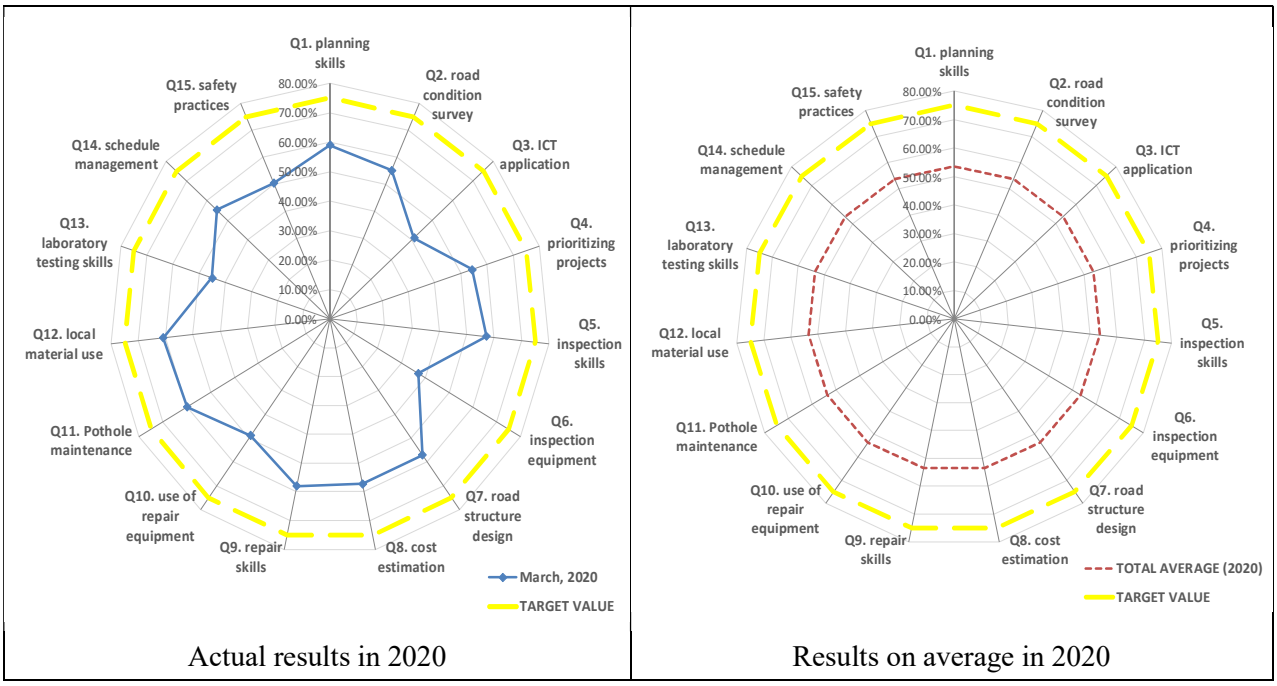


Figure 5 Tendency of self-ratings of technical staff in pilot cities on their practical engineering method in 2020 (actual and average ratings)

1-4 ACHIEVEMENT OF THE PROJECT PURPOSE

Project Purpose is to properly promote regional road maintenance projects in the pilot cities under the initiative of CFRI. In order to measure the achievement of the Project Purpose, two indicators were established as explained below.

(1) Completion status and self-assessment of regional road maintenance projects by the pilot city governments indicated in the annual road maintenance plan

Although the previous indicator focused on the only completion rate of road maintenance projects, it was not a proper indicator to measure the achievement of the Project Purpose from the following reasons. Thus, this indicator shall be modified in the following way:

> ***The self-assessment of all the regional road maintenance projects exceeds 80% on average in the pilot areas with the completion rate of more than 90% for the maintenance projects indicated in the annual road maintenance plan.***

Since the completion rate reached around 90% in both pilot cities in 2019 (see the Table 16), this percentage shall be retained during the project period. Also, as it is not sufficient to measure the achievement of the Project Purpose with the fulfillment of the completion rate only, the self-assessment of road maintenance

projects shall be complemented for this indicator.

The self-assessment results of maintenance projects in the 2019 Annual Plan just went beyond 60% (baseline value) in the pilot cities, so the target value was established in 80% with 20% increase from the baseline value.

Table 16 Completion status and self-assessment of regional road maintenance projects

Indicator 1 of Project Purpose		2019
Completion status (status quo with **more than 90%**)	Sukabumi	88.9%
	Tebing Tinggi	94.5%
Self-assessment (target value: **80%**)	Sukabumi	61.1%
	Tebing Tinggi	62.0%

Source: Achievement records of the annual road maintenance plans by the pilot cities

(2) Satisfaction ratings of the pilot city governments on the consultations by CFRI

From the result of satisfaction ratings of the two pilot city governments on the consultation provided by CFRI as shown in the Table 17, the average rating was extracted in 51.9% (baseline value) through the calculation of each evaluation item (10 questions). Since the average rating was 51.9%, it would be realistic to establish the target value in 70% with nearly 20% increase of the baseline value.

Furthermore, there are four (4) evaluation items below the average rating, *i.e.*, "Q1: Organization structure for road maintenance (40.0%)", "Q2: General planning methods for road maintenance projects (37.5%)", "Q3: Budget planning (47.5%)", and "Q9: Schedule management for road maintenance projects (40.0%)." Because the city governments strongly require the advice and supports from CFRI in terms of the above evaluation items, it is important for CFRI to improve the consultation services for the organization structure (Q1), planning method (Q2), budget planning (Q3), and schedule management (Q9) through the training/seminar on the SOP for regional road administration.

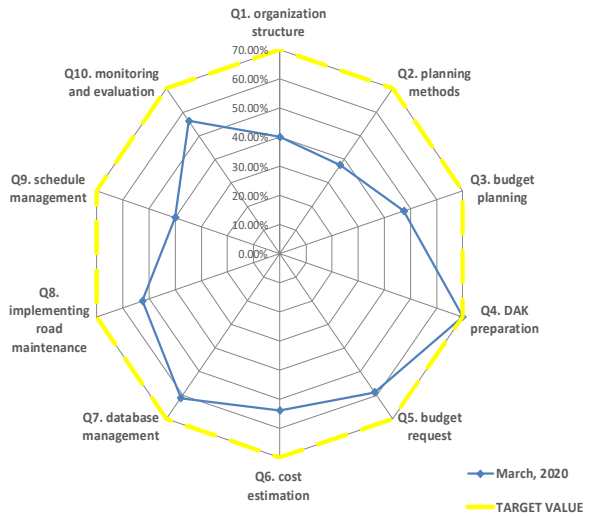
Table 17 Result of satisfaction ratings of the pilot city governments on CFRI consultations

	1st survey (March 2020) 16 respondents		
	Sukabumi	Tebing Tinggi	TOTAL
Q1. Organization structure for road maintenance	64.0%	25.0%	**40.0%**

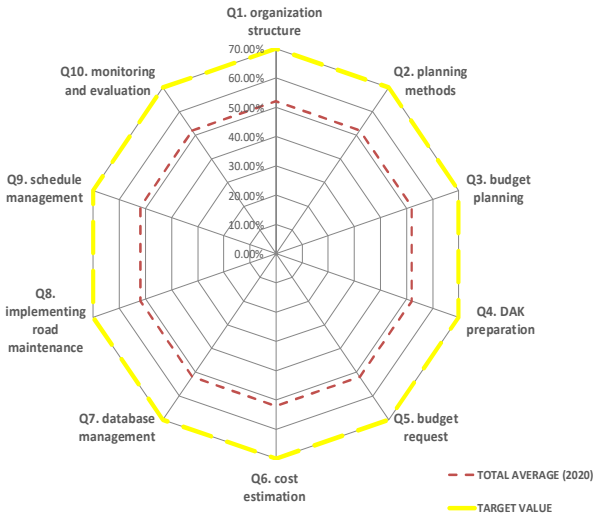
	1st survey (March 2020) 16 respondents		
	Sukabumi	Tebing Tinggi	TOTAL
Q2. General planning methods for road maintenance projects	40.0%	35.0%	**37.5%**
Q3. Budget planning	57.5%	37.5%	**47.5%**
Q4. DAK preparation for road maintenance projects	65.0%	75.0%	**70.0%**
Q5. Budget request procedures for road maintenance projects	55.0%	62.5%	**58.8%**
Q6. Cost estimation of road repair and preventive maintenance	57.5%	50.0%	**53.8%**
Q7. Database management for road maintenance projects	52.5%	70.0%	**61.3%**
Q8. Implementation of road maintenance projects	55.0%	50.0%	**52.5%**
Q9. Schedule management for road maintenance projects	52.5%	27.5%	**40.0%**
Q10. Monitoring and evaluation methods for road maintenance	47.5%	65.0%	**56.3%**
Total Rating on Average (Q1 – Q10)	**54.1%**	**49.8%**	**51.9%**

Source: Results of the Questionnaire Survey (Form 1) of the Monitoring System

As observed for the Figure 6, the rating results indicate an unbalanced many-sided figure. Thus, it is anticipated that the satisfaction ratings shall become a "round shape" balanced among each evaluation item before the termination of the Project.



Actual results in 2020



Results on average in 2020

Figure 6 Tendency of the CFRI consultations assessed by the pilot city governments in 2020 (actual and average ratings)

1-5 CHANGES OF RISKS AND ACTIONS FOR MITIGATION

1-6-1 Important Assumptions for the achievements of the Outputs

(1) Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.

At this moment, the budget disbursement for road maintenance projects is not delayed in Kota Sukabumi and Tebing Tinggi. Thus, this important assumption is fulfilled.

(2) Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.

As natural disasters have not affected the project activities in Kota Sukabumi and Tebing Tinggi since the commence of the Project, this assumption is also fulfilled at the present.

(3) The demarcation of regional road maintenance activities between PRIM and the Project is retained.

PRIM mainly focuses on Kabupaten (Regency) and the Project does on Kota (City), so that the demarcation of regional road maintenance activities between the two projects is currently retained.

1-6-2 Important Assumption for the achievement of the Project Purpose

(1) The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.

It is too early to mention this condition at this moment because the Project has just started the capacity development activities for CFRI and two (2) cities towards the achievement of the Project Purpose.

1-6 PROGRESS OF ACTIONS UNDERTAKEN BY JICA

N/A

1-7 PROGRESS OF ACTIONS UNDERTAKEN BY GOVERNMENT OF INDONESIA

N/A

1-8 PROGRESS OF ENVIRONMENTAL AND SOCIAL CONSIDERATIONS (IF APPLICABLE)

N/A

1-9 PROGRESS OF CONSIDERATIONS ON GENDER/PEACE BUILDING/POVERTY REDUCTION

(1) Gender related information in MPWH was collected. Gender secretariat in MPWH supervises gender mainstreaming in all projects in MPWH. Here gender is defined as to see people including not only women but also men, children, elders, people with disability, poor, etc. and to make them equally participate in and be benefited from the projects. In this project, CFRI and JICA Project Team monitor the project activities and pilot cities' work in line with the existing gender related policy and regulations of the Republic of Indonesia and two pilot cities. The way and method of monitoring and feedback will be decided based on the discussion with CFRI and JICA Project Team considering the situation in pilot cities as well.

(2) Gender related information in two pilot cities were collected as following table.

Table 18 Basic information on gender in two pilot cities

	Sukabumi	Tebing Tinggi
Gender related policy and regulation	Regulation of Mayor (Perwal) No. 110 year 2019 on Regional Action Plan on Gender Mainstreaming in Sukabumi from year 2018 to 2023	Regulation of Mayor regulation No. 48 of 2017 regarding guidelines for gender mainstreaming in Tebing Tinggi
Human resources	4 out of 37 are the female staff. 2 of them are civil engineering staffs in charge of design, cost estimation, planning etc. while the other 2 are administration staff in charge of coordination, finance and accounting, procurement, and reporting, etc.	2 out of 21 are female staff, who are administration staff in charge of the contract, progress reporting, finance and accounting, etc.
Safety management of road users during construction	Qualifications on safety management are written in the contract with the outsourcing company. Based on the qualification, outsourcing companies implement safety management.	Qualifications on safety management are written in the contract with the outsourcing company. During the construction, police manage the safety management.

How to collect the needs of citizens	Letters and 3 SNS applications are used. The most common complaints are the bad conditions of street lamps, side walk, traffic lights, and drainage, and parking on the street.	Letters and 1 application (which covers all Indonesian country) are used. Usually, letters with signatures from a village are sent. The most common complaint is road repair. Citizen participatory discussion on regional development is held once a year. The most common topic is road repair.
Gender issues	No female staff is in charge of field work such as inspection and construction. There is a social norm that the work in the hot outside and night time should be done by men.	The opportunity for work and wages are equally offered to both men and women. However, the work of road maintenance is recognized as men's work because of the night work, requiring the husband's permission, and physically heavy work. Not all schools have a school zone yet. Sidewalks are narrow due to the limited road space.

1-10 OTHER REMARKABLE/CONSIDERABLE ISSUES RELATED/AFFECT TO THE PROJECT

N/A

2 DELAY OF WORK SCHEDULE AND/OR PROBLEMS (IF ANY)

2-1 DETAIL

N/A

2-2 CAUSE

N/A

2-3 ACTION TO BE TAKEN

N/A

2-4 ROLES OF RESPONSIBLE PERSONS/ORGANIZATION

N/A

3 MODIFICATION OF THE PROJECT IMPLEMENTATION PLAN

3-1 PO

N/A

3-2 OTHER MODIFICATIONS ON DETAILED IMPLEMENTATION PLAN

(1) Modification of the PDM[1]

In order to practically and effectively utilize the PDM, the Indicators, Means of Verification, and Inputs were partially modified as indicated in the Table 19 below.

Table 19 Modification of the PDM

Components of the PDM		Corrections
Indicator	Project Purpose (in version 2)	Indicator 1: Completion status of the annual plan The original indicator of the PDM_1 was modified as follows: **The self-assessment of all the regional road maintenance projects exceeds 80% on average in the pilot areas with the completion rate of more than 90% for the maintenance projects indicated in the annual road maintenance plan.** Since the completion rate reached around **90%** in both pilot cities in 2019, this percentage shall be retained during the project period. Also, as it is not sufficient to measure the achievement of the Project Purpose with the fulfillment of the completion rate only, the self-assessment of road maintenance projects shall be complemented for the indicator 1. The self-assessment results of the annual plan in 2019 just went beyond 60% (baseline) in the two cities, so the target value was

[1] Because of COVID-19, 2nd JCC for the approval of PDM modification was not convened in March as planned. Although the PDM_2 is still a draft stage, the approval will be obtained in the next JCC in consultation with the Indonesian side.

Components of the PDM		Corrections
		established in **80%** with 20% increase from the baseline value.
		Indicator 2: Satisfaction ratings of pilot Kota on CFRI consultations XX% → **70%** As the satisfaction rating on CFRI consultations was 51.9% as the baseline value, the target value was established in **70%** with nearly 20% increase of the baseline value.
	Output 1 (in version 2)	Indicator 1-1: Self-ratings of CFRI on their operational capabilities XX% → **80%** Since the self-rating of CFRI staff on their operational capabilities was 59.2% as the baseline value, the target value was established in **80%** with nearly 20% increase of the baseline value.
	Output 3 (in version 2)	Indicator 3-1: Self-ratings of technical staff in pilot Kota XX% → **75%** As the self-rating of technical staff on practical engineering method was 53.6% as the baseline value, the target value was established in **75%** with 20% increase of the baseline value.
Means of Verification	Output 1 (in version 2)	Regarding the indicator 1-1, as the questionnaire survey is carried out for the improvement status of CFRI operational capabilities through their self-assessment, "DGH" was deleted from the means of verification.
Inputs	Japanese side (in version 1)	The titles of JICA experts were modified as follows, including original titles unchanged: ・Team Leader / Road Maintenance 1; ・Deputy Team Leader / Road Maintenance 2; ・PMS / Road Database; ・Road Maintenance Plan; ・Road Design;

Components of the PDM		Corrections
		・Road Inspection; ・Construction Supervision; ・PMS / Road Management System 1; ・Organization Management / Project Monitoring; ・Training Plan / Gender; and ・PMS / Road Management System 2 / Project Coordinator.
	Japanese side (in version 2)	A JICA expert is newly assigned as "IRI Measurement System." Because IRI is calculated with the data extracted from general-purpose inspection camera for vehicle use, it is indispensable to assign the expert with technical expertise for the development of the data processing system.

4 PREPARATION OF GOVERNMENT OF INDONESIA TOWARD AFTER COMPLETION OF THE PROJECT

The C/P and JICA Expert Team will discuss about the prospects for the achievement of the Overall Goal as the Project progresses

II. PROJECT MONITORINGT SHEET I & II

See the attached.

END

Project Monitoring Sheet I (Version 2: 31st March, 2020)

Draft Project Design Matrix (Draft PDM$_2$)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – August, 2022 (3 years) **Version No. 2**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure (CFRI), DGH and the local governments in the pilot areas **Date:** 9th March, 2020

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		N/A	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	Refer to Project Monitoring Sheet (PMS) Summary	–
Outputs 1. The operational capability of CFRI is improved.	1-1 The self-ratings of CFRI on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI.	1-1 Questionnaire survey to CFRI 1-2 Performance checklist based on the SOP	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	Refer to PMS Summary	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		Refer to PMS Summary	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		Refer to PMS Summary	–

*[1]: The regional road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

Activities	Inputs		
	Japanese side	**Indonesian side**	
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI. 1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria. 1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas. 1-4 Develop the database framework of regional roads across the country. 1-5 Arrange the development policy direction of regional roads across the country. 1-6 Prepare the proposal of budget allocation plan for regional road maintenance. 1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI. 1-8 Convene the region-wide seminars for the other local governments outside the pilot areas. 2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas. 2-2 Confirm the current status and issues of regional road maintenance in the pilot areas. 2-3 Conduct road inspections in the pilot areas. 2-4 Develop the database of regional road maintenance in the pilot areas. 2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI. 2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI. 2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance. 2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI. 3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance. 3-2 Assist the local governments in the pilot areas to execute pilot projects. 3-3 Supervise the pilot projects in collaboration with CFRI. 3-4 Analyze and document the results of the pilot projects, including safety and management aspects. 3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals. 3-6 Identify the technical issues on human resources development in the local governments of the pilot areas. 3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	1. Experts ・ Team Leader / Road Maintenance 1 ・ Deputy Team Leader / Road Maintenance 2 ・ PMS / Road Database ・ Road Maintenance Plan ・ Road Design ・ Road Inspection ・ IRI Measurement System ・ Construction Supervision ・ PMS / Road Management System 1 ・ Organization Management / Project Monitoring ・ Training Plan / Gender ・ PMS / Road Management System 2 / Project Coordinator 2. Training of counterpart personnel in Japan and/or the Third Countries 3. Provision of equipment ・ Road Inspection Equipment ・ Road Maintenance Equipment ・ PC and Software for Road Management System in the pilot areas ・ Others 4. Local expenses for the project activities as necessary	1. Personnel ・ Project Director ・ Project Manager ・ Counterpart personnel 2. Provision of the project office and facilities necessary for the project implementation 3. Expenses for the pilot projects executed by the local governments in the pilot areas 4. Administrative and operational expenses necessary for the project implementation ・ Electricity, water, communication, etc. ・ Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia ・ Others	1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas. 2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities. 3. The demarcation of regional road maintenance activities between PRIM and the Project is retained. **Pre-condition** Understanding and cooperation in regional road maintenance are obtained from the project stakeholders. ***<Issues and Countermeasures>*** N/A

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Plan of Operations (PO)

Version 2
Date 31 March, 2020

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks	Monitoring: Issue	Monitoring: Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																								
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30			
	Actual	28		21	16																																		
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24			
	Actual	19		17																																		
PMS / Road Database	Plan	30		21			21							27			21			30					21				30			18			21	30			
	Actual	30	1	14	6		20																																
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30			
	Actual			20	1		20																																
Road Design	Plan			18			18					30			30									30				30		18						21			
	Actual			20			17																																
Road Inspection	Plan			18			30					30									21			30								21							
	Actual			19			17																																
IRI Measurement System	Plan											9									9			9								9							
	Actual																																						
Construction Supervision	Plan											30			45									30			45			30									
	Actual																																						
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18				
	Actual	19	12	20																																			
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21			
	Actual	14				17	14	11																															
Training Plan / Gender	Plan			15								15												30												15				
	Actual						15																																
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18								18					18										20			
	Actual	28		20																																			
Equipment																																							
Road Inspection Equipment	Plan																																						
	Actual																																						
Road Maintenance Equipment	Plan																																						
	Actual																																						
Road Management System	Plan																																						
	Actual																																						
PC and Software for Road Management System in the pilot areas	Plan																																						
	Actual																																						
Others	Plan																																						
	Actual																																						
Training in Japan and/or Third Countries																																							
Road Maintenance	Plan																																						
	Actual																																						

Activities / Sub-Activities	Year	1st Year												2nd Year												3rd Year												Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
		I			II			III			IV			I			II			III			IV			I			II			III			IV						
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8				
Output 1: The operational capability of CFRI is improved.																																						**WG-1**			
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.	Plan																																					PMS / Road Database	CFRI	Ongoing	
	Actual																																								
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.	Plan																																					PMS / Road Database	CFRI	Ongoing	
	Actual																																								
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.	Plan			△			△					△					△						△						△						△			PMS / Road Database	CFRI IRE	Ongoing	
	Actual			▲			▲																																		
1-4 Develop the database framework of regional roads across the country.	Plan																																					PMS / Road Database	CFRI IRE	Ongoing	
	Actual																																								
1-5 Arrange the development policy direction of regional roads across the country.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																																						**WG-2**			
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI, Local gov'ts of the pilot areas (LGPA)	Ongoing/Pilot areas were selected in Feb. 2020.	
	Actual																																								
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																								
2-3 Conduct road inspections in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																								
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								

Project Monitoring Sheet II (Version 1: 30th September, 2019)

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																								
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30				
	Actual	28		21	16																																			
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24				
	Actual	19		17																																			
PMS / Road Database	Plan	30		21			21							27			21			30					21				30			18			21	30				
	Actual	30	1	14	6		20																																	
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30				
	Actual			20	1		20																																	
Road Design	Plan			18			18					30			30								30				30			18						21				
	Actual			20			17																																	
Road Inspection	Plan			18			30					30								21			30									21								
	Actual			19			17																																	
IRI Measurement System	Plan											9								9			9									9								
	Actual																																							
Construction Supervision	Plan											30			45								30				45			30										
	Actual																																							
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18					
	Actual	19	12	20																																				
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21				
	Actual	14				17	14	11																																
Training Plan / Gender	Plan			15								15												30											15					
	Actual						15																																	
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20				
	Actual	28		20																																				
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																																						WG-3		
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan											■												■														Road Design / CFRI LGPA	Ongoing	
	Actual						■																																	
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan											■		■	■									■		■	■											Road Design / CFRI LGPA	Ongoing	
	Actual						■																																	
3-3 Supervise the pilot projects in collaboration with CFRI.	Plan											■		■	■									■		■	■											Road Design / CFRI LGPA	N/A	
	Actual																																							
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan														■													■										Road Design / CFRI LGPA	N/A	
	Actual																																							
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan			■	■										▦	▦	▦	▦	▦	▦	▦	▦	▦	▦	▦	■	■	■	■									Road Design / CFRI LGPA	Ongoing	
	Actual			■	■																																			
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan														■													■										Road Design / CFRI LGPA	N/A	
	Actual																																							
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan																							△												△		Road Design / CFRI LGPA	N/A	
	Actual																																							
Duration / Phasing	Plan	■	■	■	■	■	■	■																																
	Actual	■	■	■	■	■	■	■																																

Monitoring Plan	Year	1st Year												2nd Year												3rd Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
Monitoring																																								
Joint Coordinating Committee	Plan	△	Kickoff					△						△						△						△						△				△		Because of COVID-19, 2nd JCC was postphoned.	See the remarks.	
	Actual	▲																																						
Set-up the Detailed Plan of Operations and Project Indicators	Plan				■	■	■	△																															N/A	
	Actual					▲	▲	▲																																	
Submission of Monitoring Sheet	Plan	△						△						△						△						△						△							N/A	
	Actual	▲						▲																																
Monitoring Workshop	Plan							△						△						△						△						△							N/A	
	Actual					▲																																		
Reports/Documents																																								
Work Plan	Plan	△																																					N/A	
	Actual	▲																																						
Project Completion Report	Plan																																		■	■	△			N/A	
	Actual																																							
Public Relations																																								
Preparation of PR materials	Plan							■						■						■						■						■				■			N/A	
	Actual																																							

■ To complete project activities within the solid line.

▦ To continuously conduct project activities during the dotted line.

△ To conduct meetings/seminars, execute monitoring, and prepare reports.

Attachment-1 : List of Property Lending

Name of Project：THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

(March.2020)

Name of Property	Standard, Part Number	Quantity	Purchase Price			Date of Inspection Passed	Location	Current State	Remarks	After Completion of Project: Handover/Return
			Purchase Price	Currency	In Japanese Yen					
Laptop	DELL NB Latitude 5290 i5-8350U Win 10 Pro	4	96,240,802	IDR	718,919	2019.9.19	CFRI office	In operation		Undecided
Desktop computer	PC HP ProDesk 400G5 MT,HP Monitor V214b 20.7"LED　Win 10 pro	1	19,116,000	IDR	142,797	2019.9.19	CFRI office	In operation		Undecided
Projector	HITACHI CP-EX303	1	6,903,000	IDR	51,565	2019.9.19	CFRI office	In operation		Undecided
Office furniture	Desk(2)、Chair(12)、Cabinet(2)	1	27,705,600	IDR	206,961	2019.9.9	CFRI office	In operation		Undecided
Office furniture	Whiteboard	1	2,381,000	IDR	17,786	2019.9.11	CFRI office	In operation		Undecided
Office furniture	Desk(4)	1	2,796,000	IDR	21,949	2020.1.6	CFRI office	In operation		Undecided
【Property Lent by JICA】										

MINUTES OF MEETING

OF

THE 1st MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 24th September, 2019

The first meeting of Joint Coordinating Committee was held in Meeting Room in CFRI, Heritage Building 4th Floor, South Jakarta, on 24th September 2019 under the chairmanship of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda, presented materials and attendance list are attached.

JICA and CFRI Team made presentations on the following subjects:

1.1. Outline of the Project with Work Plan

1.2. Selection of the Pilot Area

1.3. Technical Working Group (TWG)

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the contents of explanation for 1.1, 1.2 and 1.3 above.
2. JCC approved the contents of Work Plan and Monitoring Sheet Ver.1.
3. JCC approved the procedure and criteria for pilot site selection, and finally ten (10) candidates of pilot sites have been selected. CFRI enquired about the criteria for the final steps and requested to consider public transport facility (On selection criteria (step-2)), by adding types of terminal (terminal A, terminal B, or terminal C).
4. CFRI requested JICA Team to hold the explanation meeting of pilot project for ten (10) candidate cities for the final step to select the pilot sites. CFRI requested the venue for that meeting by inviting 2 (two) representatives of the 10 cities and 1 (one) representative from regional planning board (Bappenas). JICA Team agreed to consult this issue with JICA HQ and inform CFRI later.
5. CFRI requested to JICA Team some changes of quantity in Machinery, Equipment and Facilities to be delivered in this project:
   a) IRI Profiler, from 2 in quantity to 5 for local government, CFRI, DGH and IRE
   b) Mobile Inspection System, from 2 in quantity to 5 for local government, CFRI, DGH and IRE
   c) Road Database (PMS) for central government (CFRI), from 1 in quantity to 3 for CFRI, DGH and IRE

   These additions are needed because CFRI and other C/Ps members shall use them to study and understand about how the machinery and equipment work for the system in order to assist the local governments in carrying out their tasks or to provide other regions that need the equipment. JICA Team agreed to consult this issue with JICA HQ and inform CFRI later.
6. CFRI raised the concern that the project team also take into consideration the traffic and intersections in the cities, as well as several aspects such as minor improvement, install the traffic signs, and develop

the flyover or underpass. To address the CFRI concern, the project team responded that the points raised would be surely contribute to have better road network and they are to be discussed further in the TWG meeting, whether those might be incorporated into the system that the project team will formulate in the project. In case additional expertise is necessary to include the points raised, the project team will communicate and discuss with CFRI and JICA office.

7. JICA Team requested to assign the Working Group members from CFRI and other related departments. CFRI agreed to assign the members from CFRI, DGH and IRE. Mr. Fadil, from Sub-Directorate for Integrated Planning and Road Network system, suggested to also include the persons from Sub-Directorate for Metro and Big Cities under the DGH, Bappenas, Sub-Directorate for Integrated Planning and Road Network system, and Sub-Directorate of Data Analysis and System Development for Output-1. For Output-2, he suggested to include the Sub-directorate of Planning and Programming of Road Preservation, and Sub-directorate of Integrated Planning and Road Network System. Meanwhile, for Ouput-3, he proposed the team to incorporate with Sub-directorate of Monitoring and Evaluation of Road Preservation and DGH Branch Office.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

Jakarta, 24th September 2019

Mr. Tomoyuki Kawabata
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

Attachment-3: Monitoring System (M/S) for the PIRRG from FY 2019 to FY 2022 **Ver. 1 (as of 10/03/2020)**

Components of the PDM			Monitoring Method			Target Value		Achievements of Each Financial Year			
Narrative Summary	Indicators	Means of Verification	Person/Organization in Charge	Frequency	Remarks	Baseline	Target Value*[1]	FY 2019	FY 2020	FY 2021	FY 2022 (by July)
Overall Goal: **Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.**	(1) The lengths (km) of road inspections and repairs in the pilot areas are respectively increased.	(1) Database record developed by the Project	Engineer, Center of Facilitation for Regional Infrastructure (CFRI)	Annually (From the data of Year 2020)	The target lengths (km) will be established by the 1st Quarter of 2021.	Kota Sukabumi Insp: XXX km Rep. XXX km (in 2020)	Kota Sukabumi **Insp: YYY km** **Rep. YYY km** **(in 2025)**	Kota Sukabumi Insp: 68.8 km Rep. 24.6 km	Kota Sukabumi Insp: XXX km Rep. XXX km	Kota Sukabumi Insp: XXX km Rep. XXX km	Kota Sukabumi Insp: XXX km Rep. XXX km
						Kota Tebing Tinggi Insp: XXX km Rep. XXX km (in 2020)	Kota Tebing Tinggi **Insp: YYY km** **Rep. YYY km** **(in 2025)**	Kota Tebing Tinggi Insp: 55.8 km Rep. 22.3 km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km
	(2) The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	(2) Checklist of the annual road maintenance plan and of the practical engineering method	Head of Division for Road and Bridge Administration, CFRI	Annually (From the data of Year 2020)	The target value will be established by the 1st Quarter of 2021.	XXX areas (in 2020)	**YYY areas** **(in 2025)**	N/A	N/A	XXX areas	XXX areas
Project Purpose: **Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.**	(1) The self-assessment of all the regional road maintenance projects exceeds 80% on average in the pilot areas with the completion rate of more than 90% for the maintenance projects indicated in the annual road maintenance plan.	(1) Annual reports prepared by the local governments in the pilot areas	Head of Sub-division for M&E, CFRI	Annually		Completion status		Completion status			
						Kota Sukabumi 88.9 % (in 2019)	**90.0 %** **(in 2022)**	Kota Sukabumi 88.9%	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %
						Kota Tebing Tinggi 94.5 % (in 2019)		Kota Tebing Tinggi 94.5%	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %
						Self-assessment		Self-assessment			
						Kota Sukabumi 61.1 % (in 2019)	**80.0 %** **(in 2022)**	Kota Sukabumi 61.1%	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %
						Kota Tebing Tinggi 62.0 % (in 2019)		Kota Tebing Tinggi 62.0%	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %
	(2) The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed XX% on average.	(2) Questionnaire survey to the local governments in the pilot areas (Refer to ***Form 1***)	Engineer, CFRI	Annually		51.9 % (Mar. 2020)	**70.0 %** **(July 2022)**	–	51.9% (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)
Output 1: **The operational capability of CFRI is improved.**	(1) The self-ratings of CFRI on their operational capabilities exceed XX% on average.	(1) Questionnaire survey to CFRI (Refer to ***Form 2***)	Engineer, CFRI	Annually		59.2 % (Mar. 2020)	**80.0 %** **(July 2022)**	–	59.2% (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)
	(2) The operations based on the SOP for regional road administration are executed by CFRI.	(2) Performance checklist based on the SOP (Refer to ***Form 3***)	Engineer, CFRI	Semi-annually	Starting from the middle of the Project with the draft SOP (around the 1st Quarter of 2021).	N/A	CFRI properly executes regional road administration based on the performance checklist for the SOP (Form 3).	N/A	N/A	XXX (in Mar.) XXX (in Sep.)	XXX (in Mar.) XXX (in July)

Components of the PDM			Monitoring Method			Target Value		Achievements of Each Financial Year			
Narrative Summary	Indicators	Means of Verification	Person/Organization in Charge	Frequency	Remarks	Baseline	Target Value*[1]	FY 2019	FY 2020	FY 2021	FY 2022 (by July)
Output 2: **The process for formulating the regional road maintenance plans is strengthened in the pilot areas.**	(1) The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist.	(1) Checklist for formulating the annual road maintenance plan (Refer to ***Form 4***)	Engineer, CFRI	Annually	The checklist is prepared before August 2020.	N/A	The annual road maintenance plan contains all necessary items based on the checklist (Form 4).	N/A	N/A	XXX (in Jan.)	XXX (in Jan.)
	(2) Database is properly operated and managed by the local governments in the pilot areas.	(2) Project Monitoring Sheet	Engineer, CFRI	Semi-annually	Starting from June 2021 after the completion of the database development.	N/A	Local governments properly operate and manage the database fulfilling the requirements set by the Project.	N/A	N/A	XXX (in June) XXX (in Dec.)	XXX (in July)
Output 3: **The practical engineering method of regional road maintenance is developed through the pilot projects.**	(1) The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed XX% on average.	(1) Questionnaire survey to the engineers and technicians at the local governments (Refer to ***Form 5***)	Engineer, CFRI	Annually		53.6 % (Mar. 2020)	**75.0 %** **(July 2022)**	–	53.6% (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)
	(2) Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	(2) Documents prepared in the Activity 3-4	Engineer, CFRI	Annually	After the pilot projects, the Project verifies practical engineering methods in November 2020 and 2021.	N/A	Lessons learned, good/bad practices, etc. for practical engineering methods are extracted from the pilot projects.	N/A	XXX (in Nov.)	XXX (in Nov.)	N/A

NOTE:

*[1]: Target values are subject to the modification through further examinations and discussions in the future.

TO CR of JICA Indonesia OFFICE

PROJECT MONITORING SHEET

Project Title: The Project for the Improvement of Regional Roads Governance
Version of the Sheet: Ver. 3

Name: Kazuya Aoki
Title: Team Leader
Submission Date: 29th January 2021

I. SUMMARY

1 PROGRESS

1-1 PROGRESS OF INPUTS

1-1-1 Indonesia Side

(1) Personnel

Project Director and Project Manager were identified under Record of Discussion (hereinafter to be called as "R/D") and assigned in September 2019. The rest of counterpart personnel was selected through the progress of the Project. In September 2019, 9 personnel for three Working Group (hereinafter referred to as "WG") have been assigned (3 personnel for each WG) from the Center of Facilitation for Regional Infrastructure (hereinafter referred to as "CFRI"). Other related departments of the Ministry of Public Works and Housing (hereinafter referred to as "MPWH"), such as Department General of Highway (hereinafter referred to as "DGH"), Center for Data and Information Technology and Institute of Road Engineering (IRE) have been assigned their officials as representative of their respective division. Further 16 personnel from pilot cities (6 personnel from Sukabumi City and 10 personnel from Tebing Tinggi City) are assigned in February 2020. BAPPENAS has also been assigning their officials as member of JCC and WG in all meetings.

Table 1 Main Counterparts

Title	Name	Organization/Position
Project Director	Riono Suprapto	Head of CFRI
Project Manager	Dedy Gunawan	Head of Division for Road and Bridge Provision, CFRI
Leader of WG-1	Bapak Amiruddin Yusuf	Engineer, Road and Bridge Administration Division, CFRI
Leader of WG-2	Bapak Muhamad Taufik	Engineer, Road and Bridge Administration Division, CFRI

Leader of WG-3	Bapak Sari Satria Dwipayana	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CFRI

(2) Provision of the project office and facilities necessary for the project implementation
Project office space has been allocated in the building of CFRI office.

(3) Expenses for the pilot projects executed by the local governments in the pilot areas
As the pilot projects is not currently scheduled for implementation due to the outbreak of COVID-19, it is too early to indicate this information at this moment.

(4) Administrative and operational expenses necessary for the project implementation
Expense agreed at R/D has been secured and handled by the Indonesia side

1-1-2 Japanese Side

(1) Experts
In accordance with the amended contract agreed in August 2019 between JICA and JICA Expert Team, the experts have been assigned. After that, Dr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system in February 2020, then the number of experts has increased into a total 12 experts. Experts have been assigned since September 1, 2019, and at the end of December 2020, all experts have been assigned for a total of 15.27 Man/Month (hereinafter to be called as "MM") out of the Project total assignment of 68.0 MM (assignment in Indonesia only). Since April 2020, there are no assignments in Indonesia due to the outbreak of COVID-19. However, during that period, JICA Expert Team (JET) have continued activities by online remote work from Japan. The details are given in the Project Monitoring Sheet II (PO).

Table 2 Dispatched Experts

Experts	Position	Total (MM)
Kazuya Aoki	Team Leader / Road Maintenance 1	2.17 MM
Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2	1.2 MM
Bhoj Raj Pantha	PMS/Road Database	2.4 MM
Shunji Hata	Road Maintenance Plan	1.4 MM
Eiji Noguchi	Road Design	1.23 MM
Takeo Sugimoto	Road Inspection	1.2 MM
Kazuya Tomiyama	IRI measurement system	0.0 MM
Hiroshi Ueda	Construction Supervision	0.0 MM
Junichi Oshima	PMS/Road Management System 1	1.7 MM
Takaaki Hirakawa	Organization Management / Project Monitoring	1.87 MM
Naoko Ono	Training Plan / Gender	0.5 MM
Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator	1.6 MM
Total (by end of December, 2020)		15.27 MM

(2) Training of counterpart personnel in Japan and/or the Third Countries

Under the Project, two times training in Japan are planned, and the first training in Japan was scheduled to be conducted in September 2020 tentatively, however, the timing of the first training in Japan is undecided so far due to the outbreak of COVID-19.

(3) Provision of Equipment

At the 1st Joint Coordination Committee meeting (hereinafter called as "JCC") held on September 24, 2019, specification of procurement equipment was approved by the counterparts. The furniture (desks and chairs) for the project office were installed by JET. The details of provided equipment are given in the Attachment-1.

(4) Local expenses for the project activities as necessary

Local expense has been utilized mainly for consultant cost, office equipment, so far.

1-2 PROGRESS OF ACTIVITIES

Project activities to achieve the project purpose under Work Plan were agreed at the 1st JCC. Project activities described in Project Monitoring Sheet I (Project Design Matrix: PDM) summarized in the Table 3 shown below. Progress of each activity is described accordingly in the sections that follow.

Table 3 Outline of Project Activities

Outputs	Activity No.	Activities
Common Activities to All Outputs	0-1	Development and Discussion of the Work Plan and the Monitoring Sheet
	0-2	Setting PDM Indicators
	0-3	Holding Joint Coordination Committee (JCC) Meetings
	0-4	Conducting the Training in Japan
	0-5	Drafting the Project Completion Report
Outputs 1: The operational capability of CFRI is improved.	1-1	Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
	1-2	Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
	1-3	Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
	1-4	Develop the database framework of regional roads across the country.
	1-5	Arrange the development policy direction of regional roads across the country.
	1-6	Prepare the proposal of budget allocation plan for regional road maintenance.
	1-7	Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.

	1-8	Convene the region-wide seminars for the other local governments outside the pilot areas.
Outputs 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1	Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
	2-2	Confirm the current status and issues of regional road maintenance in the pilot areas.
	2-3	Conduct road inspections in the pilot areas.
	2-4	Develop the database of regional road maintenance in the pilot areas.
	2-5	Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
	2-6	Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
	2-7	Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
	2-8	Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.
Outputs 3: The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1	Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
	3-2	Assist the local governments in the pilot areas to execute pilot projects.
	3-3	Supervise the pilot projects in collaboration with CFRI.
	3-4	Analyze and document the results of the pilot projects, including safety and management aspects.
	3-5	Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
	3-6	Identify the technical issues on human resources development in the local governments of the pilot areas.
	3-7	Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

1-2-1 Common Activities to All Outputs

[0-3] Holding Joint Coordination Committee (JCC) Meetings

Outline of JCC is summarized in Table 4. Member of JCC was set as agreed at R/D and assigned in September 2019.

Table 4 Outline of JCC

Chair	Head of the Center of Facilitation for Regional Infrastructure
Meeting Frequency	About every 6 months In principal, meetings are held to discuss the Work Plan and the interim progress reports and the final report.
Roles	▪ Discussion and approval on the annual work plan of the Project ▪ Assessment of the situation regarding achievement and progress of the annual work plan of the Project ▪ Investigation and exchange of opinions on issues in the Project implementation process ▪ Facilitate to overcome any critical issues (if occur) during the Project implementation
Members	**Indonesia**

	▪ Head of the Center of Facilitation for Regional Infrastructure ▪ Director of Road Network Development, DGH ▪ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure ▪ Head of Division Land And Road Transportation, BAPPENAS ▪ Deputy Director of Planning Integration and Network System, DGH ▪ Deputy Director of Data Analysis and System Development, DGH ▪ Head of Division, Programming and Evaluation, Institute of Road Engineering ▪ Others **Japan** ▪ The Japanese Embassy in Indonesia ▪ JICA Indonesia Office ▪ JICA Expert Team Members, etc.

(1) 2nd JCC

The 2nd JCC was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the CFRI, with total of 30 participants. In the 2nd JCC meeting, the Monitoring Sheet Ver.2 and the Project Indicators which are described in the updated PDM were approved. The minute of JCC meeting is attached (Attachment-2).

(2) 3rd JCC

The 3rd JCC is scheduled to be held in January 2021.

[0-4] Conducting the Training in Japan

The timing of the first training in Japan is undecided so far due to the outbreak of COVID-19.

[0-5] Drafting the Project Completion Report

Project Completion Report (PCR) is planned to be submitted in August 2023.

1-2-2 Activities for Output 1

[1-3] Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.

(1) 2nd Technical Working Group (TWG) was held on 24th July 2020 to discuss technical issues of system development. All member of TWG and officials from JICA Indonesia office participated the meeting.

(2) WG-2 meeting was held on 19th August 2020 to confirm Road Inspection, Road Inventory and Road Maintenance Workflow related information

Table 5 List of Meetings Organized

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants
1	1st Technical Meeting (Kick-off Meeting)	Outline of the Project / Technical Working Group (TWG) /Project Monitoring & Baseline Survey	CFRI Office	18th September, 2019	CFRI members
2	Explanation of Pilot Selection and Pilot Project Meeting	Outline of Project / Explanation of Pilot Project / Explanation of Criteria and Procedure for Selection	Jakarta	14th November, 2019	9 candidates cities and CFRI In total of 23
3	1st TWG	Specification of all systems (CRMS, DPD-IRI and VIS) and database framework	CFRI Office	29th November, 2019	CFRI, Data Center in MPWH, DGH, IRI and BAPPENAS In total of 29
4	1st WG-1 Meting	Confirmation of information related to Activity 1-1 and 1-2	CFRI Office	11th December, 2019	CFRI Member of CFRI (Mr. Yussf and Yolanda)
5	1st Workshop in Sukabumi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Sukabumi	10 February, 2020	Deputy mayor of Sukabumi City, City staff and CFRI In total of 46
6	2nd Technical Meeting with Sukabumi City	Confirmation of various answers on questionnaire	Sukabumi	11th February, 2020	Key staff of BINAMARGA
7	1st Workshop in Tebing Tinggi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Tebing Tinggi	17th February, 2020	Mayor of Tebing Tinggi City, City staff and CFRI In total of 36
8	3rd Technical Meeting with Tebing Tinggi City	Confirmation of various answers on questionnaire	Tebing Tinggi	17th February, 2020	Key staff of BINAMARGA
9	2nd WG-1 Meeting	Confirmation of Budget Making Process	CFRI Office	20th February, 2020	WG member of CFRI

10	2nd TWG	Technical specifications and development schedule of all systems, and system integration concept with other applications	Online	24th June, 2020	CFRI, Sukabumi, Tebing Tingi and DGH In total of 45
11	1st WG-2 Meeting	Confirmation of Road Maintenance Activities and Road Inventory Data	Online	19th August, 2020	WG-2 Member from all stakeholders
12	3rd WG-1 Meeting	Discussion of the deterioration forecasting model in CRMS	Online	25th September, 2020	WG-1 member from CFRI, DGH, BAPPENAS and Pilot Two Cities
13	1st WG-3 Meeting	Confirmation of issues related to the Pilot Project including material procurement and future plan	Online	9th October, 2020	WG-3 member from CFRI, DGH, BAPPENAS and Pilot Two Cities
14	2nd WG-2 Meeting with Sukabumi	Confirmation of the procedures of budget and road maintenance plan in Sukabumi city	Online	9th November, 2020	WG-2 member from Sukabumi
15	3rd WG-2 Meeting with Tebing Tinggi	Confirmation of the procedures of budget and road maintenance plan in Tebing Tinggi	Online	26th November, 2020	WG-2 member from Tebing Tinggi

[1-4] Develop the database framework of regional roads across the country.

Database framework was prepared and discussed with WG-1 member in September and November. The draft database framework, outline of City Road Management System (CRMS), Road Inspection System (IRI measurement system and data processing system for IRI value calculation, and visual inspection system) was discussed in the 1st TWG held on November 29, 2019 and agreed on the database framework and outline design of respective system.

The Project is developing a comprehensive City Road Management System (CRMS) and the data needed for CRMS will be collected, processed and verified by two sub-systems, namely Visual Inspection System (VIS) and Data Processing System for IRI Value Calculation (DPS-IRI), which are also to be developed under the Project. CRMS will comprise of three systems as shown below.

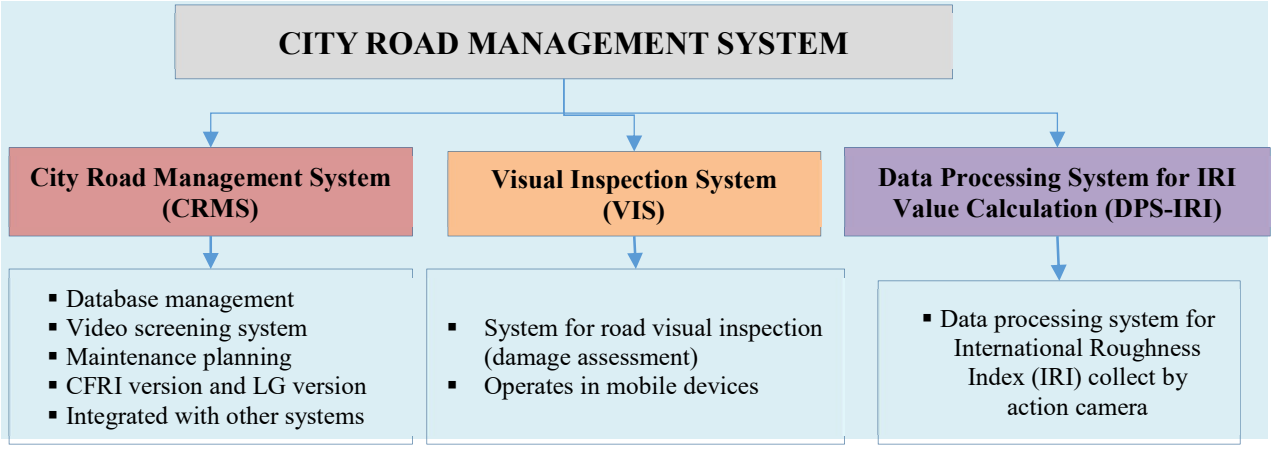


Figure 1 Component of City Road management System

The outline of activities and functions of CRMS, VIS and DPS-IRI are summarized in the following sections.

(1) City Road Management System (CRMS)

The specification of CRMS was discussed and confirmed with counterpart member at 1st TWG Meeting held of 29 November 2019. JET presented preliminary design of the system interface also. Indonesian counterparts have strongly requested to design the system as simple as possible considering the technical capability of city officials and sustainability of the system.

The final version of system specification (TOR) was prepared taking concerns of counterpart members into consideration. The outline design of CRMS was also discussed with some IT companies to ensure that CRMS can be developed by local IT companies. The following functions are included in the CRMS design.

Table 6 Functions Planned in CRMS

CRMS Functions (CFRI Version)	CRMS Function (Local Government Version)
1. Data Management • Data input, Data Importation from Local Governments, Integration, Output, etc.	1. Data Management • Data Input (Data from Road Inventories, Road Assets, Inspections, Traffic Volume, and Repairs)
2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists	2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists
3. Assessment and Analysis • Benchmarking Assessment, Pavement Performance Comparison	3. Assessment & Analysis • Assessment of Pavement Deterioration Performance, Setting of Priorities for Repairs

4. Budget Allocation Planning • Setting of Conditions, Simulation of Budget Allocation Plans	4. Formulation of Maintenance Plan • Supporting the Formulation of Annual, Mid- and Long-term Budget Plans for Local Level
5. Reporting • Prepare Report as Necessary	5. Reporting • Prepare Report as Necessary

The overall structure of CRMS is shown in Figure 2.

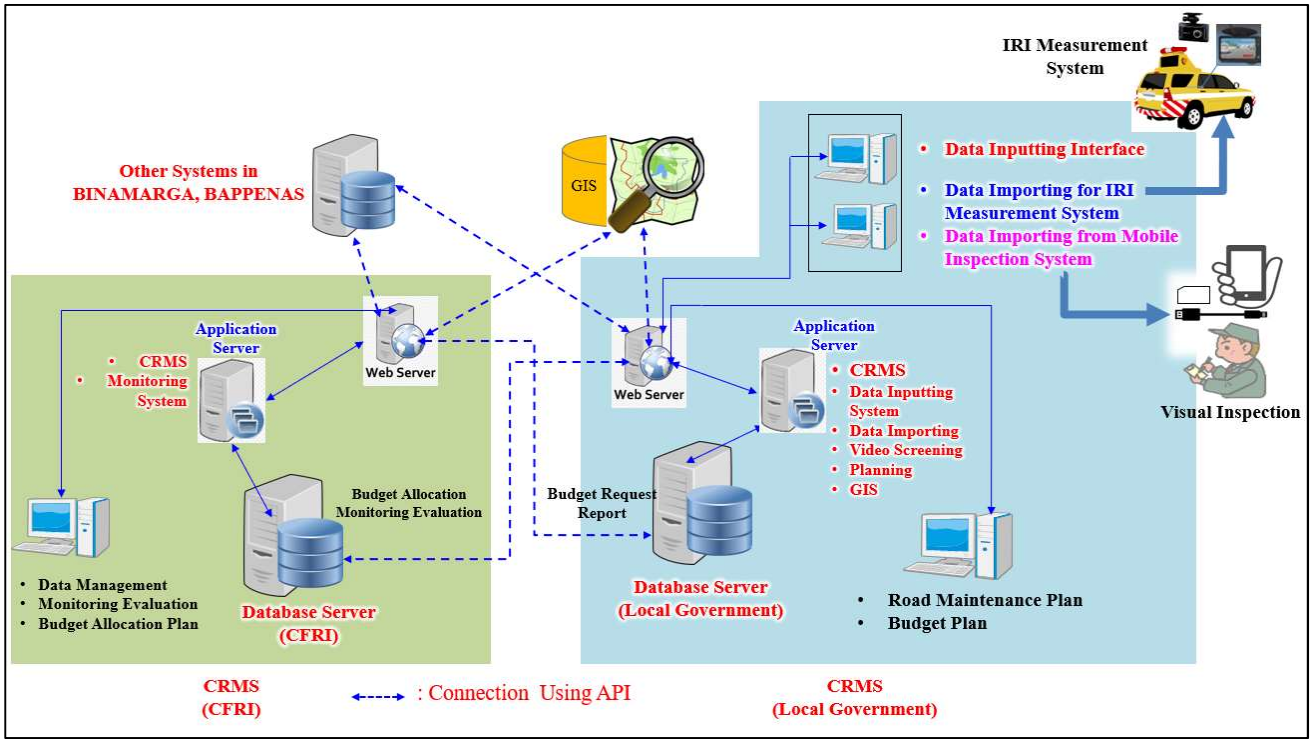


Figure 2 Overall Structure of CRMS

CRMS consists of the following modules:

Table 7 CRMS Modules

SN	Module Name	SN.	Module Name
1.	Data Inputting Module	7.	Project Formulation and Contract Packaging Module
2.	Road Inspection Module	8.	Reporting Module
3.	Map Module	9.	Documents Module
4.	Road Video Screening Module	10.	Human Resource Management Module
5.	Data Monitoring and Analysis Module	11.	System Integration Module
6.	Maintenance Planning Module		

Local IT Consultant (System Developer) was selected from the competitive bidding and started system development work from May 2020.

System Developer together with JICA Project Team has confirmed MPWH IT policy while designing the

system. System developer has already submitted draft detailed design report and system mock design. The following table shows the overall status of CRMS development.

Table 8 Status of CRMS development

SN.	Process	Status	Remarks
1	Review of current status of database and management system in CFRI and Cities	Completed	
2	Preparation of CRMS TOR	Completed	
3	Preparation of Bidding Document and Bidding	Completed	
4	Draft Detailed Design Report	Completed	
5	Development of Prototype of System	Ongoing	
6	System Development	Ongoing	
7	System Test	yet to start	
8	Implementation of OJT	yet to start	
9	Start System Operation	yet to start	
10	Formulation of Maintenance Plans	Yet to start	

(2) Visual Inspection System (VIS)

Prior to the VIS system development, the JET discussed and drafted the VIS development specification. The development of VIS to support the implementation of Visual Inspection and Field Verification is a key activity of the Project, especially for on-site data collection. Inspection results data recorded on-site is stored in CRMS. Therefore, when designing and developing VIS, the data compatibility between VIS and CRMS must be considered. The VIS design includes the following functions and requirements.

Table 9 Function/Requirements of VIS

No.	Function/Requirements	Remarks
1	Display current location of the user by GPS function of the device.	
2	Import & Display on the map for Inspection results	Vehicle Inspection (IRI values) / Screening Survey results / Visual Inspection (Road, Facility) / Field Verification / Common Inventory Data
3	Input & Record & Export for Inspection results	Visual Inspection (Road, Facility) / Field Verification
4	Take & Record photos with location information of the damage point	XY coordinate

5	Register & Display the area where the Inspection was completed on site	

The outline of VIS is shown in Figure 3.

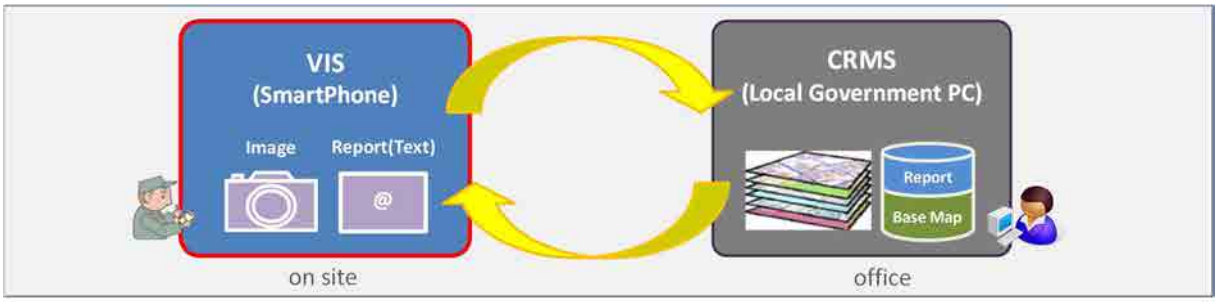


Figure 3 Outline of VIS

Based on the system requirements and several technical discussions to define the System configuration, Functions, Database definition, Compatibility and Data transfer with CRMS, etc., detailed system design document of VIS has been created by the local IT Company. Further discussion is needed to finalize it. Parallelly, actual performance of the system functions has confirmed on the prototype system. The findings in the prototype confirmation will be revised and updated in the finalization of the detailed system design.

Table 10 Current progress of VIS development

No.	Process	Status	Remarks
1	Review of current Inspection Practice	Completed	
2	Preparation of TOR	Completed	
3	Preparation of Bidding Document and Bidding	Completed	
4	Draft Detailed Design Report	Completed	
5	Development of Prototype of System	Completed	
6	System Development	ongoing	
7	System Test	yet to start	
8	Implementation of OJT	yet to start	
9	Start System Operation	yet to start	

(3) Data Processing System for IRI Value Calculation

Prior to the system development of the Data Processing System for IRI Value Calculation (DPS-IRI), draft system specifications for the system functions, processes, and data formats were organized, based on action-

camera test measurement and system requirements discussion by the JST.

Table 11 Function/Requirements of DPS-IRI

No.	Function/Requirements	Type	Remarks
1	Import Video data and G-metrix	Import/Export	Video data (mp4 format) G-metrix (fit format)
2	Display GPS location and Video viewer, Image viewer	Display	
3	Convert Video to series of Images at time interval	Conversion	
4	Overlay and make a link between G-metrix and series of Images	Analysis	G-metrix (XY, Acceleration, Time)
5	Processing module for IRI value calculation	Analysis	
6	Display Base map and processed data	Map/GIS	Open source GIS and base map data
7	Convert "XY to Point" and "Point to Line"	Map/GIS	
8	IRI value shall be added as attribute information of the Line data	Map/GIS	
9	Perform Geospatial analysis, GIS processing, data editing	Map/GIS	
10	Define and change parameter values in parameter settings	Setting	such as interval value used in processing

Based on the system requirements and several technical discussions to define the System configuration, Functions, Database definition, Compatibility and Data transfer with CRMS, etc., Detailed system design document of DPS-IRI has been created by the local IT company. Further discussion is needed to finalize it. Parallelly, actual performance of the system functions will be confirmed on the prototype system. The findings in the prototype confirmation will be revised and updated in the finalization of the detailed system design.

Table 12 Current progress of DPS-IRI development

No.	Process	Status	Remarks
1	Review of current Inspection Practice	Completed	
2	Preparation of TOR	Completed	
3	Preparation of Bidding Document and Bidding	Completed	
4	Draft Detailed Design Report	Completed	
5	Development of Prototype of System	Completed	
6	System Development	ongoing	

7	System Test	yet to start	
8	Implementation of OJT	yet to start	
9	Start System Operation	yet to start	

1-2-3 Activities for Output 2

[2-3] Implementation of road inspections in the pilot areas

2-3-1 Road Inspection Work

(1) Review of the current situation

JET reviewed the collected information and answers to the questionnaire based on the detailed survey, in order to perform and further improve the activities of Road inspection through OJT, IRI measurement specification, DPS (Data Processing System for IRI) and VIS (Visual Inspection mobile System) development in a realistic condition.

(2) WG-2 meeting

In the WG-2 meeting (Online) held on 19th August 2020, the review of the road inspection work of 2 cities were confirmed and discussed to make clear understanding. JET will ask each city with additional questionnaire for more detail information to be confirmed, and additional online discussions will be held.

Table 13 Current situation of Road inspection work

Items	Sukabumi	Tebing Tinggi	Confirmed by Discussion
Vehicle for Inspection (to define calibration of IRI measurement vehicle)	Periodic: Contractor's vehicle Daily/Emergency	Periodic: Pick Up (Toyota) 1 unit Daily/Emergency	No specific vehicle
Details of Periodic Inspection	• 1 time/year • 115.744 km/year • October – December (3 months) • For Maintenance & Budget planning • **Outsourcing** • IRI measure/ Visual (pavement) • Using paper, excel, and pictures	• 1 time/year • 223.05 km/year • 3months every year • For Maintenance planning • **Outsourcing** • Visual IRI calculation • Using paper, excel, and pictures	It has been confirmed that some cities can conduct road inspection only one time in a year due to the limited budget, and the other several local cities can do two times a year. It is stated that 2 times in a year according to the Regulation ("Regulation of the Minister of Public Works. Number 13/PRT/M/2011. Regarding procedures for Road maintenance and inspection").
Details of Routine/Daily Inspection	• 1 – 2 times/week • Visual/by Bina Marga staff • Safety patrol &	• Daily • Visual/by Bina Marga staff • Safety patrol &	Most of the local cities will have the budget for road inspection after March, and the local cities always conduct the road patrol

	Damage • Pavement & Road Facilities	Damage >>once a week and situational • Pavement & Road Facilities >>Routine work	survey every day. In Sukabumi City, due to the limited budget and the lack of human resources, the road inspection work is conducted when there is any complaint or report from community.
Damage type	Pothole/Crack/Rutting /Raveling/Softground/ Corrugation/Bleeding	Pothole/Crack/Rutting /Raveling	
IRI measurement	Using visual method	using visual inspection by Bina Marga Tebing Tinggi	Based on visual inspection using paper, photo, motorbike and vehicle. And there is no specific equipment used.

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

Table 14 Current situation of Road facility management

Facility Name	Management Department		Confirmed by Discussion
	Sukabumi	Tebing Tinggi	
Carriageway	Bina Marga	Bina Marga	Road facility management is conducted by each department. The facility information also such as inventory and damages, repair, shall be gathered by each role, then be aggregated. Road facility inspection is performed depends on needs and report from community.
Median	Bina Marga	Human Settlement Office	
Shoulder	Bina Marga	Bina Marga	
Side Drain	Bina Marga	Bina Marga	
Footpath/Sidewalk	Bina Marga	Human Settlement Office	
Street Lighting	Traffic Safety and Road Equipment Division	Human Settlement Office	
Traffic Light	Traffic Safety and Road Equipment Division	Transportation Office	
Culvert	Bina Marga	Bina Marga	
Service Lane	No Existence	No Existence	
Bus Stop	Transportation Office	Transportation Office	
Motorcycle Lane	No Existence	No Existence	
Bicycle Lane	Transportation Office	Transportation Office	
Guard Rail	Traffic Safety and Road Equipment Division	Transportation Office	
Others			

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

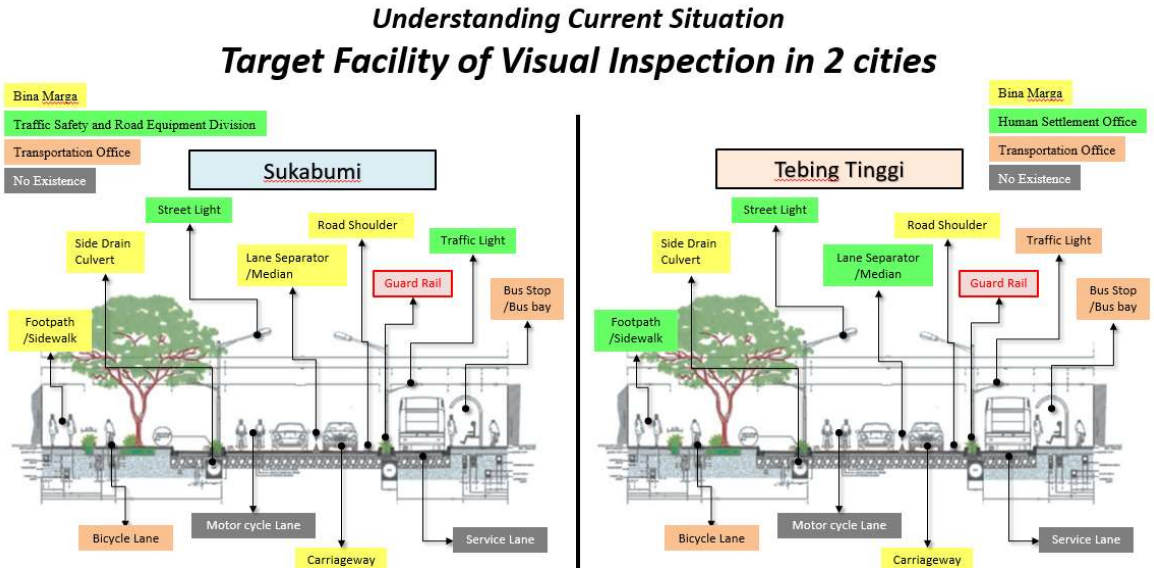


Figure 4 Current situation of Road facility management

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

2-3-2 IRI Measurement

(1) Creating IRI measurement specification

The method of obtaining IRI value is to mount action-camera with sensor that can acquire acceleration information on the vehicle, calculate IRI value from the acquired acceleration information. First of all, IRI measurement procedure has been considered and prepared a measurement procedure document (draft-manual), such as the mounting position of the action-camera on the vehicle, capturing settings, driving speed, weather condition, and other notes for measurement.

The next step will be based on this draft-manual, and test measurement will be carried out in Japan or in 2 cities to verify the influence on the IRI value depending on the vehicle type or driving conditions (speed, lane, weather, etc). The results of this verification will be used for implementation in actual work and developing the IRI value calculation module.

(2) Test driving for IRI value calculation module

In order to associate relationship between known road surfaces and vehicle vibrations in the IRI value calculation module, test measurement under the standard road condition was carried out in Japan. The test measurement compared the survey data of between vehicle vibration measurement using in-vehicle action-camera and flatness of road surface by actual levelling survey. The result of the comparison will be used to define the calculation logic and calibration in the development of the IRI value calculation module.

[2-5] Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI

(1) Technical meeting

The first technical meeting with official of Sukabumi city and Tebing Tinggi city were held in February 10 and 11, 2020 in Sukabumi and February 17 and 18 in Tebing Tinggi. All relevant officials of each city participated in the meeting and shared the road maintenance information based on the questionnaire which has been prepared by JET.

(2) Presentation in the technical meeting at Sukabumi city and Tebing Tinggi city

Road Maintenance and Management Procedure and Practices was presented in February 17 and 18 in Tebing Tingging by JET for the better understanding of the JICA project activity, which includes (a) Basic policy of Road Maintenance, (b) Review of Road Maintenance in Indonesia, (c) Practice of Road Maintenance in Japan, and (d) Output and Activities of JICA Project in Pilot Cities.

(3) Examination of the current budget-making procedure for regional road maintenance in the pilot areas

Based on the questionnaire survey and WG-2 meeting, which was held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current budget-making procedures of regional road maintenance in two pilot cities have been examined in detail.

[2-6] Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.

Based on the questionnaire survey and WG-2 meeting, which was held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current medium-term road maintenance planning procedure in two pilot cities have been examined in detail.

1-2-4 Activities for Output 3

[3-1] Conducting Detailed Engineering Survey for the Pilot Projects and Specification DesignWG-3 meeting has been held on October 9, 2020 with participants from two pilot cities who are in charge of road maintenance work to confirm current procedures of road maintenance work on site and discuss some issues for implementation of pilot projects.

1-3 ACHIEVEMENT OF OUTPUT

1-3-1 Monitoring System

In order to confirm the progresses of the Outputs and Project Purpose achieved by the project activities, C/P and JET monitor the progresses based on the Monitoring System (MS: refer to the Attachment-3). The specific contents of the MS are as follows:

(1) Components of PDM (narrative summary, indicators, means of verification);
(2) Monitoring method (persons/organizations in charge, frequency, remarks);

(3) Target value (baseline value, final target value); and
(4) Achievements of each financial year (FY 2019, 2020, 2021, 2022, and 2023).

The project achievements will be monitored and filled out in the MS on the basis of the progress. Also, each form (questionnaire, data entry sheet, etc.) necessary for data collection will be designed accordingly, and the forms for data collection will be organized in cooperation with C/P.
The MS will be modified if some difficulties are found during the implementation. Ultimately, it is expected that the monitoring activities will contribute to the project sustainability through the establishment of user-friendly and simplified MS.

1-3-2 Output 1: Improve the operational capability of CFRI.

(1) Operations based on SOP for regional road administration by CFRI

The Project aims at encouraging CFRI to enhance its administrative operations based on the performance checklist of SOP. This checklist would contain the following factors, such as regular meeting settings, use of database framework, arrangement of development policy direction, recommendations on budget allocation plan, including DAK, and so forth. The details of SOP performance checklist will be scrutinized and established by CFRI on the basis of the results extracted from pilot projects with support of JET.

1-3-3 Output 2: Strengthen the process for formulating the road maintenance plan.

(1) Annual road maintenance plan formulated by local governments

The Project supports two pilot cities to formulate the annual road maintenance plan, including the budget information. As a monitoring tool, the checklist of the annual plan is developed, and the Project confirms whether or not the annual plan includes necessary items written in the checklist. Again, the contents of this checklist will be examined and completed by the pilot cities in cooperation with CFRI and JET.

1-3-4 Output 3: Develop the practical engineering method.

(1) Practical engineering methods for regional road maintenance

The Project aims at developing practical engineering methods through the pilot projects. The results and good practices extracted from the pilot projects shall be fed back into the engineering methods. The definition of engineering methods shall be clarified as the practical road maintenance works proceed through the pilot projects. Furthermore, the Project should identify technical issues on human resources development and enhance the practicality by incorporating the solutions into the engineering methods.

1-4 ACHIEVEMENT OF THE PROJECT PURPOSE

N/A

1-5 CHANGES OF RISKS AND ACTIONS FOR MITIGATION

1-5-1 Important Assumptions for the achievements of the Outputs

(1) Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.

Although the budget disbursement for regional road maintenance was delayed, the project activities, *per se*, were not severely affected because the pilot projects in the target cities were not carried out in FY2020.

As shown in the Table 15, moreover, the budget in Sukabumi was decreased by 47% from the original plan of FY2020 because the budget reallocation for prevention measures against COVID-19 was increased. On the other hand, the budget in Tebing Tinggi was increased by 18% from the original plan due to the additional funds from APBD (approximately Rp 3.5 billion).

Table 15 Tendency of road maintenance budget in the pilot cities (FY2019 – 2020)

As of 10th December, 2020

Pilot City	FY 2019	FY 2020 (original plan)	FY 2020 (after adjustment)
Sukabumi	Rp. 18,387,524,910	Rp. 17,885,831,130	Rp. 9,419,299,609
Tebing Tinggi	Rp. 23,856,518,000	Rp. 19,651,894,000	Rp. 23,151,814,000*

Source: Questionnaire results from Sukabumi and Tebing Tinggi Cities

(2) Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.

Although natural disasters, such as flood, landslide, etc., took place in Sukabumi and Tebing Tinggi, the project activities were not affected because the pilot projects, *per se*, were not implemented this year. Natural disasters resulted in stoppage and delay for their own road maintenance activities due to the implementation of emergency operations, though.

(3) The demarcation of regional road maintenance activities between PRIM and the Project is retained.

PRIM mainly focuses on kabupaten (regency) and the Project does on kota (city), so that the demarcation of regional road maintenance activities between the two projects is currently retained.

1-5-2 Important Assumption for the achievement of the Project Purpose

(1) The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.

It is too early to mention this condition at this moment because it is an initial stage to conduct capacity development activities for CFRI and the two pilot cities towards the achievement of the Project Purpose. Also, the dispatch of JET has been restricted due to the worldwide prevalence of COVID-19, and these activities through the pilot projects get behind on sites.

1-5-3 Important Assumption for the achievement of the Overall Goal

(1) Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.

It is too early to mention this condition at this moment because it shall be fulfilled after the termination of the Project as well as before the accomplishment of the Overall Goal which will be achieved three (3) years after the termination of the Project.

1-6 PROGRESS OF ACTIONS UNDERTAKEN BY JICA

Presently, JET has online meetings based on the WG-1 for Output 1 (operational capability of CFRI), WG-2 for Output 2 (road maintenance plan), and WG-3 for Output 3 (implementation of pilot projects) during the time when JET has not been dispatched since April 2020.

Moreover, JET has already proposed to JICA HQs for providing the C/P with new online lectures for basic courses of road maintenance, GIS, project management, etc. (Refer to the list of training). This is a good opportunity for CFRI and pilot cities to learn basic concepts and skills during the period when JET members are not able to be dispatched to Indonesia. Thus, JET is requiring JICA HQs to approve this additional operation necessary for the improvement of basic knowledge and skills before the implementation of the pilot projects in 2021.

1-7 PROGRESS OF ACTIONS UNDERTAKEN BY GOVERNMENT OF INDONESIA

N/A

1-8 PROGRESS OF ENVIRONMENTAL AND SOCIAL CONSIDERATIONS (IF APPLICABLE)

N/A

1-9 PROGRESS OF CONSIDERATIONS ON GENDER/PEACE BUILDING/POVERTY REDUCTION

N/A

1-10 OTHER REMARKABLE/CONSIDERABLE ISSUES RELATED/AFFECT TO THE PROJECT

N/A

2 DELAY OF WORK SCHEDULE AND/OR PROBLEMS (IF ANY)

2-1 DETAIL

The project activities were delayed due to the worldwide prevalence of COVID-19. Last dispatch of JET was March 2020, and JET has communicated with counterparts through online meetings since then. However, the most crucial point is that the pilot projects planned to be implemented in 2020 were suspended. Output 2 and Output 3 come to be achieved through the implementation of pilot projects. Thus, if the project activities for the Outputs were suspended, the Project Purpose and Overall Goal would not be accomplished as originally planned.

2-2 CAUSE

As mentioned above, the delay of project activities was caused because of the worldwide prevalence of COVID-19.

2-3 ACTION TO BE TAKEN

It is assumed that the Project has not been carried out for one year, i.e., from April 2020 to March 2021, so that JET proposed the extension of the same period to JICA HQs. In the "modification of the PDM" as mentioned below, revised PDM is explained on the basis of the extension period.
Also, JET plans to provide online lectures for basic courses of road maintenance, GIS, project management, etc. because JET cannot visit Indonesia to carry out project activities, especially pilot projects. It is required for C/P on sites to learn the basic skills and knowledge during this period to endure the widespread prevalence of COVID-19.

2-4 ROLES OF RESPONSIBLE PERSONS/ORGANIZATION

It is expected for JICA HQs to take actions more quickly to approve the online lectures for basic courses as proposed by JET. In addition, JET members shall prepare the teaching materials of the online lectures respectively.

3 MODIFICATION OF THE PROJECT IMPLEMENTATION PLAN

3-1 PO

N/A

3-2 OTHER MODIFICATIONS ON DETAILED IMPLEMENTATION PLAN

(1) Modification of the PDM

In order to practically and effectively utilize the PDM, the project period is supposed to be modified

as indicated in the Table 16 below.

Table 16 Modification of the PDM

Components of the PDM		Corrections
Basic Information	Project Period (in version 2-1)	Although the project period was originally established for three (3) years, JET has not been dispatched since April 2020 (perhaps until March 2021) for one year due to the worldwide prevalence of COVID-19. After the restart, it would be required to extend the implementation period for one year in order to carry out the pilot projects twice as originally planned due to the entire cancellation of the first ones in 2020.

4 PREPARATION OF GOVERNMENT OF INDONESIA TOWARD AFTER COMPLETION OF THE PROJECT

In order to achieve the Overall Goal, "to maintain regional roads in two pilot cities in a sustainable way," it is important for C/P to have the capability to sustain the project activities without relying on JET. Thus, JET recommends for C/P to acquire the basic skills and knowledge so as to continuously carry out the implementation approaches of the Project and work out solutions to problems on their own initiative. From this reason, JET proposed to JICA HQs that the Project should provide online lectures for basic courses of road maintenance, GIS, etc. for the achievement of the Overall Goal during the time when JET has not been dispatched to Indonesia.

Moreover, the implementation approaches of the Project shall be disseminated to the regional roads outside two pilot cities. Therefore, the Project shall convene the seminars to invite stakeholders and intensely communicate with them for the achievement of the Overall Goal. It is important to share the project outcomes and experiences with them even during the implementation period of the Project.

Simultaneously, the sustainability of the Project is also crucial from the aspects of government policy, implementation structure, finance, and technology for road maintenance. Those aspects shall be sought by the Indonesian side with support of JET, and JICA encourages the Indonesian side to continue the project operations even after the termination of the Project.

II. PROJECT MONITORINGT SHEET I & II

See the attached.

END

Project Monitoring Sheet I (Version 3: 29th January, 2021)

Project Design Matrix (PDM_{2-1})

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – August, 2023 (4 years[*4]) **Version No. 2-1**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure (CFRI), DGH and the local governments in the pilot areas **Date:** 29th January, 2021

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		N/A	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	N/A	–
Outputs 1. The operational capability of CFRI is improved.	1-1 The self-ratings of CFRI on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI.	1-1 Questionnaire survey to CFRI 1-2 Performance checklist based on the SOP	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	Refer to Project Monitoring Sheet (PMS) Summary	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		Refer to PMS Summary	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		Refer to PMS Summary	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

*[4]: Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched since April 2020 (perhaps until March 2021) for one year because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the implementation period for one year to mainly carry out the pilot projects which were entirely cancelled in 2020.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CFRI.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

Refer to PMS Summary

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Plan of Operations (PO)

Version 3
Date 29 January, 2021

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks	Monitoring: Issue	Monitoring: Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																								
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30			
	Actual	28		21	16																																		
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24			
	Actual	19		17																																		
PMS / Road Database	Plan	30		21			21							27			21			30					21				30			18			21	30			
	Actual	30	1	14	6		20																																
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30			
	Actual			20	1		20																																
Road Design	Plan			18			18					30			30									30				30		18						21			
	Actual			20			17																																
Road Inspection	Plan			18			30					30									21			30								21							
	Actual			19			17																																
IRI Measurement System	Plan											9									9			9								9							
	Actual																																						
Construction Supervision	Plan											30			45									30			45			30									
	Actual																																						
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18				
	Actual	19	12	20																																			
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21			
	Actual	14				17	14	11																															
Training Plan / Gender	Plan			15								15												30											15					
	Actual						15																																
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20			
	Actual	28		20																																			
Equipment																																							
Road Inspection Equipment	Plan																																						
	Actual																																						
Road Maintenance Equipment	Plan																																						
	Actual																																						
Road Management System	Plan																																						
	Actual																																						
PC and Software for Road Management System in the pilot areas	Plan																																						
	Actual																																						
Others	Plan																																						
	Actual																																						
Training in Japan and/or Third Countries																																							
Road Maintenance	Plan																																						
	Actual																																						

Activities / Sub-Activities	Year	1st Year												2nd Year												3rd Year												Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
		I			II			III			IV			I			II			III			IV			I			II			III			IV						
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8				
Output 1: The operational capability of CFRI is improved.																																						**WG-1**			
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.	Plan																																					PMS / Road Database	CFRI	Ongoing	
	Actual																																								
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.	Plan																																					PMS / Road Database	CFRI	Ongoing	
	Actual																																								
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.	Plan			△			△					△					△						△						△						△			PMS / Road Database	CFRI IRE	Ongoing	
	Actual			▲			▲				▲	▲																													
1-4 Develop the database framework of regional roads across the country.	Plan																																					PMS / Road Database	CFRI IRE	Ongoing	
	Actual																																								
1-5 Arrange the development policy direction of regional roads across the country.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																																						**WG-2**			
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI, Local gov'ts of the pilot areas (LGPA)	Ongoing/Pilot areas were selected in Feb. 2020.	
	Actual																																								
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																								
2-3 Conduct road inspections in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																								
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								

Project Monitoring Sheet II (Version 1: 30th September, 2019)

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																								
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30				
	Actual	28		21	16																																			
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24				
	Actual	19		17																																			
PMS / Road Database	Plan	30		21			21							27			21			30				21					30			18			21	30				
	Actual	30	1	14	6		20																																	
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30				
	Actual			20	1		20																																	
Road Design	Plan			18			18					30			30									30				30			18					21				
	Actual			20			17																																	
Road Inspection	Plan			18			30					30								21			30									21								
	Actual			19			17																																	
IRI Measurement System	Plan											9								9			9									9								
	Actual																																							
Construction Supervision	Plan											30			45									30			45			30									
	Actual																																							
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18				
	Actual	19	12	20																																				
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21				
	Actual	14				17	14	11																																
Training Plan / Gender	Plan			15								15												30											15					
	Actual						15																																	
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20				
	Actual	28		20																																				
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																																						WG-3		
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan																																					Road Design / CFRI LGPA	Ongoing	
	Actual																																							
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan																																					Road Design / CFRI LGPA	Ongoing	
	Actual																																							
3-3 Supervise the pilot projects in collaboration with CFRI.	Plan																																					Road Design / CFRI LGPA	N/A	
	Actual																																							
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan																																					Road Design / CFRI LGPA	N/A	
	Actual																																							
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan																																					Road Design / CFRI LGPA	Ongoing	
	Actual																																							
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan																																					Road Design / CFRI LGPA	N/A	
	Actual																																							
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan																							△												△		Road Design / CFRI LGPA	N/A	
	Actual																																							
Duration / Phasing	Plan																																							
	Actual																																							

Monitoring Plan	Year	1st Year												1												3rd Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
Monitoring																																								
Joint Coordinating Committee	Plan	△	Kickoff					△						△						△						△						△				△		Because of COVID-19, 2nd JCC was postphoned.	See the remarks.	
	Actual	▲										▲					▲																							
Set-up the Detailed Plan of Operations and Project Indicators	Plan							△																															N/A	
	Actual							▲																																	
Submission of Monitoring Sheet	Plan	△						△						△						△						△						△							N/A	
	Actual	▲						▲																																	
Monitoring Workshop	Plan							△						△						△						△						△							N/A	
	Actual					▲																																			
Reports/Documents																																								
Work Plan	Plan	△																																					N/A	
	Actual	▲																																						
Project Completion Report	Plan																																				△		N/A	
	Actual																																							
Public Relations																																								
Preparation of PR materials	Plan							■						■						■						■						■				■			N/A	
	Actual																																							

■ **To complete project activities within the solid line.**

▦ **To continuously conduct project activities during the dotted line.**

△ **To conduct meetings/seminars, execute monitoring, and prepare reports.**

Attachment-1 : List of Property Lending

Name of Project：THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

(December.2020)

Name of Property	Standard, Part Number	Quantity	Purchase Price			Date of Inspection Passed	Location	Current State	Remarks	After Completion of Project: Handover/Return
			Purchase Price	Currency	In Japanese Yen					
Laptop	DELL NB Latitude 5290 i5-8350U Win 10 Pro	4	96,240,802	IDR	718,919	2019.9.19	CFRI office	In operation		Undecided
Desktop computer	PC HP ProDesk 400G5 MT,HP Monitor V214b 20.7"LED Win 10 pro	1	19,116,000	IDR	142,797	2019.9.19	CFRI office	In operation		Undecided
Projector	HITACHI CP-EX303	1	6,903,000	IDR	51,565	2019.9.19	CFRI office	In operation		Undecided
Office furniture	Desk(2)、Chair(12)、Cabinet(2)	1	27,705,600	IDR	206,961	2019.9.9	CFRI office	In operation		Undecided
Office furniture	Whiteboard	1	2,381,000	IDR	17,786	2019.9.11	CFRI office	In operation		Undecided
Office furniture	Desk(4)	1	2,796,000	IDR	21,949	2020.1.6	CFRI office	In operation		Undecided
【Property Lent by JICA】										

KEMENTERIAN PEKERJAAN UMUM DAN PERUMAHAN RAKYAT
SEKRETARIAT JENDERAL
PUSAT FASILITASI INFRASTRUKTUR DAERAH
Jalan Pattimura Nomor 20, Kebayoran Baru, Jakarta 12110, Telepon 021-7392681, Fax. 021-7392681

NOTA DINAS

Kepada Yth.	:	Bapak Kepala Pusat Fasilitasi Infrastruktur Daerah
Dari	:	Kepala Bidang Pelaksana Dana Alokasi Khusus Jalan dan Jembatan
Perihal	:	Risalah Rapat *The Second Meeting Of Joint Coordinating Committee Of The Project For The Improvement Of Regional Roads Governance* 15 Juli 2020
Hari/Tanggal	:	Selasa, 4 Agustus 2020

Sehubungan telah dilaksanakannya *The Second Meeting Of Joint Coordinating Committee Of The Project For The Improvement Of Regional Roads Governance* pada 15 Juli 2020 Berikut kami sampaikan risalah rapat (*Minutes Of Meeting*). Oleh karena itu, kami mohon perkenan tanda tangan Bapak atas risalah rapat tersebut.

Demikian disampaikan, dan mohon arahan Bapak lebih lanjut, atas perhatian dan perkenannya diucapkan terima kasih

Kepala Bidang
Penyelenggaraan Jalan dan Jembatan

Dedy Gunawan, ST., M.Sc.
NIP. 197501312005021002

MINUTES OF MEETING

OF

THE 2nd MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 15th July, 2020

The second meeting of Joint Coordinating Committee was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda presented materials and attendance list are attached.

JICA and CFRI Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring Sheet Ver.2 & Project Indicators
3. Project Schedule under Covid-19

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the Monitoring Sheet Ver.2.
2. JCC approved the Project Indicators which are described in the updated Project Design Matrix (PDM)
3. JCC confirmed the present project implementation style and tentative schedule under COVID-19.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

15th July 2020

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

THE 2nd MEETING OF JOINT COORDINATING COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	2nd Joint Coordination Committee Meeting	**Sheet**	6 pages
Location	Online (Zoom Meeting)	**Date**	15th July 2020

Participants:	▪ *C/P members from CFRI, DGH (BINAMARGA), BAPPENAS, Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert in Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details please refer to attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		**Outline of Discussion and Conclusions**
1.0	1.1	The JCC meeting was commenced by Mr. Dedy and expressed an apology from Mr. Riono that he cannot attend this meeting because he had suddenly scheduled another meeting with the Ministry of Finance.
	1.2	Mr. Dedy informed brief information about what would be discussed at this meeting such as progress report, the things that need to be done in the future and the obstacles encountered in the field under the covid-19 situation. He also invited Mr. Honzu, Senior Representative of JICA Indonesia Office, to give an opening speech.
	1.3	Mr. Honzu gave an Opening Speech for the JCC meeting, and he stated that he just arrived in Indonesia last week. He thanked to all attendees for their attendance in this meeting and given the brief explanation about this project. He also expected that even though most of the activities of this project will be affected by COVID-19, the members must still collaborate properly to achieve the expected outcome.
2.0		***Progress Report***
	2.1	Dr. Aoki, Team Leader of this project, presented the progress report by dividing the progresses into two time period; (1) from beginning until the end of March 2020 which will be inconsistent with the Monitoring Sheet Version 2, (2) from April 2020 until 15th July, 2020, the progress under COVID-19 situation. He informed that a new project counterpart, Directorate of Technical Affairs for Road and Bridge (Bintek), was added in this project.
	2.2	Dr. Aoki informed about the modification of the project implementation plan in the Japanese side version 2 that Mr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system.
3.0		***Presentation -2: Project Monitoring Sheet Ver.2 & Project Indicators***
	3.1	Mr. Hirakawa presented the Project Monitoring Sheet version2 and project indicators. He explained current condition of modification in Project Design Matrix (PDM) version 1 and updated to PDM version 2. He informed that JICA Team will prepare the matrix and summary

Item		Text	Action
		how to monitor the system, the target values that must be achieved so that we could see the result every year.	
	3.2	The indicator 1 and indicator 2 of project purpose such as the completion status with the target >90% and self-assessment with the target >80% in both Sukabumi and Tebing Tinggi Cities have been explained. The indicator 1 and 2 of project purpose can be analysed for the strength and the weakness.	
	3.3	Mr. Hirakawa explained that the survey output for self-ratings of CFRI on their operational capabilities was 59.2% on average and the output for self-ratings of engineers and technicians at the pilot city government on their practical engineering method was 53.6% on average.	
4.0		***Presentation -3: Project Schedule under Covid-19***	
	4.1	Dr. Aoki explained the project activities from April to July 15, 2020 under COVID-19 that the tasks are being continued to achieve the target by remote work and he stated that even during COVID-19 pandemic some meetings had been held such as the 2nd TWG Meeting on June 2020 and others meetings with CFRI and MPWH Data Center.	
	4.2	The main project activities by remote work have been continued. He also stated that the project period extension due to the COVID-19 shall be discussed later, and assignment schedule of JICA Team have not been rescheduled yet. The 1st training in Japan planned in September 2020 will be postponed.	
5.0		***Discussions***	
	5.1	Mr. Dedy informed to all attendees that the Sub Directorate of Regional Road in Bina Marga as a new unit division in Ministry of Public Works and Housing who will handle the technical guidance for the local government of this project.	
	5.2	Mr. Dedy summarized the average result of questionnaire that only reaches 50% and still lack to achieve the target. He requested to Bina Marga to cooperate with CFRI to conduct the technical guidance and training to the local government. An official letter regarding this request will be submitted to the Sub Directorate of Regional Road in Bina Marga. He hoped the target value of this project not only applied in bSukabumi and Tebing Tinggi cities, but also can be applied to all cities in Indonesia.	
	5.3	Mr. Dedy asked to JICA Team to discuss about building of deterioration forecasting model that can predict the road conditions to estimate required road maintenance to formulate medium-term budget plan that will be included in the DAK in the next 5 years.	
	5.4	Mr. Dedy informed that the current situation of transportation between Jakarta and Pilot sites. Suklabumi City can still be visited by the car transportation, but when visiting the Tebing Tinggi City by airplane, it is required to comply with some administration issue and health protocol.	
	5.5	Representative of Sukabumi City stated that currently they are awaiting the arrival of JICA Team and has prepared the requested data by JICA Team,. Also Sukabumi City informed that they are conducting the road maintenance work as regular works.	
	5.6	Representative of Sukabumi City explained that the CFRI staff and Local Team of JICA may visit to Sukabumi City, and informed current condition in Sukabumi City is safe zone of COVID-19. However, the visitor still must comply with the health protocol or local policy.	

Item		Text	Action
	5.7	Mrs. Susan as the Head of Bina Marga in Tebing Tinggi City explained the condition Tebing Tinggi City under COVID-19 that Tebing Tinggi City are awaiting the arrival of JICA Team to conduct the survey, and she insisted to still comply with the health protocol and local policy during the site survey.	
	5.8	Mrs. Susan suggested to JICA Team and CFRI to choose the other site as the pilot site of this project, if possible. Also, she requested to Mr. Dedy about the possibility of Tebing Tinggi City to be given the additional budget for this project, due to the limited budget under COVID-19 condition.	
	5.9	Mr. Dedy responded that fund and budget for DAK for this year is decreasing. Thus, the local government are requested to prepare some technical data to apply for DAK funds.	
	5.10	Dr. Aoki understood the situation and happy to both cities for the response and actions. He stated the current condition that the Japanese experts cannot come to Indonesia and cannot predict also the arrival to Indonesia. However, the Japanese experts can assist by the remote work and the local team in Indonesia also can assist CFRI and both Sukabumi and Tebing Tinggi City.	
	5.11	Dr. Aoki understood the comment from Mr. Dedy about deterioration forecasting model for the road maintenance plan. Mr. Aoki proposed some option to install the deterioration model in CRMS such as CFRI will develop the common model to apply for all cities or cities government will produce the model by themselves, will install the complicated model that requires a lot of data and will install the simple model that easy to use with the actual situation. Dr. Aoki also emphasized the trade-off between system complexity and CRMS functions	
	5.12	Mr. Dedy emphasized that as long as the CRMS can predict the budget requirement in the next 5 years any method to predict deterioration will be fine and he entrust the way to the JICA Team.	
	5.13	Dr. Pantha said that technically the JICA Team can develop the deterioration model, but each city will have technical issues and he suggested to hold further meeting to discuss about this issue. Mr. Dedy agreed to arrange that meeting.	
	5.14	Mr. Cesar from BAPPENAS asked when the system development of this project is completed. Mr. Dedy responded the system development (first version) will be completed at the end of 2020.	
	5.15	Mr. Sutedjo from BAPPENAS supported and agreed on the deterioration model that model will requires a lot of data and variable, also the time series are required to develop this model. He also added for the development of this model needed more consideration if JICA Team will develop it.	
	5.16	Mr. Dedy reconfirmed to Bina Marga regarding the numbering of road segments still does not have a regular pattern and he asked help of Bina Marga to resolve this issue because this number will be as basis in the CRMS development as well.	
	5.17	Mr. Fathur from Bina Marga responded that Bina Marga Team has discussed that issues with Mr. Marsudi. Mr. Marsudi answered those issues will be needed a lot method to create the pattern of numbering so that there is no large gap between the regional and national roads. He worried between the regional and national roads that will there is a deviation because the differences of measurement class of IRI. He also proposed to JICA Team to discuss with Bina Marga about the class of IRI for measurement.	

Item		Text	Action
	5.18	Mr. Dedy responded that IRI measuring in the regional road mostly using the class 3 or 4 of IRI. He explained this project will use a new method which uses the action camera and after that will be verified. Also, IRI measurement system will be calibrated to check the sustainability with using the actual measurement.	
	5.19	Dr. Aoki clarfied that will use IRI measurement between class 2 and 3 in this project. Because class 2 is measuring the roughness of pavement directly by laser technology and class 3 can estimate the roughness by using smartphone. In this project, we will use the acceleration data that can estimate the roughness directly and later processed using data processing system which will also make the IRI with less dependent of vehicle driving speed. JICA Team also will conduct the test to calibrate the data with the actual measurement.	
	5.20	Mr. Dedy expected the Bina Marga is to be able to use the system in the field to measure IRI and train to the local government after the covid-19 is getting better.	
	5.21	Mr. Simon from Bina Marga asked whether there are any modules of CRMS related to the connectivity for the road widening, underpass, flyover, etc. where the roads in the city of metro require the mid-term planning.	
	5.22	Mr. Dedy answered and explained that the goals of this project is to develop and manage the maintenance roads in the small town and if the Bina Marga wants to develop this system, they may improve to be applied to the roads in metro city. He suggested Bina Marga to extend the cooperation contract with JICA Team.	
	5.23	Dr. Aoki explained that this project will try to develop comprehensive system to cover all situation. Even though, the first target of this project is Sukabumi and Tebing Tinggi City, JICA Team will consider the common function to be customized based on the cities condition in Indonesia.	
	5.24	Mr. Dedy expected that local government will be not only as a user but also as the developer who can modify the system in the future.	
	5.25	Mr. Honzu, senior representative of JICA, explained that the Japanese experts are still waiting the decision from Headquarters related to the schedule of this project especially the training to be held in Japan and he suggested to conduct the online training that will be flexible to implement this project smoothly in the current situation.	
	5.26	Mr. Dedy responded that training is still important in this project, but if the JICA will conduct the training online first under the COVID-19 situation it is still acceptable then after the condition is getting better the offline training could continue including training in Japan.	
	5.27	Mr. Ikeda from JICA Bina Marga informed that he has some experienced of maintenance road of local government. He has some idea to improve this project and will discuss with JICA Team directly. Dr. Aoki will contact Ikeda san to discuss further for this project.	

Minutes of Explanation of Pilot Selection and Pilot Project Meeting	Japan International Cooperation Agency	Ministry of Public Works and Housing

Item		Text	Action
6.0		***Others***	
	6.1	Mr. Dedy asked the next schedule of TWG Meeting and Dr. Aoki responded him that hewill inform the detail for next schedule of this project later. Dr. Pantha proposed to local government if there are things to be conveyed and discussed, they can contact directly to JICA Team or can propose for technical meeting.	
7.0		***Closing Remark***	
	7.1	Mr. Dedy closed the meeting by thanking to all attendees. He waited for the next TWG and JCC Meeting.	

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 15th July 2020

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Dedy Gunawan	CFRI		
2	Taufik	CFRI		
3	Saddam Amin			
4	Fathurrahman	Bina Marga / Directorate General of Highways		
5	J Sutedjo	Bappenas / National Development Planning Agency		
6	Kazuya Aoki	JICA Team		
7	Ryusuke Kaneko	JICA Team		
8	Bhoj Raj Phanta	JICA Team		
9	Akram Yolanda	CFRI		
10	Masafumi Yamauchi	JICA Team		
11	Takaaki Hirakawa	JICA Team		
12	Juneichiro Ikeda	JICA Indonesia		
13	Takeo Sugimoto	JICA Team		
14	Eiji Noguchi	JICA Team		
15	Junichi Oshima	JICA Team		
16	Hiroshi Ueda	JICA Team		
17	Luzmi Malia Izza	JICA Team		
18	Wieby Wiguna W.	JICA Team		
19	Mei Lia	JICA Team		
20	Sinta	CFRI		

21	Shunji Hata	JICA Team		
22	Ishii	Reprepsentative of JICA		
23	Frandi	CFRI		
24	Simon	Dit. SSPJ, Bina Marga / Directorate General of Highways		
25	Pudji	Bappenas / National Development Planning Agency		
26	Cesar	Bappenas / National Development Planning Agency		
27	Yusuf Amir	CFRI		
28	Dewi Idhayani	Representative of JICA Indonesia		
29	Honzu	Representative of JICA		
30	Toni	Bappenas / National Development Planning Agency		
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DAFTAR HADIR RAPAT

Hari/Tanggal : RABU / 15 JULY 2020
Agenda : SCC MEETING
Tempat : BINA MARGA KOTA TEBING TINGGI

No.	Nama	Jabatan	No.Hp	Tanda Tangan
1.	RUSMIATY HARAHAP, ST	[redacted]		
2.	REZA AGHISTA, ST			
3.	Zaimah., ST.			
4.	SALMON F., ST			
5.	CHARLES., ST			
6.	Adolf Bastian Silaban, ST.			
7.	Zulkarnain, ST.			
8.	M. ARIF NUGRAHA, ST			

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMITEE MEETING (JCC)

Date & Time: Wednesday, 15th July 2020

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	ABDUL RAHMAN	[redacted]		
2	Lutfi Arif			
3	ALVIAN SANI			
4	Rika Sulaeman			
5	Adi Chandra			
6	Tuti Astuti			
7	Irfan			
8	Dadang Dimyati			
9	Sudrajat			
10	Wawan Sawarni			
11	Cucu Juanda			
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Annex 1: Monitoring System (M/S) for the PIRRG from FY 2019 to FY 2023 **Ver. 1-1 (as of 31/12/2020)**

Components of the PDM			Monitoring Method			Target Value		Achievements of Each Financial Year				
Narrative Summary	Indicators	Means of Verification	Person/Organization in Charge	Frequency	Remarks	Baseline	Target Value*[1]	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023 (by July)
Overall Goal: **Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.**	(1) The lengths (km) of road inspections and repairs in the pilot areas are respectively increased.	(1) Database record developed by the Project	Engineer, Center of Facilitation for Regional Infrastructure (CFRI)	Annually (From the data of Year 2019)	The target lengths (km) will be established by the 1st Quarter of 2022.	Kota Sukabumi Insp: XXX km Rep. XXX km (in 2021)	Kota Sukabumi **Insp: YYY km** **Rep. YYY km** **(in 2026)**	Kota Sukabumi Insp: 68.8 km Rep. 24.6 km	Kota Sukabumi Insp: XXX km Rep. XXX km	Kota Sukabumi Insp: XXX km Rep. XXX km	Kota Sukabumi Insp: XXX km Rep. XXX km	Kota Sukabumi Insp: XXX km Rep. XXX km
						Kota Tebing Tinggi Insp: XXX km Rep. XXX km (in 2021)	Kota Tebing Tinggi **Insp: YYY km** **Rep. YYY km** **(in 2026)**	Kota Tebing Tinggi Insp: 55.8 km Rep. 22.3 km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km
	(2) The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	(2) Checklist of the annual road maintenance plan and of the practical engineering method	Head of Division for Road and Bridge Administration, CFRI	Annually (From the data of Year 2021)	The target value will be established by the 1st Quarter of 2022.	XXX areas (in 2021)	**YYY areas** **(in 2026)**	N/A	N/A	XXX areas	XXX areas	XXX areas
Project Purpose: **Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.**	(1) The self-assessment of all the regional road maintenance projects exceeds 80% on average in the pilot areas with the completion rate of more than 90% for the maintenance projects indicated in the annual road maintenance plan.	(1) Annual reports prepared by the local governments in the pilot areas	Head of Sub-division for M&E, CFRI	Annually		Completion status		Completion status				
						Kota Sukabumi 88.9 % (in 2019)	**90.0 %** **(in 2023)**	Kota Sukabumi 88.9%	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %
						Kota Tebing Tinggi 94.5 % (in 2019)		Kota Tebing Tinggi 94.5%	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %
						Self-assessment		Self-assessment				
						Kota Sukabumi 61.1 % (in 2019)	**80.0 %** **(in 2023)**	Kota Sukabumi 61.1%	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %	Kota Sukabumi XX.X %
						Kota Tebing Tinggi 62.0 % (in 2019)		Kota Tebing Tinggi 62.0%	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %	Kota Tebing Tinggi XX.X %
	(2) The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed XX% on average.	(2) Questionnaire survey to the local governments in the pilot areas (Refer to ***Form 1***)	Engineer, CFRI	Annually		51.9 % (Mar. 2020)	**70.0 %** **(July 2023)**	–	51.9% (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)
Output 1: **The operational capability of CFRI is improved.**	(1) The self-ratings of CFRI on their operational capabilities exceed XX% on average.	(1) Questionnaire survey to CFRI (Refer to ***Form 2***)	Engineer, CFRI	Annually		59.2 % (Mar. 2020)	**80.0 %** **(July 2023)**	–	59.2% (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)
	(2) The operations based on the SOP for regional road administration are executed by CFRI.	(2) Performance checklist based on the SOP (Refer to ***Form 3***)	Engineer, CFRI	Semi-annually	Starting from the middle of the Project with the draft SOP (around the 1st Quarter of 2022).	N/A	CFRI properly executes regional road administration based on the performance checklist for the SOP (Form 3).	N/A	N/A	N/A	XXX (in Mar.) XXX (in Sep.)	XXX (in Mar.) XXX (in July)
Output 2: **The process for formulating the regional road maintenance plans is strengthened in the pilot areas.**	(1) The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist.	(1) Checklist for formulating the annual road maintenance plan (Refer to ***Form 4***)	Engineer, CFRI	Annually	The checklist is prepared before August 2021.	N/A	The annual road maintenance plan contains all necessary items based on the checklist (Form 4).	N/A	N/A	N/A	XXX (in Jan.)	XXX (in Jan.)
	(2) Database is properly operated and managed by the local governments in the pilot areas.	(2) Project Monitoring Sheet	Engineer, CFRI	Semi-annually	Starting from June 2022 after the completion of the database development.	N/A	Local governments properly operate and manage the database fulfilling the requirements set by the Project.	N/A	N/A	XXX (in June) XXX (in Dec.)	XXX (in June) XXX (in Dec.)	XXX (in July)

Components of the PDM			Monitoring Method			Target Value		Achievements of Each Financial Year				
Narrative Summary	Indicators	Means of Verification	Person/Organization in Charge	Frequency	Remarks	Baseline	Target Value*[1]	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023 (by July)
Output 3: **The practical engineering method of regional road maintenance is developed through the pilot projects.**	(1) The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed XX% on average.	(1) Questionnaire survey to the engineers and technicians at the local governments (Refer to ***Form 5***)	Engineer, CFRI	Annually		53.6 % (Mar. 2020)	**75.0 %** **(July 2023)**	–	53.6% (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)	XX.X % (in Mar.)
	(2) Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	(2) Documents prepared in the Activity 3-4	Engineer, CFRI	Annually	After the pilot projects, the Project verifies practical engineering methods in November 2021 and 2022.	N/A	Lessons learned, good/bad practices, etc. for practical engineering methods are extracted from the pilot projects.	N/A	N/A	XXX (in Nov.)	XXX (in Nov.)	N/A

NOTE:

*[1]: Target values are subject to the modification through further examinations and discussions in the future.

TO CR of JICA Indonesia OFFICE

PROJECT MONITORING SHEET

Project Title: The Project for the Improvement of Regional Roads Governance
Version of the Sheet: Ver. 4

Name: Kazuya Aoki
Title: Team Leader
Submission Date: 15th February 2022

I. SUMMARY

1 PROGRESS

1-1 PROGRESS OF INPUTS

1-1-1 Indonesia Side

(1) Personnel

Project Director (PD) and Project Manager (PM) were identified under Record of Discussion (hereinafter to be called as "R/D") and assigned in September 2019. The rest of counterpart personnel was selected through the progress of the Project. In September 2019, 9 personnel for three Working Groups (hereinafter referred to as "WG") have been assigned (3 personnel for each WG) from the Center of Facilitation for Regional Infrastructure (hereinafter referred to as "CFRI"). Other related departments of the Ministry of Public Works and Housing (hereinafter referred to as "MPWH"), such as Department General of Highway (hereinafter referred to as "DGH"), Center for Data and Information Technology and Institute of Road Engineering (IRE) have assigned their officials as representatives of their respective divisions. Further 16 personnel from pilot cities (6 personnel from Sukabumi City and 10 personnel from Tebing Tinggi City) are assigned in February 2020. BAPPENAS has also been assigning their officials as member of JCC and WG in all meetings.

Table 1 Main Counterparts

Title	Name	Organization/Position
Project Director	Krisno Yuwono	Head of CFRI
Project Manager	Sari Satria Dwipayana	Head of Division for Road and Bridge DAK Provision, CFRI
Leader of WG-1	Bapak Amiruddin Yusuf	Engineer, Road and Bridge Administration Division, CFRI
Leader of WG-2	Bapak Muhamad	Head of Subdivision for Monitoring, Evaluation and

	Taufik	Reporting, Road & Bridge Administration Division, CFRI
Leader of WG-3	Bapak Muhammad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CFRI

(2) Provision of the project office and facilities necessary for the project implementation
Project office space has been allocated in the building of CFRI office.

(3) Expenses for the pilot projects executed by the local governments in the pilot areas
As the pilot projects are not currently scheduled for implementation due to the outbreak of COVID-19, it is too early to indicate this information at this moment.

(4) Administrative and operational expenses necessary for the project implementation
Expenses agreed at R/D has been secured and handled by the Indonesia side.

1-1-2 Japanese Side

(1) Experts
In accordance with the amended contract agreed in August 2019 between JICA and JICA Expert Team (JET), the experts have been assigned. After that, Dr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system in February 2020, then the number of experts has increased into a total 12 experts.
And Ms. Ono, the expert in charge of Training Plan / Gender , has been changed to Ms. Tanaka in May 2021.
Experts have been assigned since September 1, 2019, and at the end of January 2022, all experts have been assigned for a total of 16.47 Man/Month (hereinafter to be called as "MM") out of the Project total assignment of 63.0 MM (assignment in Indonesia only). Since April 2020, there are no assignments in Indonesia due to the outbreak of COVID-19. However, during that period, JET has continued activities by online remote work from Japan. In the monitoring sheet version 3, the total assignment in Indonesia was described as 68MM, however, since a part of activities were converted to remote work from Japan, the current number of assignments is 63MM. The details are given in the Project Monitoring Sheet II (PO).

Table 2 Dispatched Experts

Experts	Position	Total (MM)
Kazuya Aoki	Team Leader / Road Maintenance 1	2.77 MM
Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2	1.2 MM
Bhoj Raj Pantha	PMS/Road Database	2.4 MM
Shunji Hata	Road Maintenance Plan	1.4 MM
Eiji Noguchi	Road Design	1.23 MM
Takeo Sugimoto	Road Inspection	1.2 MM
Kazuya Tomiyama	IRI measurement system	0.0 MM
Hiroshi Ueda	Construction Supervision	0.0 MM
Junichi Oshima	PMS/Road Management System 1	1.7 MM
Takaaki Hirakawa	Organization Management / Project Monitoring	2.47 MM

Naoko Ono / Mana Tanaka	Training Plan / Gender	0.5 MM
Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator	1.6 MM
Total (by end of December, 2020)		16.47 MM

(2) Training of counterpart personnel in Japan and/or the Third Countries

Under the Project, two times training in Japan are planned, and the first training in Japan was scheduled to be conducted in September 2020 tentatively. However, the timing of the first training in Japan is undecided so far due to the outbreak of COVID-19.

(3) Provision of Equipment

At the 1st Joint Coordination Committee meeting (hereinafter called as "JCC") held on September 24, 2019, specification of procurement equipment was approved by the counterparts. The furniture (desks and chairs) for the project office were installed by JET. The details of provided equipment are given in the Attachment-1.

(4) Local expenses for the project activities as necessary

Local expense has been utilized mainly for consultant cost, office equipment, so far.

1-2 PROGRESS OF ACTIVITIES

Project activities to achieve the project purpose under Work Plan were agreed at the 1st JCC. Project activities described in Project Monitoring Sheet I (Project Design Matrix: PDM) summarized in the Table 3 shown below. Progress of each activity is described accordingly in the sections that follow.

Table 3 Outline of Project Activities

Outputs	Activity No.	Activities
Common Activities to All Outputs	0-1	Development and Discussion of the Work Plan and the Monitoring Sheet
	0-2	Setting PDM Indicators
	0-3	Holding Joint Coordination Committee (JCC) Meetings
	0-4	Conducting the Training in Japan
	0-5	Drafting the Project Completion Report
Outputs 1: The operational capability of CFRI is improved.	1-1	Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
	1-2	Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
	1-3	Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
	1-4	Develop the database framework of regional roads across the country.

	1-5	Arrange the development policy direction of regional roads across the country.
	1-6	Prepare the proposal of budget allocation plan for regional road maintenance.
	1-7	Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
	1-8	Convene the region-wide seminars for the other local governments outside the pilot areas.
Outputs 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1	Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
	2-2	Confirm the current status and issues of regional road maintenance in the pilot areas.
	2-3	Conduct road inspections in the pilot areas.
	2-4	Develop the database of regional road maintenance in the pilot areas.
	2-5	Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
	2-6	Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
	2-7	Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
	2-8	Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.
Outputs 3: The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1	Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
	3-2	Assist the local governments in the pilot areas to execute pilot projects.
	3-3	Supervise the pilot projects in collaboration with CFRI.
	3-4	Analyze and document the results of the pilot projects, including safety and management aspects.
	3-5	Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
	3-6	Identify the technical issues on human resources development in the local governments of the pilot areas.
	3-7	Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

1-2-1 Common Activities to All Outputs

[0-3] Holding Joint Coordination Committee (JCC) Meetings

Outline of JCC is summarized in Table 4. Member of JCC was set as agreed at R/D and assigned in September 2019.

Table 4 Outline of JCC

Chair	Head of the Center of Facilitation for Regional Infrastructure
Meeting Frequency	About every 6 months In principle, meetings are held to discuss the Work Plan and the interim progress reports and the final report.
Roles	▪ Discussion and approval on the annual work plan of the Project ▪ Assessment of the situation regarding achievement and progress of the annual work

	plan of the Project ▪ Investigation and exchange of opinions on issues in the Project implementation process ▪ Facilitate to overcome any critical issues (if occur) during the Project implementation
Members	**Indonesia** ▪ Head of the Center of Facilitation for Regional Infrastructure ▪ Director of Road Network Development, DGH ▪ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure ▪ Head of Division Land and Road Transportation, BAPPENAS ▪ Deputy Director of Planning Integration and Network System, DGH ▪ Deputy Director of Data Analysis and System Development, DGH ▪ Head of Division, Programming and Evaluation, Institute of Road Engineering ▪ Others **Japan** ▪ The Japanese Embassy in Indonesia ▪ JICA Indonesia Office ▪ JICA Expert Team Members, etc.

(1) 2nd JCC

The 2nd JCC was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the CFRI, with total of 30 participants. In the 2nd JCC meeting, the Monitoring Sheet Ver.2 and the Project Indicators which are described in the updated PDM were approved. The minute of JCC meeting is attached (Attachment-2).

(2) 3rd JCC

The 3rd JCC was held on 20th January 2021.

[0-4] Conducting the Training in Japan

The timing of the first training in Japan is undecided so far due to the outbreak of COVID-19.

[0-5] Drafting the Project Completion Report

Project Completion Report (PCR) is planned to be submitted in August 2023.

1-2-2 Activities for Output 1

[1-3] Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.

(1) 2nd Technical Working Group (TWG) was held on 24th July 2020 to discuss technical issues of system development. All member of TWG and officials from JICA Indonesia office participated the meeting.

(2) WG-2 meeting was held on 19th August 2020 to confirm Road Inspection, Road Inventory and Road Maintenance Workflow related information

Table 5 List of Meetings Organized

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants
1	1st Technical Meeting (Kick-off Meeting)	Outline of the Project / Technical Working Group (TWG) /Project Monitoring & Baseline Survey	CFRI Office	18th September, 2019	CFRI members
2	Explanation of Pilot Selection and Pilot Project Meeting	Outline of Project / Explanation of Pilot Project / Explanation of Criteria and Procedure for Selection	Jakarta	14th November, 2019	9 candidates cities and CFRI In total of 23
3	1st TWG	Specification of all systems (CRMS, DPD-IRI and VIS) and database framework	CFRI Office	29th November, 2019	CFRI, Data Center in MPWH, DGH, IRI and BAPPENAS In total of 29
4	1st WG-1 Meeting	Confirmation of information related to Activity 1-1 and 1-2	CFRI Office	11th December, 2019	CFRI Member of CFRI (Mr. Yussf and Yolanda)
5	1st Workshop in Sukabumi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Sukabumi	10 February, 2020	Deputy mayor of Sukabumi City, City staff and CFRI In total of 46
6	2nd Technical Meeting with Sukabumi City	Confirmation of various answers on questionnaire	Sukabumi	11th February, 2020	Key staff of BINAMARGA
7	1st Workshop in Tebing Tinggi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Tebing Tinggi	17th February, 2020	Mayor of Tebing Tinggi City, City staff and CFRI In total of 36
8	3rd Technical Meeting with Tebing Tinggi City	Confirmation of various answers on questionnaire	Tebing Tinggi	17th February, 2020	Key staff of BINAMARGA

9	2nd WG-1 Meeting	Confirmation of Budget Making Process	CFRI Office	20th February, 2020	WG member of CFRI
10	2nd TWG	Technical specifications and development schedule of all systems, and system integration concept with other applications	Online	24th June, 2020	CFRI, Sukabumi, Tebing Tingi and DGH In total of 45
11	1st WG-2 Meeting	Confirmation of Road Maintenance Activities and Road Inventory Data	Online	19th August, 2020	WG-2 Member from all stakeholders
12	3rd WG-1 Meeting	Discussion of the deterioration forecasting model in CRMS	Online	25th September, 2020	WG-1 member from CFRI, DGH, BAPPENAS and Pilot Two Cities
13	1st WG-3 Meeting	Confirmation of issues related to the Pilot Project including material procurement and future plan	Online	9th October, 2020	WG-3 member from CFRI, DGH, BAPPENAS and Pilot Two Cities
14	2nd WG-2 Meeting with Sukabumi	Confirmation of the procedures of budget and road maintenance plan in Sukabumi city	Online	9th November, 2020	WG-2 member from Sukabumi
15	3rd WG-2 Meeting with Tebing Tinggi	Confirmation of the procedures of budget and road maintenance plan in Tebing Tinggi	Online	26th November, 2020	WG-2 member from Tebing Tinggi

[1-4] Develop the database framework of regional roads across the country.

Database framework was prepared and discussed with WG-1 member in September and November, 2020. The draft database framework, outline of City Road Management System (CRMS), Road Inspection System (IRI measurement system and data processing system for IRI value calculation, and visual inspection system) were discussed in the 1st TWG held on November 29, 2019 and agreed on the database framework and outline design of respective system.

The Project has been developing a comprehensive City Road Management System (CRMS), and the data needed for CRMS will be collected, processed and verified by two sub-systems, namely Visual Inspection System (VIS) and Data Processing System for IRI Value Calculation (DPS-IRI), which are also to be developed under the Project. CRMS will comprise of three systems as shown below.

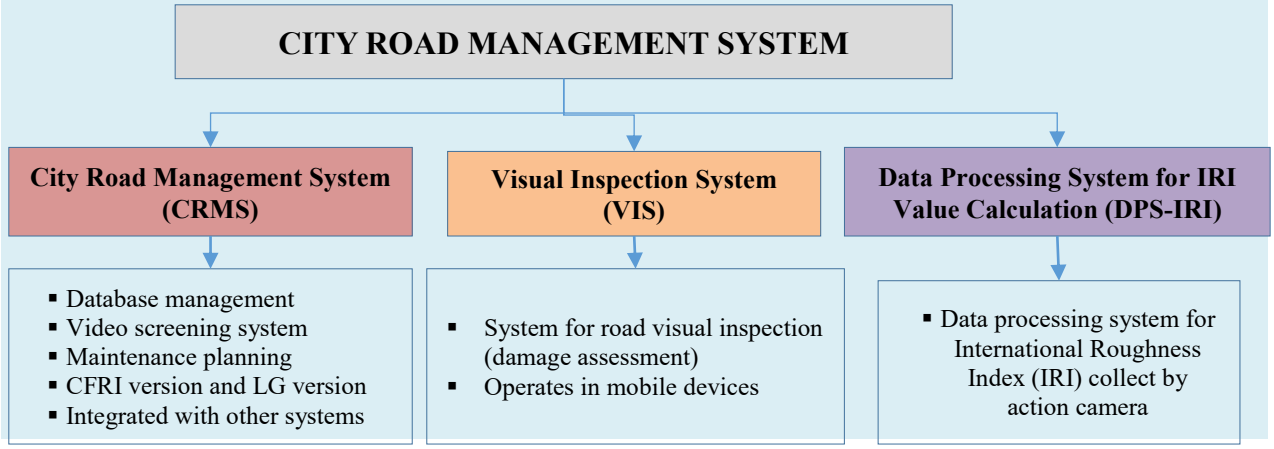


Figure 1 Component of City Road management System

The outline of activities and functions of CRMS, VIS and DPS-IRI are summarized in the following sections.

(1) City Road Management System (CRMS)

The specification of CRMS was discussed and confirmed with counterpart member at 1st TWG Meeting held of 29 November 2019. JET presented preliminary design of the system interface also. Indonesian counterparts have strongly requested to design the system as simple as possible considering the technical capability of city officials and sustainability of the system.

The final version of system specification (TOR) was prepared taking concerns of counterpart members into consideration. The outline design of CRMS was also discussed with some IT companies to ensure that CRMS can be developed by local IT companies. The following functions are included in the CRMS design.

Table 6 Functions Planned in CRMS

CRMS Functions (CFRI Version)	CRMS Function (Local Government Version)
1. Data Management • Data input, Data Importation from Local Governments, Integration, Output, etc.	1. Data Management • Data Input (Data from Road Inventories, Road Assets, Inspections, Traffic Volume, and Repairs)
2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists	2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists
3. Assessment and Analysis • Benchmarking Assessment, Pavement Performance Comparison	3. Assessment & Analysis • Assessment of Pavement Deterioration Performance, Setting of Priorities for Repairs

4. Budget Allocation Planning • Setting of Conditions, Simulation of Budget Allocation Plans	4. Formulation of Maintenance Plan • Supporting the Formulation of Annual, Mid- and Long-term Budget Plans for Local Level
5. Reporting • Prepare Report as Necessary	5. Reporting • Prepare Report as Necessary

The overall structure of CRMS is shown in Figure 2.

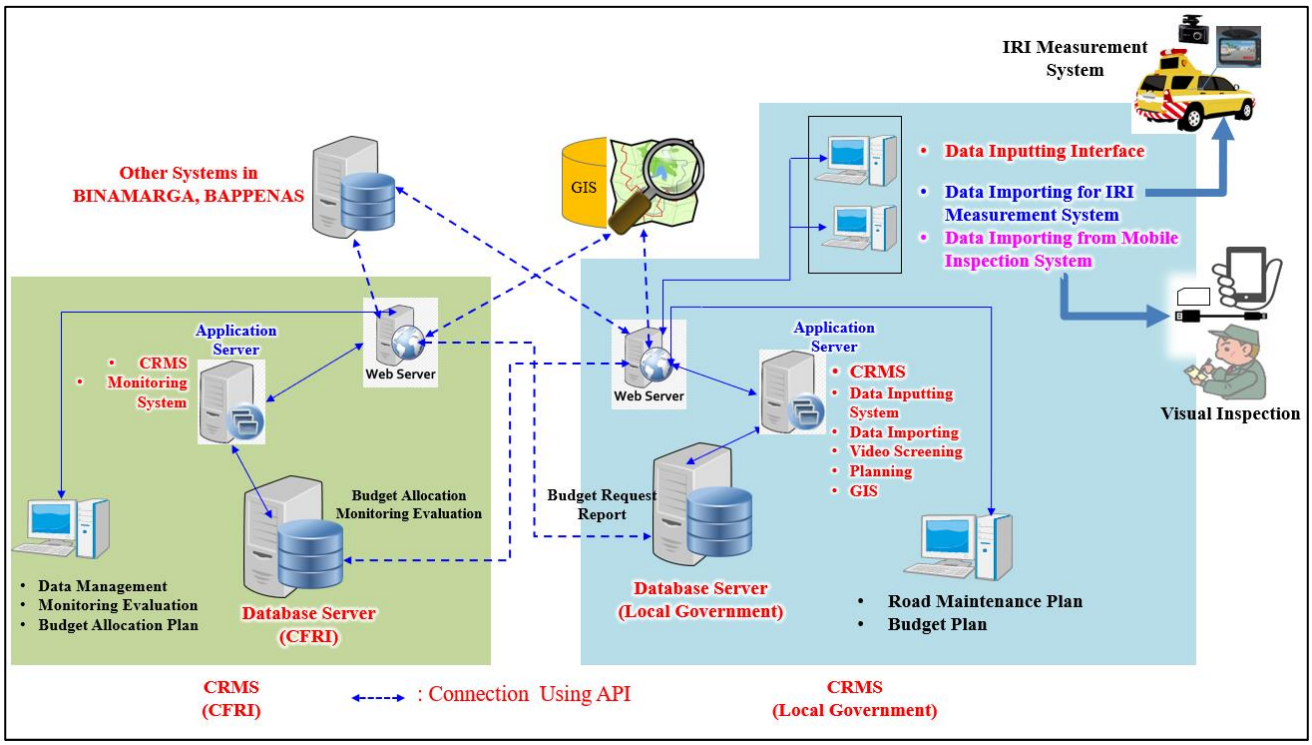


Figure 2 Overall Structure of CRMS

CRMS consists of the following modules:

Table 7 CRMS Modules

SN	Module Name	SN.	Module Name
1.	Data Inputting Module	7.	Project Formulation and Contract Packaging Module
2.	Road Inspection Module	8.	Reporting Module
3.	Map Module	9.	Documents Module
4.	Road Video Screening Module	10.	Human Resource Management Module
5.	Data Monitoring and Analysis Module	11.	System Integration Module
6.	Maintenance Planning Module		

Local IT Consultant (System Developer) was selected from the competitive bidding and started system development work from May 2020.

System Developer together with JICA Project Team has confirmed MPWH IT policy while designing the

system. System developer has already submitted draft detailed design report and system mock design. The following table shows the overall status of CRMS development.

Table 8 Status of CRMS development

SN.	Process	Status	Remarks
1	Review of current status of database and management system in CFRI and Cities	Completed	
2	Preparation of CRMS TOR	Completed	
3	Preparation of Bidding Document and Bidding	Completed	
4	Draft Detailed Design Report	Completed	
5	Development of Prototype of System	Ongoing	
6	System Development	Ongoing	
7	System Test	yet to start	
8	Implementation of OJT	yet to start	
9	Start System Operation	yet to start	
10	Formulation of Maintenance Plans	Yet to start	

(2) Visual Inspection System (VIS)

Prior to the VIS system development, the JET discussed and drafted the VIS development specification. The development of VIS to support the implementation of Visual Inspection and Field Verification is a key activity of the Project, especially for on-site data collection. Inspection data recorded on-site is stored in CRMS. Therefore, when designing and developing VIS, the data compatibility between VIS and CRMS must be considered. The VIS design includes the following functions and requirements.

Table 9 Function/Requirements of VIS

No.	Function/Requirements	Remarks
1	Display current location of the user by GPS function of the device.	
2	Import & Display on the map for Inspection results	Vehicle Inspection (IRI values) / Screening Survey results / Visual Inspection (Road, Facility) / Field Verification / Common Inventory Data
3	Input & Record & Export for Inspection results	Visual Inspection (Road, Facility) / Field Verification
4	Take & Record photos with location information of the damage point	XY coordinate

5	Register & Display the area where the Inspection was completed on site	

The outline of VIS is shown in Figure 3.

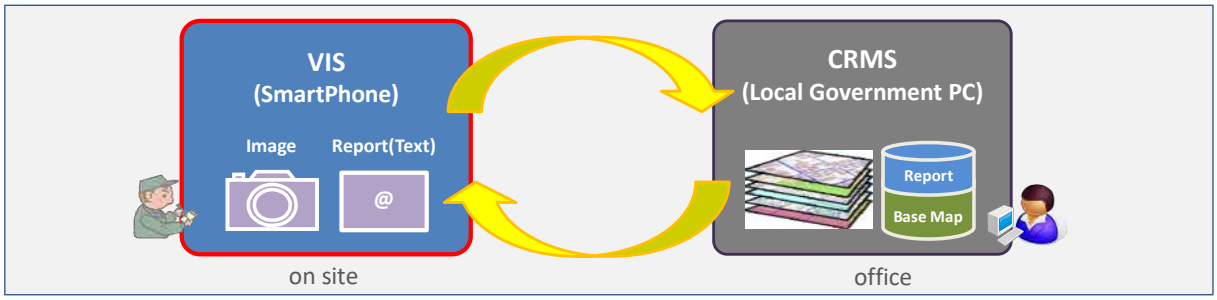


Figure 3 Outline of VIS

Based on the system requirements and several technical discussions to define the System configuration, Functions, Database definition, Compatibility and Data transfer with CRMS, etc., detailed system design document of VIS has been created by the local IT Company. Further discussions are needed to finalize it. Parallelly, actual performance of the system functions has been confirmed on the basis of the prototype system. The findings in the prototype confirmation will be revised and updated in the finalization of the detailed system design.

Table 10 Current progress of VIS development

No.	Process	Status	Remarks
1	Review of current Inspection Practice	Completed	
2	Preparation of TOR	Completed	
3	Preparation of Bidding Document and Bidding	Completed	
4	Draft Detailed Design Report	Completed	
5	Development of Prototype of System	Completed	
6	System Development	ongoing	
7	System Test	yet to start	
8	Implementation of OJT	yet to start	
9	Start System Operation	yet to start	

(3) Data Processing System for IRI Value Calculation

Prior to the system development of the Data Processing System for IRI Value Calculation (DPS-IRI), draft

system specifications for the system functions, processes, and data formats were organized, based on action-camera test measurement and system requirements discussion by the JST.

Table 11 Function/Requirements of DPS-IRI

No.	Function/Requirements	Type	Remarks
1	Import Video data and G-metrix	Import/Export	Video data (mp4 format) G-metrix (fit format)
2	Display GPS location and Video viewer, Image viewer	Display	
3	Convert Video to series of Images at time interval	Conversion	
4	Overlay and make a link between G-metrix and series of Images	Analysis	G-metrix (XY, Acceleration, Time)
5	Processing module for IRI value calculation	Analysis	
6	Display Base map and processed data	Map/GIS	Open source GIS and base map data
7	Convert "XY to Point" and "Point to Line"	Map/GIS	
8	IRI value shall be added as attribute information of the Line data	Map/GIS	
9	Perform Geospatial analysis, GIS processing, data editing	Map/GIS	
10	Define and change parameter values in parameter settings	Setting	such as interval value used in processing

Table 12 Current progress of DPS-IRI development

No.	Process	Status	Remarks
1	Review of current Inspection Practice	Completed	
2	Preparation of TOR	Completed	
3	Preparation of Bidding Document and Bidding	Completed	
4	Draft Detailed Design Report	Completed	
5	Development of Prototype of System	Completed	
6	System Development	ongoing	
7	System Test	yet to start	
8	Implementation of OJT	yet to start	
9	Start System Operation	yet to start	

1-2-3 Activities for Output 2

[2-3] Implementation of road inspections in the pilot areas

2-3-1 Road Inspection Work

(1) Review of the current situation

JET reviewed the collected information and answers to the questionnaire based on the detailed survey, in order to perform and further improve the activities of Road inspection through OJT, IRI measurement specification, DPS (Data Processing System for IRI) and VIS (Visual Inspection mobile System) development in a realistic condition.

(2) WG-2 meeting

In the WG-2 meeting (Online) held on 19th August 2020, the reviews of the road inspection work of 2 cities were confirmed and discussed to make clear understanding. JET will ask each city with additional questionnaire for more detail information to be confirmed, and additional online discussions will be held.

Table 13 Current situation of Road inspection work

Items	Sukabumi	Tebing Tinggi	Confirmed by Discussion
Vehicle for Inspection (to define calibration of IRI measurement vehicle)	Periodic: Contractor's vehicle Daily/Emergency	Periodic: Pick Up (Toyota) 1 unit Daily/Emergency	No specific vehicle
Details of Periodic Inspection	• 1 time/year • 115.744 km/year • October – December (3 months) • For Maintenance & Budget planning • **Outsourcing** • IRI measure/ Visual (pavement) • Using paper, excel, and pictures	• 1 time/year • 223.05 km/year • 3months every year • For Maintenance planning • **Outsourcing** • Visual IRI calculation • Using paper, excel, and pictures	It has been confirmed that some cities can conduct road inspection only one time in a year due to the limited budget, and the other several local cities can do two times a year. It is stated that 2 times in a year according to the Regulation ("Regulation of the Minister of Public Works. Number 13/PRT/M/2011. Regarding procedures for Road maintenance and inspection").
Details of Routine/Daily Inspection	• 1 – 2 times/week • Visual/by Bina Marga staff • Safety patrol & Damage • Pavement & Road Facilities	• Daily • Visual/by Bina Marga staff • Safety patrol & Damage >>once a week and situational • Pavement & Road Facilities >>Routine work	Most of the local cities will have the budget for road inspection after March, and the local cities always conduct the road patrol survey every day. In Sukabumi City, due to the limited budget and the lack of human resources, the road inspection work is conducted when there is any complaint or report from community.

Damage type	Pothole/Crack/Rutting /Raveling/Softground/ Corrugation/Bleeding	Pothole/Crack/Rutting /Raveling	
IRI measurement	Using visual method	using visual inspection by Bina Marga Tebing Tinggi	Based on visual inspection using paper, photo, motorbike and vehicle. And there is no specific equipment used.

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

Table 14 Current situation of Road facility management

Facility Name	Management Department		Confirmed by Discussion
	Sukabumi	**Tebing Tinggi**	
Carriageway	Bina Marga	Bina Marga	Road facility management is conducted by each department. The facility information also such as inventory and damages, repair, shall be gathered by each role, then be aggregated. Road facility inspection is performed depends on needs and report from community.
Median	Bina Marga	Human Settlement Office	
Shoulder	Bina Marga	Bina Marga	
Side Drain	Bina Marga	Bina Marga	
Footpath/Sidewalk	Bina Marga	Human Settlement Office	
Street Lighting	Traffic Safety and Road Equipment Division	Human Settlement Office	
Traffic Light	Traffic Safety and Road Equipment Division	Transportation Office	
Culvert	Bina Marga	Bina Marga	
Service Lane	No Existence	No Existence	
Bus Stop	Transportation Office	Transportation Office	
Motorcycle Lane	No Existence	No Existence	
Bicycle Lane	Transportation Office	Transportation Office	
Guard Rail	Traffic Safety and Road Equipment Division	Transportation Office	
Others			

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

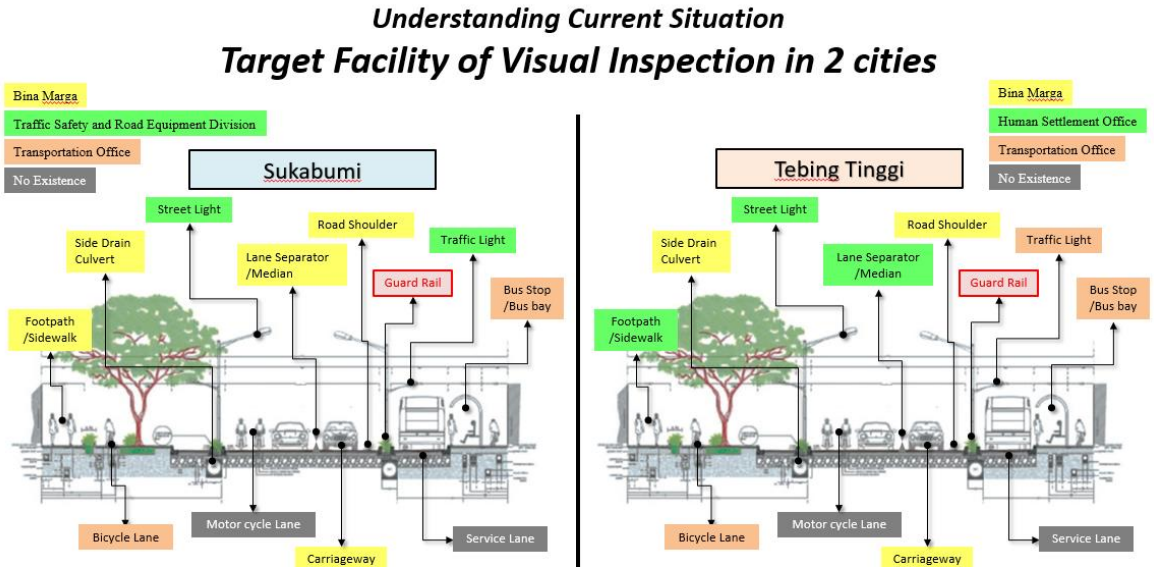


Figure 4 Current situation of Road facility management

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

2-3-2 IRI Measurement

(1) Creating IRI measurement specification

The method of obtaining IRI value is to mount action-camera with sensor that can acquire acceleration information on the vehicle, calculate IRI value from the acquired acceleration information. First of all, IRI measurement procedure has been considered and prepared a measurement procedure document (draft-manual), such as the mounting position of the action-camera on the vehicle, capturing settings, driving speed, weather condition, and other notes for measurement.

The next step will be based on this draft-manual, and test measurement will be carried out in Japan or in 2 cities to verify the influence on the IRI value depending on the vehicle type or driving conditions (speed, lane, weather, etc.). The results of this verification will be used for implementation in actual work and developing the IRI value calculation module.

(2) Test driving for IRI value calculation module

In order to associate relationship between road surfaces and vehicle vibrations in the IRI value calculation module, test measurement under the standard road condition was carried out in Japan. The test measurement compared the survey data of between vehicle vibration measurement using in-vehicle action-camera and flatness of road surface by actual levelling survey. The result of the comparison will be used to define the calculation logic and calibration in the development of the IRI value calculation module.

[2-5] Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI

(1) Technical meeting

The first technical meeting with official of Sukabumi city and Tebing Tinggi city were held in February 10 and 11, 2020 in Sukabumi and February 17 and 18 in Tebing Tinggi. All relevant officials of each city participated in the meeting and shared the road maintenance information based on the questionnaire which has been prepared by JET.

(2) Presentation in the technical meeting at Sukabumi city and Tebing Tinggi city

Road Maintenance and Management Procedure and Practices was presented in February 17 and 18, 2020 in Tebing Tingging by JET for the better understanding of the JICA project activity, which includes (a) Basic policy of Road Maintenance, (b) Review of Road Maintenance in Indonesia, (c) Practice of Road Maintenance in Japan, and (d) Output and Activities of JICA Project in Pilot Cities.

(3) Examination of the current budget-making procedure for regional road maintenance in the pilot areas

Based on the questionnaire survey and WG-2 meetings held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current budget-making procedures of regional road maintenance in two pilot cities have been examined in detail.

[2-6] Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.

Based on the questionnaire survey and WG-2 meetings held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current medium-term road maintenance planning procedure in two pilot cities have been examined in detail.

1-2-4 Activities for Output 3

[3-1] Conducting Detailed Engineering Survey for the Pilot Projects and Specification Design

WG-3 meeting has been held on October 9, 2020 with participants from two pilot cities who are in charge of road maintenance work to confirm current procedures of road maintenance work on site and discuss some issues for implementation of pilot projects.

1-3 ACHIEVEMENT OF OUTPUT

1-3-1 Output 1: Improve the operational capability of CFRI.

(1) Self-ratings of CFRI on their operational capabilities

From the aspects of the evaluation items in Table 15, the self-rating survey on the operational capabilities of CFRI was carried out, and the total rating on average (average rating) was extracted through the calculation of each evaluation item (12 questions). As shown in the Table 15, the average rating extracted from the 2nd questionnaire survey was 65.2%. It would be necessary to improve the rating up to 80% of the target value by 15% on average.

Also, there were six (6) items below the average rating (65.2%), including "Q3: Budget planning for regional road administration (62.2%)", "Q5: Database management for regional road administration (62.2%)", "Q6: Approach for prioritizing road maintenance projects (64.4%)", "Q10: Road structure design for pavement (64.4%)", "Q11: Knowledge of technical specification on road maintenance (64.4%)", and "Q12: ICT application to regional road maintenance (60.0%)." In particular, there are prospects that the database management (Q5) and ICT (Q12) as well as the budget planning (Q3) will be improved through the system development (CRMS, VIS, and DPS-IRI) from now on. It is crucial to prioritize these items to be strengthened towards the achievement of the target value.

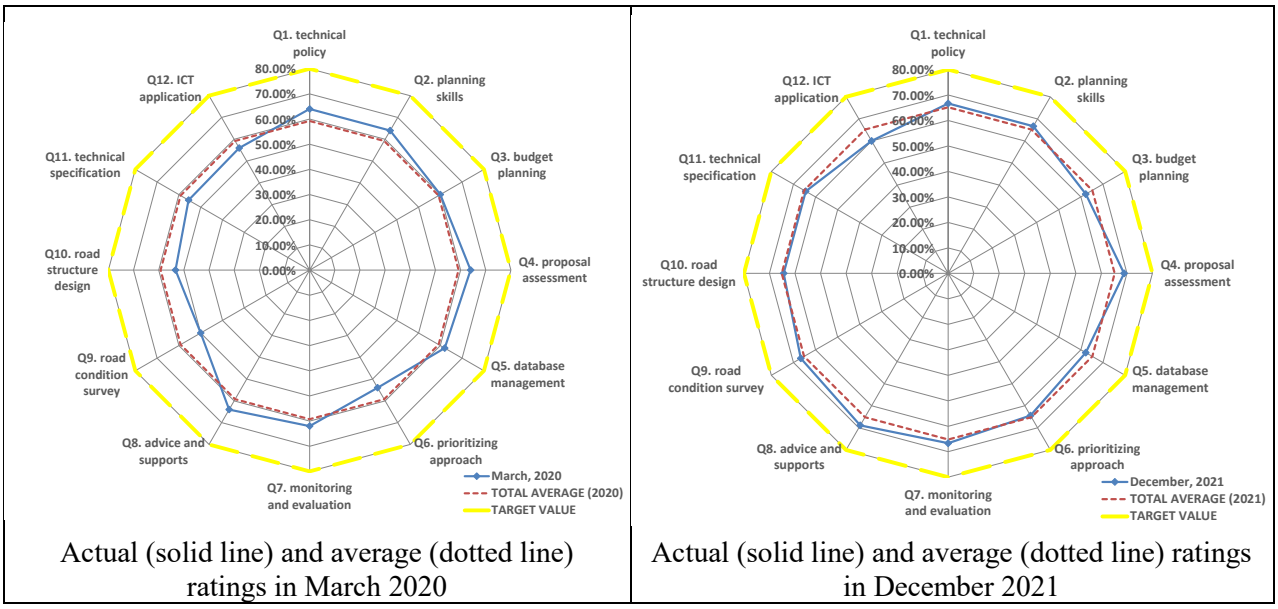
Since the self-rating result in the Figure 5 is a shape close to "circle" balanced among each evaluation item in a certain level, it is desirable in the future that the area would be increased while the circle shape is maintained.

Table 15 Result of CFRI self-ratings on their operational capabilities

	(1) March 2020 (10 respondents)	(2) Dec. 2021 (9 respondents)
I. Administrative Aspects		
Q1. Technical policy development for regional roads	**64.0%**	**66.7%**
Q2. Planning skills for regional road administration	**64.0%**	**66.7%**
Q3. Budget planning for regional road administration	**60.0%**	**62.2%**
Q4. Procedure of proposal assessment for regional road administration	**64.0%**	**68.9%**
Q5. Database management for regional road administration	**62.0%**	**62.2%**
Q6. Approach for prioritizing road maintenance projects	**54.0%**	**64.4%**
Q7. Monitoring and evaluation skills for regional road administration	**62.0%**	**66.7%**
Q8. How to provide administrative advice & supports for local gov'ts	**64.0%**	**68.9%**
II. Practical Aspects		
Q9. Road condition survey skills	**50.0%**	**66.7%**
Q10. Road structure design for pavement	**53.3%**	**64.4%**
Q11. Knowledge of technical specification on road maintenance	**55.6%**	**64.4%**
Q12. ICT application to regional road maintenance	**56.0%**	**60.0%**

	(1) March 2020 (10 respondents)	(2) Dec. 2021 (9 respondents)
Total Rating on Average (Q1 – Q12)	**59.2%**	**65.2%**

Source: Results of the Questionnaire Survey (Form 2) of the Monitoring System



Actual (solid line) and average (dotted line) ratings in March 2020

Actual (solid line) and average (dotted line) ratings in December 2021

Figure 5 Tendency of CFRI self-ratings on the operational capabilities in 2020 and 2021 (actual and average ratings)

1-4 ACHIEVEMENT OF THE PROJECT PURPOSE

Project Purpose is to properly promote regional road maintenance projects in the pilot cities under the initiative of CFRI. In order to measure the achievement of the Project Purpose, the indicator as explained below was established.

(1) Completion status and self-assessment of regional road maintenance projects by the pilot city governments indicated in the annual road maintenance plan

Although the completion rate of Sukabumi City in 2020 was quite high in 94%, the self-assessment on the quality of road maintenance works and the project management was 60% which was almost the same as the previous year. Since the pilot projects are planned to be implemented in 2022 and 2023, the self-assessment results would be improved for the future.

Table 16 Completion status and self-assessment of regional road maintenance projects

Indicator 1 of Project Purpose		2019	2020
Completion status (status quo with **more than**	Sukabumi	88.9%	94.3%

Indicator 1 of Project Purpose		2019	2020
90%)	Tebing Tinggi	94.5%	―
Self-assessment (target value: **80%**)	Sukabumi	61.1%	60.0%
	Tebing Tinggi	62.0%	―

Source: Achievement records of the annual road maintenance plans by the pilot cities

Note: The data of Tebing Tinggin in 2020 will be obtained in February 2022.

1-5 CHANGES OF RISKS AND ACTIONS FOR MITIGATION

1-5-1 Important Assumptions for the achievements of the Outputs

(1) Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.

Although the budget disbursement for regional road maintenance was delayed, the project activities, *per se*, were not severely affected because the pilot projects in the target cities were not carried out in 2020 and 2021.

Although the road maintenance budget for FY2020 in Sukabumi was significantly reduced due to the COVID-19 measures, the budget for FY2021 was largely increased and allocated for usual road maintenance activities. The budget sources were from the kota government, DAK, and West Java provincial government for FY2021, and it was more than three times compared to the one in the previous year. On the other hand, the budget sources were from the kota government and DAK for FY2019 and the kota government only for FY2020 due to the COVID-19 pandemic.

Table 17 Tendency of road maintenance budget in the pilot cities (FY2019 – 2020)

As of 17th December, 2021

Pilot City	FY 2019	FY 2020	FY 2021
Sukabumi	Rp. 18,387,524,910	Rp. 9,419,299,609	Rp. 34,549,663,326*
Tebing Tinggi	Rp. 23,856,518,000	Rp. 23,151,814,000*	–

Source: Questionnaire results from kota Sukabumi and Tebing Tinggi

Note*: Parts of government budget in kota Sukabumi for FY 2021 were allocated for the activities in FY 2020. If the budget for FY 2021 is defined as the only activities in 2021, the budget for the year is equal to Rp. 31,896,717,092.

(2) Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.

Although natural disasters, such as flood, landslide, etc., took place in Sukabumi and Tebing Tinggi, the

project activities were not affected because the pilot projects, *per se*, were not implemented in 2020 and 2021. Natural disasters resulted in stoppage and delay for their own road maintenance activities due to the implementation of emergency operations.

1-5-2 Important Assumption for the achievement of the Project Purpose

(1) The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.

Mr. Krisno Yuwono and Mr. Sari Satria Dwipayana were replaced as successors of previous PD (Mr. Riono Suprapto) and PM (Mr. Dedy Gunawan) respectively. As the dispatch of JET was restricted due to the worldwide prevalence of COVID-19 until November 2021, the capacity development activities were not undertaken on a full scale during this period. Thus, there are no inhibiting factors due to the personnel transfer at this moment because the Project restarts the capacity development activities for the C/P through the training, OJT, pilot projects, etc. from 2022 again. Furthermore, the Project shall be moved forward through the close communication with the successors and C/P.

1-6 PROGRESS OF ACTIONS UNDERTAKEN BY JICA

Since JET could not travel to Indonesia during the restriction period of COVID-19, they provided online lectures for C/P. Especially, as the needs for fundamental skills were very high, JET tried to establish the e-learning system through which C/P was able to acquire the skills and knowledge of road maintenance and administration.

Moreover, the Project aims to develop the contents of the e-learning system that is effectively utilized by other stakeholders, such as the candidate cities of the Project which were not selected as the pilot cities, even after the termination of the Project towards the achievement of the Overall Goal. At this moment, there have been three contents prepared and utilized for the online lectures so far as shown in the Table 18.

Table 18 Achievements of online lectures

No.	Lecturer	Title	Date	No. of participants
1	Takeo SUGIMOTO	Basic Outline of GIS	March 1 & 3, 2021	5 persons
2	Kazuya AOKI	Road Asset Management Policy for Governance of Regional Road Maintenance	September 15, 2021	56 persons
3	Bhoj Raj PANTHA	Basic Principle of Formulation of Road Database: Global to Local Perspective (1)	September 15, 2021	56 persons

1-7 PROGRESS OF ACTIONS UNDERTAKEN BY GOVERNMENT OF INDONESIA

N/A

1-8 PROGRESS OF ENVIRONMENTAL AND SOCIAL CONSIDERATIONS (IF APPLICABLE)

N/A

1-9 PROGRESS OF CONSIDERATIONS ON GENDER/PEACE BUILDING/POVERTY REDUCTION

N/A

1-10 OTHER REMARKABLE/CONSIDERABLE ISSUES RELATED/AFFECT TO THE PROJECT

N/A

2 DELAY OF WORK SCHEDULE AND/OR PROBLEMS (IF ANY)

2-1 DETAIL

JET members could not visit Indonesia from April 2020 to November 2021 (for one year and eight months) due to the worldwide prevalence of COVID-19. Thus, the project activities were delayed, and the pilot projects planned to be implemented in 2020 and 2021 were suspended. The Output 2 and Output 3 were not promoted and achieved because pilot projects were not implemented during this period.

2-2 CAUSE

As mentioned above, the delay of project activities was caused because of the worldwide prevalence of COVID-19.

2-3 ACTION TO BE TAKEN

Although JET members had not been dispatched by November 2021 for one year and eight months, two members could ultimately visit Indonesia in December 2021. Therefore, JET has to catch up with the delay in the project activities from now on. Especially, pilot projects in two pilot cities shall be implemented in 2022 and 2023 based on the original plan so as to achieve the Output 2 and 3.

Also, JET plans to provide online lectures for basic courses of road maintenance, GIS, project management, etc. because JET cannot visit Indonesia to carry out project activities, especially pilot projects. It is required

for C/P on sites to learn the basic skills and knowledge during this period to endure the widespread prevalence of COVID-19.

2-4 ROLES OF RESPONSIBLE PERSONS/ORGANIZATION

N/A

3 MODIFICATION OF THE PROJECT IMPLEMENTATION PLAN

3-1 PO

N/A

3-2 OTHER MODIFICATIONS ON DETAILED IMPLEMENTATION PLAN

(1) Modification of the PDM

In order to practically and effectively utilize the PDM, the project period is supposed to be modified as indicated in the Table 19 below.

Table 19 Modification of the PDM

Components of the PDM		Corrections
Basic Information	Project Period (Version 2-1)	Although the project period was originally established for three (3) years, JET has not been dispatched since April 2020 (perhaps until March 2021) for one year due to the worldwide prevalence of COVID-19. After the restart, it would be required to extend the implementation period for one year in order to carry out the pilot projects twice as originally planned due to the entire cancellation of the first ones in 2020.
	Project Period (Version 2-2)	JET has not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the same period for one year and eight months to mainly carry out the pilot projects (for the Output 2 and 3) which were entirely cancelled in 2020 and 2021.

4 PREPARATION OF GOVERNMENT OF INDONESIA TOWARD AFTER COMPLETION OF THE PROJECT

In order to achieve the Overall Goal, “to maintain regional roads in two pilot cities in a sustainable way,” it is important for C/P to have the capability to sustain the project activities without relying on JET. Thus, JET recommends for C/P to acquire the basic skills and knowledge so as to continuously carry out the implementation approaches of the Project and work out solutions to problems on their own initiative. From this reason, JET proposed to JICA HQs that the Project should provide online lectures for basic courses of road maintenance, GIS, etc. for the achievement of the Overall Goal during the time when JET has not been dispatched to Indonesia.

Moreover, the implementation approaches of the Project shall be disseminated to the regional roads outside two pilot cities. Therefore, the Project shall convene the seminars to invite stakeholders and intensely communicate with them for the achievement of the Overall Goal. It is important to share the project outcomes and experiences with them even during the implementation period of the Project.

Simultaneously, the sustainability of the Project is also crucial from the aspects of government policy, implementation structure, finance, and technology for road maintenance. Those aspects shall be sought by the Indonesian side with support of JET, and JICA encourages the Indonesian side to continue the project operations even after the termination of the Project.

II. PROJECT MONITORINGT SHEET I & II

See the attached.

END

Project Monitoring Sheet I (Version 4: 15th February, 2022)

Project Design Matrix ($PDM_{2\text{-}2}$)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – March, 2024 (4.7 years[*4]) **Version No. 2-2**

Target Groups: Engineers/administrative staff in the Centre of Facilitation for Regional Infrastructure (CFRI), DGH and the local governments in the pilot areas **Date:** 15th February, 2022

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		Refer to Project Monitoring Sheet (PMS) Summary	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CFRI.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CFRI exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	Refer to PMS Summary	–
Outputs 1. The operational capability of CFRI is improved.	1-1 The self-ratings of CFRI on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CFRI.	1-1 Questionnaire survey to CFRI 1-2 Performance checklist based on the SOP	The staff of CFRI and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	Refer to PMS Summary	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		Refer to PMS Summary	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		Refer to PMS Summary	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

*[4]: Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the same period for one year and eight months to mainly carry out the pilot projects which were entirely cancelled in 2020 and 2021.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CFRI.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

Refer to PMS Summary

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Plan of Operations (PO)

Version 3
Date 29 January, 2021

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks	Monitoring: Issue	Monitoring: Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																								
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30			
	Actual	28		21	16																								18										
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24			
	Actual	19		17																																		
PMS / Road Database	Plan	30		21			21							27			21			30					21				30			18				21	30		
	Actual	30	1	14	6		20																																
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30			
	Actual			20	1		20																																
Road Design	Plan			18			18					30			30									30				30		18						21			
	Actual			20			17																																
Road Inspection	Plan			18			30					30								21			30									21							
	Actual			19			17																																
IRI Measurement System	Plan											9								9			9									9						N/A		
	Actual																																						
Construction Supervision	Plan											30			45									30			45			30									
	Actual																																						
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18				
	Actual	19	12	20																																			
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21			
	Actual	14				17	14	11																					18										
Training Plan / Gender	Plan			15								15												30											15					
	Actual						15																																
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20			
	Actual	28		20																																			
Equipment																																							
Road Inspection Equipment	Plan																																						
	Actual																																						
Road Maintenance Equipment	Plan																																						
	Actual																																						
Road Management System	Plan																																						
	Actual																																						
PC and Software for Road Management System in the pilot areas	Plan																																						
	Actual																																						
Others	Plan																																						
	Actual																																						
Training in Japan and/or Third Countries																																							
Road Maintenance	Plan																																						
	Actual																																						

Activities / Sub-Activities	Year	1st Year												2nd Year												3rd Year												Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8				
Output 1: The operational capability of CFRI is improved.																																						WG-1			
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.	Plan																																					PMS / Road Database	CFRI	Ongoing	
	Actual																																								
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.	Plan																																					PMS / Road Database	CFRI	Ongoing	
	Actual																																								
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.	Plan			△			△					△					△						△						△						△			PMS / Road Database	CFRI IRE	Ongoing	
	Actual			▲			▲				▲		▲																												
1-4 Develop the database framework of regional roads across the country.	Plan																																					PMS / Road Database	CFRI IRE	Ongoing	
	Actual																																								
1-5 Arrange the development policy direction of regional roads across the country.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan																																					PMS / Road Database	CFRI	N/A	
	Actual																																								
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																																						WG-2			
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI, Local gov'ts of the pilot areas (LGPA)	Ongoing/Pilot areas were selected in Feb. 2020.	
	Actual																																								
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																								
2-3 Conduct road inspections in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																								
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.	Plan																																					PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																								

Project Monitoring Sheet II (Version 1: 14th February, 2022)

Inputs	Year	1st Year												2nd Year												3rd Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																								
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30			
	Actual	28		21	16																								18										
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24			
	Actual	19		17																																		
PMS / Road Database	Plan	30		21			21							27			21			30					21				30			18				21	30		
	Actual	30	1	14	6		20																																
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30			
	Actual			20	1		20																																
Road Design	Plan			18			18					30			30									30				30		18						21			
	Actual			20			17																																
Road Inspection	Plan			18			30					30																				21							
	Actual			19			17																																
IRI Measurement System	Plan											9												9								9							
	Actual																																						
Construction Supervision	Plan											30			45									30			45			30									
	Actual																																						
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18				
	Actual	19	12	20																																			
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21			
	Actual	14				17	14	11																					18										
Training Plan / Gender	Plan			15								15												30											15				
	Actual						15																																
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20			
	Actual	28		20																																			
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																																						WG-3		
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan											■												■														Road Design / CFRI LGPA	Ongoing	
	Actual						■					■	■	■																									
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan											■	■	■	■									■	■	■	■											Road Design / CFRI LGPA	Ongoing	
	Actual						■					■	■	■	■	■	■																						
3-3 Supervise the pilot projects in collaboration with CFRI.	Plan											■	■	■										■	■	■	■											Road Design / CFRI LGPA	N/A	
	Actual																																						
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan														■													■										Road Design / CFRI LGPA	N/A	
	Actual																																						
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan			■	■										▦	▦	▦	▦	▦	▦	▦	▦	▦	▦	▦	▦	▦	▦	■									Road Design / CFRI LGPA	Ongoing	
	Actual			■	■																																		
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan														■													■										Road Design / CFRI LGPA	N/A	
	Actual																																						
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan																							△												△		Road Design / CFRI LGPA	N/A	
	Actual																																						
Duration / Phasing	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■									
	Actual	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■									

Monitoring Plan	Year	1st Year												1												3rd Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV					
Monitoring																																								
Joint Coordinating Committee	Plan	△	Kickoff					△						△						△						△						△				△		Because of COVID-19, 2nd JCC was postphoned.	See the remarks.	
	Actual	▲										▲					▲												▲										
Set-up the Detailed Plan of Operations and Project Indicators	Plan				■	■	■	△																															N/A	
	Actual					■	■	▲																																	
Submission of Monitoring Sheet	Plan	△						△						△						△						△						△							N/A	
	Actual	▲						▲									▲												▲										
Monitoring Workshop	Plan							△						△						△						△						△							N/A	
	Actual					▲																																		
Reports/Documents																																								
Work Plan	Plan	△																																					N/A	
	Actual	▲																																						
Project Completion Report	Plan																																		■	■	△			N/A	
	Actual																										▲														
Public Relations																																								
Preparation of PR materials	Plan							■						■						■						■						■				■			N/A	
	Actual																																							

■ To complete project activities within the solid line.

▦ To continuously conduct project activities during the dotted line.

△ To conduct meetings/seminars, execute monitoring, and prepare reports.

Attachment-1 : List of Property Lending

Name of Project : THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

(February.2022)

Name of Property	Standard, Part Number	Quantity	Purchase Price			Date of Inspection Passed	Location	Current State	Remarks	After Completion of Project: Handover/Return
			Purchase Price	Currency	In Japanese Yen					
Laptop	DELL NB Latitude 5290 i5-8350U Win 10 Pro	4	96,240,802	IDR	718,919	2019.9.19	CFRI office	In operation		Undecided
Desktop computer	PC HP ProDesk 400G5 MT,HP Monitor V214b 20.7"LED Win 10 pro	1	19,116,000	IDR	142,797	2019.9.19	CFRI office	In operation		Undecided
Projector	HITACHI CP-EX303	1	6,903,000	IDR	51,565	2019.9.19	CFRI office	In operation		Undecided
Office furniture	Desk(2)、Chair(12)、Cabinet(2)	1	27,705,600	IDR	206,961	2019.9.9	CFRI office	In operation		Undecided
Office furniture	Whiteboard	1	2,381,000	IDR	17,786	2019.9.11	CFRI office	In operation		Undecided
Office furniture	Desk(4)	1	2,796,000	IDR	21,949	2020.1.6	CFRI office	In operation		Undecided
【Property Lent by JICA】										

MINUTES OF MEETING

OF

THE 3rd MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 20th January, 2021

The third meeting of Joint Coordinating Committee (JCC) was held on 20th January 2021 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring
3. Progress of Development of CRMS, DPS-IRI and VIS

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the Monitoring Sheet Ver.3.
2. JCC approved the modified Project Design Matrix (PDM).
3. JCC confirmed the schedule for the development of CRMS, VIS and DPS-IRI.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

20th January 2021

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

THE 3rd MEETING OF JOINT COORDINATING COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	3rd Joint Coordination Committee Meeting	**Sheet**	6 pages
Location	Link Zoom Meeting	**Date**	20th January 2021

Participants:	▪ *C/P members from CFRI, DGH (BINAMARGA), BAPPENAS, Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert (Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		**Outline of Discussion and Conclusions**
1.0	1.1	The JCC meeting was commenced by Mr. Dedy and expressed an apology from Mr. Riono that he cannot attend this meeting because of his sudden another internal meeting.
	1.2	Mr. Dedy gave a welcome greeting to the meeting participants. He explained the purpose of the meeting, and informed that the JICA Expert Team (JET) would submit several progress reports of the Project. He informed that this Project has been running since 2019 and should have been completed in 2022, but due to the Covid-19 condition, there were some delays in project activities. Therefore, there is a possibility of the Project being extended until 2023. At the end of his welcome greeting, he invited Mr. Honzu, the Senior Representative of JICA Indonesia Office, to give an opening speech on behalf of JICA.
	1.3	Mr. Honzu mentioned that he was grateful for holding the 3rd JCC Meeting, and informed that due to the COVID-19 pandemic conditions there were some delays in the Project activities. He mentioned that today we will confirm the updated situation and the outcomes that have been achieved so far. He also hopes to discuss about rescheduling of the Project if needed in this meeting
2.0		***Progress Report***
	2.1	Dr. Aoki, the Team Leader of the Project, presented the progress report. He mentioned that as explained by Mr. Dedy the Project is experiencing some delays, so that the JET has requested to JICA HQ to rearrange the Project period and extend for 1 year given that the Project activities will be resumed in April 2021. This issue will be discussed later when the COVID-19 situation calms down and timing of resuming of the Project activities will be decided.
	2.2	He provided additional information regarding the e-learning system. He presented the basic concepts of the e-learning system during this JICA Project and after termination of JICA Project for sustainability. He also mentioned that MPWH has developed the common platform of e-learning system named "E-Pelatihan". He further informed that JET and MPWH organized the first meeting on December 28, 2020 and agreed to use MPWH E-Pelatihan platform.
	2.3	
3.0		***Presentation -2: Project Monitoring***

		Mr. Hirakawa, who presented the Project Monitoring, explained briefly about the Project Design Matrix (PDM). In the presentation also, he proposed to modify the PDM because the JET has not been dispatched since April 2020. It would be required to extend the implementation period for one year in order to carry out the pilot projects twice as originally planned, however could not implemented yet due to the entire cancellation of the first year activities in 2020.
	3.1	He informed that JET has proposed to JICA HQ to provide the online lectures for basic courses and JET members will prepare the materials of online lectures.
4.0		***Presentation -3: Progress of Development of CRMS, DPS-IRI and VIS***
	4.1	Dr. Pantha explained the current status of system development for 3 systems, such as City Road Management System (CRMS), Visual Inspection System (VIS) and Data Processing System for IRI (DPS-IRI).
	4.2	He explained the current progress of CRMS which is being developed based on the design platform agreed in the meeting held on 10th June, 2020. As the current progress of CRMS development, he presented some basic features of some modules has almost completed and development of some modules is yet to start. The trial version is possibly be released around May 2021.
	4.3	Mr. Kaneko explained the current status of VIS development. He informed that the initial development of basic function of VIS have been Completed (ver.1), such as map view, list view, the process of creating a visual inspection, etc. The next step is the creating of interfaces along the workflow and the development of features that link with CRMS such as data import and export.
	4.4	For the current progress of DPS-IRI development, Mr. Sugimoto presented that initial development of major function of DPS-IRI have been completed (ver.1), such as import video data, convert field data (positioning, acceleration) into GIS data, edit GIS data, calculate IRI value, etc. For the next step, it is planned to carry out adjustment of IRI calculation by using practical field measurement data.
	4.5	Mr. Sugimoto reported that the test survey for data verification have been done in Japan to collect the practical field measurement data to adjust and improve IRI analysis. The driving speed during the IRI driving test were10 km/h, 20 km/h and 30 km/h. The results from these speeds will then be compared. The data of the test measurement is currently under processing.
	4.6	Mr. Sugimoto further informed that JET will carry out the similar test measurement in Indonesia, which has different environments and conditions from Japan and make readjustments of DPS-IRI to suit with local conditions.
5.0		***Discussions***
	5.1	Mr. Dedy introduced Mr. Avicenna as the Head of Sub Directorate of Regional Roads of Highways
	5.2	Mr. Panca from Technology Development commented that that the DGH has already developed the IRMS for national road management. Why didn't this Project just apply the IRMS system?
	5.3	Mr. Dedy responded that the IRMS have been developed aiming to be used for National Road. On the other hand, CRMS aims to be used for city road management, and each city will run this system directly.
	5.4	Mr. Avicenna appreciated this cooperation project, and he hopes for an adjustment in the CRMS because the road construction between national and regional roads is different. He also hopes that it will be implemented quickly and the shortcomings can be updated.
	5.5	Mr. Dedy stated that MPWH and regional governments can predict the future demand for road

		maintenance budget to meet the level of road stability.
	5.6	Dr. Pantha also thanked to Mr. Avicenna for his appreciation and stated that JICA Team also will work together with the DGH for system integration.
	5.7	Mr. Toni from BAPPENAS also appreciated the CRMS and commented that it could be tested this year. If this CRMS is successful, he hopes that it can also be implemented in the district / Kabupaten. Then, Mr. Toni asked how is the coaching / training / transfer of knowledge to the regional governments for sustainable implementation. He expressed that BAPPENAS could access this CRMS for monitoring.
	5.8	Mr. Reza from Tebing Tinggi City and Mr. Alip from Sukabumi City commented that both cities are ready for further directions from the Project and the development of the CRMS.
	5.9	Mr. Dedy responded to Mr. Toni's question from BAPPENAS that the district program already exists, namely PKRMS. For the sustainability of this CRMS CFRI and the JICA Team will work together with the Polytechnics of MPWH and BPSDM (Human Resources Development Agency) to transfer knowledge / training to them first. Then, the CFRI will make a policy for program sustainability that for the DAK proposal, the CRMS program can be used.
	5.10	Mr. Dedy also informed that training / transfer knowledge will be used e-learning platform of BPSDM because training is possible and effective during the Covid-19 pandemic conditions by holding online training. He also explained that the Deterioration Model which uses variables from the IRMS to be modified or adjusted. For the classification of road damage classes can be divided into 4 categories, namely good, lightly damaged, heavily damaged and bad.
	5.11	Dr. Aoki informed that the JICA Team might come to Indonesia in April, but this is still tentative and may change depending on conditions and regulations in Japan and in Indonesia. He also thanked BPSDM for allowing their e-learning platform to be used for online training activities. Currently the JICA Team is studying the e-learning system owned by BPSDM. He hoped that JET can start the online training using this e-learning system soon, and all people are welcomed to discuss for the contents because the content of the training is not entirely technical.
	5.12	Mr. Honzu from the representative of JICA Indonesia Office commented that he will support the provision of e-learning system, and work with JICA HQ if necessary. Regarding the project schedule, JICA Indonesia Office will consider it positively if the extension is necessary to achieve the project goal.
	5.13	Mr. Dedy concerned for the IRI measurement about driving speed as 30-40km/hour. He asked to JICA Team to consider the accuracy of surveyed data in case of low speed of the vehicle because it is experienced that the IRI measurement accuracy would be less accurate if the speed was below 40 km/hour.
	5.14	Dr. Tomiyama introduced briefly his another test result in Japan and it stated that IRI data in low-speed running by survey vehicle has reliable accuracy.
	5.15	Mr. Taufik from Technology Development suggested that IRI measurement can be done at night to avoid traffic congestion and any obstacle in day times. He also asked about the provision in this Project for IRI survey.
	5.16	Mr. Tomiyama understood the suggestion from Mr. Taufik about survey in night, and added his comment that rain does not affect the calculation results of the accelerometer.
	5.17	Dr. Pantha answered that basically the JICA Team provided not only the software but also the hardware, such as an action camera for data collection.
	5.18	Mr. Dedy responded that regarding the policy on the use of this system, perhaps a policy or mandate would be made to use this system on the basis of DAK.

	5.19	Mr. Taufik asked about the responsibility of repairing in case of any damage of the system or the hardware.
	5.20	Mr. Dedy answered that we plan to connect the technicality with the budgeting system so that the local government will inevitably maintain and use this system.
	5.21	Mr. Reza from Tebing Tinggi City gave additional suggestions to be able to consider the problem of insufficient lighting if the IRI measurements were carried out at night, and asked the JICA Team for helping to provide standard parameters in the survey such as speed and level of light requirements.
	5.22	Mr. Toni from BAPPENAS commented that the technical matters in the system will be aligned with the cost for applying for DAK. He asked about the output of this sytem, whether in the future it could be combined with the existing system in Bina Marga (Highways Department) in order to collect all road stability data.
	5.23	Mr. Dedy answered that SiPDJD can be used to get data of stability for all roads. Meanwhile, the output of the CRMS is to help local governments with budgeting plan and prediction of future costs for road maintenance. The issue of system integration with Bina Marga (Highways Department) can be discussed later after this system is completed.
6.0	6.1	***Closing Remark*** Mr. Dedy closed and thanked to all attendees. He also appreciated for the suggestions that were delivered in the today's meeting, which shows that the meeting participants still have attention to the local roads.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Dedy Gunawan	CFRI		
2	Taufik	CFRI		
3	Saddam Amin			
4	Kazuya Aoki	JICA Team		
5	Ryousuke Kaneko	JICA Team		
6	Bhoj Raj Phanta	JICA Team		
7	Masafumi Yamauchi	JICA Team		
8	Takaaki Hirakawa	JICA Team		
9	Juneichiro Ikeda	JICA Indonesia		
10	Takeo Sugimoto	JICA Team		
11	Junichi Oshima	JICA Team		
12	Shunji Hata	JICA Team		
13	Ishii	Reprepsentative of JICA		
14	Naoko Ono	JICA Team		
15	Kazuya Tomiyama	JICA Team		
16	Luzmi Malia Izza	JICA Team		
17	Wieby Wiguna W.	JICA Team		
18	Mei Lia	JICA Team		
19	Reihan Oktavio	JICA Team		
20	Cesar	Bappenas / National Development Planning Agency		

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
21	Dewi Idhayani	Representative of JICA Indonesia		
22	Honzu	Representative of JICA		
23	Toni	Bappenas / National Development Planning Agency		
24	Andri Septian			
25	Budi Awan	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
26	Pratiwi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
27	Windy	Ministry of Public Work and Housing		
28	Tegar Rizkiadi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
29	Soviani Undaristia			
30	Shofi Azkaria			
31	Taufik Sumardi	Technology Development / Highways Department		
32	Panca	Technology Development / Highways Department		
33	Avicennia	Head of Sub Directorate of Regional Roads of Highways Department		
34	Nida Ashma			
35	Karni Natalia			
36	Handhi	Directorate of Transportation		
37	Dini Audrie	CFRI		
38	Nazib Faizal	Head of Center of Data and Information / Ministry of Public Work and Housing		
39				
40				

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Rosa Agustin	[redacted]	[redacted]	
2	Jammah S.G. Hsb			
3	Salmon F. L.			
4	Adolf B. Silaban			
5	Zulkarnain			
6	M. ARIF NUGRAHA			
7	Charles			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Wednesday, 20th January 2021

Attendance List

No	Name	Position / Institution	Phone / E-mail	Signature
1				
2	Lutpi Alip	[redacted]	[redacted]	
3	HADI PURNOMO			
4	Alvian Sari			
5	Ali Chandra			
6	Rika Sulaeman			
7	Gisca Puspita Sari			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
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5	Ryousuke Kaneko	JICA Team		
6	Bhoj Raj Phanta	JICA Team		
7	Masafumi Yamauchi	JICA Team		
8	Takaaki Hirakawa	JICA Team		
9	Juneichiro Ikeda	JICA Indonesia		
10	Takeo Sugimoto	JICA Team		
11	Junichi Oshima	JICA Team		
12	Shunji Hata	JICA Team		
13	Ishii	Reprepsentative of JICA		
14	Naoko Ono	JICA Team		
15	Kazuya Tomiyama	JICA Team		
16	Luzmi Malia Izza	JICA Team		
17	Wieby Wiguna W.	JICA Team		
18	Mei Lia	JICA Team		
19	Reihan Oktavio	JICA Team		
20	Cesar	Bappenas / National Development Planning Agency		

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
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26	Pratiwi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
27	Windy	Ministry of Public Work and Housing		
28	Tegar Rizkiadi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
29	Soviani Undaristia			
30	Shofi Azkaria			
31	Taufik Sumardi	Technology Development / Highways Department		
32	Panca	Technology Development / Highways Department		
33	Avicennia	Head of Sub Directorate of Regional Roads of Highways Department		
34	Nida Ashma			
35	Karni Natalia			
36	Handhi	Directorate of Transportation		
37	Dini Audrie	CFRI		
38	Nazib Faizal	Head of Center of Data and Information / Ministry of Public Work and Housing		
39				
40				

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Rosa Agustin	[redacted]	[redacted]	
2	Jammah S.G. Hsb			
3	Salmon F. L.			
4	Adolf B. Silaban			
5	Zulkarnain			
6	M. ARIF NUGRAHA			
7	Charles			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Wednesday, 20th January 2021

Attendance List

No	Name	Position / Institution	Phone / E-mail	Signature
1				
2	Lutpi Alip	[redacted]	[redacted]	
3	HADI PURNOMO			
4	Alvian Sari			
5	Ali Chandra			
6	Rika Sulaeman			
7	Gisca Puspita Sari			
8				
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TO CR of JICA Indonesia OFFICE

PROJECT MONITORING SHEET

Project Title: The Project for the Improvement of Regional Roads Governance
Version of the Sheet: Ver. 5

Name: Kazuya Aoki
Title: Team Leader
Submission Date: 1st February 2023

I. SUMMARY

1. PROGRESS

1-1 PROGRESS OF INPUTS

1-1-1 Indonesia Side

(1) Personnel

Project Director (PD) and Project Manager (PM) were identified under Record of Discussion (hereinafter to be called as "R/D") and assigned in September 2019. The rest of counterpart personnel was selected through the progress of the Project. In September 2019, 9 personnel for three Working Groups (hereinafter referred to as "WG") have been assigned (3 personnel for each WG) from the Center of Facilitation for Regional Infrastructure (hereinafter referred to as "CRIF"). Other related departments of the Ministry of Public Works and Housing (hereinafter referred to as "MPWH"), such as Department General of Highway (hereinafter referred to as "DGH"), Center for Data and Information Technology and Institute of Road Engineering (IRE) have assigned their officials as representatives of their respective divisions. Further 16 personnel from pilot cities (6 personnel from Sukabumi City and 10 personnel from Tebing Tinggi City) are assigned in February 2020. BAPPENAS has also been assigning their officials as member of JCC and WG in all meetings. The change of CP members was approved at the 5th JCC meeting held in June 2022. Amended version of the counterpart members is described in the following table. Furthermore, at the 5th JCC meeting, the English names of the counterpart organizations were corrected. The English name of the main counterpart is changed to Center for Regional Infrastructure Facilitation (hereinafter to be called as "CRIF").

Table 1 Approved New Counterparts Members

Before	Amended Version
・ Head of the Center of Facilitation for Regional Infrastructure	・ Head of Center for Regional Infrastructure Facilitation

・ Director of Road Network Development, DGH ・ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure ・ Head of Division Land and Road Transportation, Bappenas ・ Deputy Director of Planning Integration and Network System, DGH ・ Deputy Director of Data Analysis and System Development, DGH ・ Head of Division, Programming and Evaluation, Institute of Road Engineering ・ Others (Two pilot cities)	・ Director for Road and Bridge Management System and Strategy, Directorate General of Highways ・ Head of Division of Specific Allocation Funds for Roads and Bridges, Center for Regional Infrastructure Facilitation ・ Head of Division Land and Road Transportation, Bappenas ・ Head of Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways ・ Head of Road and Bridge Data and Information System Development Subdirectorate, Directorate General of Highways ・ Director for Public Works Polytechnic ・ Head of Subnational Roads Subdirectorate, Directorate General of Highways ・ Head of Centre for Data and Information Technology ・ Others (Two pilot cities)

Table 2 Main Counterparts

Title	Name	Organization/Position
Project Director	Krisno Yuwono	Head of CRIF
Project Manager	Sari Satria Dwipayana	Head of Division for Road and Bridge DAK Provision, CRIF
Leader of WG-1	Bapak Amiruddin Yusuf	Engineer, Road and Bridge Administration Division, CRIF
Leader of WG-2	Bapak Muhamad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF
Leader of WG-3	Bapak Muhammad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF

(2) Provision of the project office and facilities necessary for the project implementation

Project office space has been allocated in the building of CRIF office.

(3) Expenses for the pilot projects executed by the local governments in the pilot areas

The first pilot project was conducted in Tebing Tinggi City from 17th October 2022 to 20th October 2022, and in Sukabumi City from 24th October 2022 to 27th October 2022, with the budget of Indonesia side.

(4) Administrative and operational expenses necessary for the project implementation

Expenses agreed at R/D has been secured and handled by the Indonesia side.

1-1-2 Japanese Side

(1) Experts

In accordance with the amended contract agreed in August 2019 between JICA and JICA Expert Team (JET), the experts have been assigned. After that, Dr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system in February 2020, then the number of experts has increased into a total 12 experts.
And Ms. Ono, the expert in charge of Training Plan / Gender , has been changed to Ms. Tanaka in May 2021.
Experts have been assigned since September 1, 2019, and at the end of January 2023, all experts have been assigned for a total of 30.91 Man/Month (hereinafter to be called as "MM") out of the Project total assignment of 63.0 MM (assignment in Indonesia only). Since April 2020, there are no assignments in Indonesia due to the outbreak of COVID-19. However, during that period, JET has continued activities by online remote work from Japan. In the monitoring sheet version 3, the total assignment in Indonesia was described as 68MM, however, since a part of activities were converted to remote work from Japan, the current number of assignments is 63MM. The details are given in the Project Monitoring Sheet II (PO).

Table 3 Dispatched Experts

Experts	Position	Total (MM)
Kazuya Aoki	Team Leader / Road Maintenance 1	5.17 MM
Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2	1.70 MM
Bhoj Raj Pantha	PMS/Road Database	4.30 MM
Shunji Hata	Road Maintenance Plan	2.83 MM
Eiji Noguchi	Road Design	3.17 MM
Takeo Sugimoto	Road Inspection	1.47 MM
Kazuya Tomiyama	IRI measurement system	0.3 MM
Hiroshi Ueda	Construction Supervision	1.0 MM
Junichi Oshima	PMS/Road Management System 1	1.7 MM
Takaaki Hirakawa	Organization Management / Project Monitoring	4.20 MM
Naoko Ono / Mana Tanaka	Training Plan / Gender	2.4 MM
Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator	2.67 MM
Total (by end of December, 2020)		30.91 MM

(2) Training of counterpart personnel in Japan and/or the Third Countries

Under the Project, two times training in Japan are planned, and the first training in Japan was held from 28th November 2022 to 9th December 2022 with the participants of total 8 counterparts. The second training in

Japan will be schedules in the middle of 2023.

(3) Provision of Equipment

At the 1st Joint Coordination Committee meeting (hereinafter called as "JCC") held on September 24, 2019, specification of procurement equipment was approved by the counterparts. The furniture (desks and chairs) for the project office were installed by JET.

(4) Local expenses for the project activities as necessary

Local expense has been utilized mainly for consultant cost, office equipment, so far.

1-2 PROGRESS OF ACTIVITIES

Project activities to achieve the project purpose under Work Plan were agreed at the 1st JCC. Project activities described in Project Monitoring Sheet I (Project Design Matrix: PDM) summarized in the Table 4 shown below. Progress of each activity is described accordingly in the sections that follow.

Table 4 Outline of Project Activities

Outputs	Activity No.	Activities
Common Activities to All Outputs	0-1	Development and Discussion of the Work Plan and the Monitoring Sheet
	0-2	Setting PDM Indicators
	0-3	Holding Joint Coordination Committee (JCC) Meetings
	0-4	Conducting the Training in Japan
	0-5	Drafting the Project Completion Report
Outputs 1: The operational capability of CRIF is improved.	1-1	Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.
	1-2	Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
	1-3	Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.
	1-4	Develop the database framework of regional roads across the country.
	1-5	Arrange the development policy direction of regional roads across the country.
	1-6	Prepare the proposal of budget allocation plan for regional road maintenance.
	1-7	Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.
	1-8	Convene the region-wide seminars for the other local governments outside the pilot areas.
Outputs 2: The process for formulating the regional	2-1	Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.

road maintenance plans is strengthened in the pilot areas.	2-2	Confirm the current status and issues of regional road maintenance in the pilot areas.
	2-3	Conduct road inspections in the pilot areas.
	2-4	Develop the database of regional road maintenance in the pilot areas.
	2-5	Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF.
	2-6	Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.
	2-7	Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
	2-8	Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.
Outputs 3: The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1	Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
	3-2	Assist the local governments in the pilot areas to execute pilot projects.
	3-3	Supervise the pilot projects in collaboration with CRIF.
	3-4	Analyze and document the results of the pilot projects, including safety and management aspects.
	3-5	Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
	3-6	Identify the technical issues on human resources development in the local governments of the pilot areas.
	3-7	Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

1-2-1 Common Activities to All Outputs

[0-3] Holding Joint Coordination Committee (JCC) Meetings

Outline of JCC is summarized in Table 5. Member of JCC was set as agreed at R/D and assigned in September 2019.

Table 5 Outline of JCC

Chair	Head of the Center of Facilitation for Regional Infrastructure
Meeting Frequency	About every 6 months In principle, meetings are held to discuss the Work Plan and the interim progress reports and the final report.
Roles	▪ Discussion and approval on the annual work plan of the Project ▪ Assessment of the situation regarding achievement and progress of the annual work plan of the Project ▪ Investigation and exchange of opinions on issues in the Project implementation process ▪ Facilitate to overcome any critical issues (if occur) during the Project implementation
Members	**Indonesia** ▪ Head of the Center of Facilitation for Regional Infrastructure ▪ Director of Road Network Development, DGH ▪ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure

	▪ Head of Division Land and Road Transportation, BAPPENAS ▪ Deputy Director of Planning Integration and Network System, DGH ▪ Deputy Director of Data Analysis and System Development, DGH ▪ Head of Division, Programming and Evaluation, Institute of Road Engineering ▪ Others **Japan** ▪ The Japanese Embassy in Indonesia ▪ JICA Indonesia Office ▪ JICA Expert Team Members, etc.

(1) 1st JCC

The 1st JCC meeting was held on 24th September 2019 in Meeting Room in CRIF, Heritage Building 4th Floor, MPWH, under the chairmanship of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. In the 1st JCC meeting, the Work Plan and Monitoring Sheet Ver.1 were approved. The minute of JCC meeting is attached.

(2) 2nd JCC

The 2nd JCC was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the CRIF, with total of 30 participants. In the 2nd JCC meeting, the Monitoring Sheet Ver.2 and the Project Indicators which are described in the updated PDM were approved. The minute of JCC meeting is attached.

(3) 3rd JCC

The 3rd JCC was held on 20th January 2021 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure, with total of 45 participants. In the 3rd JCC meeting, the Monitoring Sheet Ver.3 was approved. The minute of JCC meeting is attached.

(4) 4th JCC

The 4th JCC was held on 15th February 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of CRIF, with total of 39 participants. In the 4th JCC meeting, the Monitoring Sheet Ver.4 was approved. The minute of JCC meeting is attached (Attachment-1).

(5) 5th JCC

The 5th JCC was held on 22nd June 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of CFRI, with total of 20 participants. In the 5th JCC meeting, the change of counterpart members was approved. The minute of JCC meeting is attached (Attachment-2).

(6) 6th JCC

The 6th JCC was held on 19nd January 2023.

[0-4] Conducting the Training in Japan

The first training in Japan was held from 28th November 2022 to 9th December 2022 with the participants of total 8 counterparts.

Course Title: Roads Maintenance Policy and Infrastructure Asset Management in Japan

Period: From 28th November 2022 to 9th December 2022 (12 days) [**Table 7**]

Participants: 8 counterpart members [**Table 6**]

Table 6 List of Participants

#	Name	Title	Affiliation
1	Mr.Rikal Andani	Lecturer	Polytechnic, Ministry of Public Works and Housing
2	Ms.Brigitta Yolanda Puspa Persada	Junior Expert	Center for Regional Infrastructure Facilitation, Ministry of Public Works and Housing
3	Mr.Muhamad Taufik	Sub Coordinator	Center for Regional Infrastructure Facilitation, Ministry of Public Works and Housing
4	Dr.Asep Irawan	Head Agency	PU Agency of Sukabumi City
5	Mr.Adi Chandra Maulana	System Analyst	PU Agency of Sukabumi City
6	Mr.Zulkarnain, ST	Supervisor	PU Agency of Tebing Tinggi City
7	Mr.Muhammad Arif Nugraha, ST	Supervisor	PU Agency of Tebing Tinggi City
8	Ms.Nurafni Nugroho Putri	Engineer (First Expert)	Directorate General of Highways, Ministry of Public Works and Housing

Table 7 Training Program

DATE	CONTENTS	Lecturer
2022/11/28	Arrival and Check In	
2022/11/29	Briefing	JICA
	Presentation about Country Report	JICA
	National and Regional Roads Maintenance Policy in Japan	Ministry of Land, Infrastructure, Transport and Tourism
2022/11/30	Roads Maintenance and Pavement management System in Kyoto City	Kyoto City
2022/12/1	Latest technology of Infrastructure Asset Management and suggestions for practice in Indonesia (lecture and discussion)	Kyoto University
	Evidence Based Policy Making (EBPM) for Infrastructure Asset Management policy and decision making	Osaka University
	Introduction of the latest research on Infrastructure Asset Management in Osaka University, and discussion	Osaka University
2022/12/2	Human Resource Development for Asset Management / Infrastructure Museum	Gifu University
2022/12/5	Regional Road Maintenance and Management in Setagaya	Setagaya Ward
	Regional Road Maintenance and Management in Kawasaki	Kawasaki City

2022/12/6	Joint research with the Indonesian government and case studies of pavement research in Japan (Cooperation research project with IRE and PWRI)	Public Works Research Institute
	Regional Road Maintenance and Management in Chofu	Chofu City
2022/12/7	Latest Pavement Recycling Machinery and its Deployment in Indonesia	SAKAI HEAVY INDUSTRIES, LTD.
	Regional Road Management with comprehensive maintenance scheme in Japan	ORIENTAL CONSULTANTS Co.,Ltd
2022/12/8	Advanced Infrastructure Management Technology using Geo-Spatial Data and its Application to Indonesia	PASCO CORPORATION
	Presentation about Learning in Japan	JICA
	Closing and Certificate	JICA
2022/12/9	Departure from Narita International Airport	

The planned training program in Japan was successfully completed. The training program included visits to the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), universities, local governments, and private companies, focusing on road maintenance and management in Japan, local road maintenance, and asset management policies. Discussions were held on the actual situation of road maintenance in Japan, organization, human resource development, budget subsidy scheme, technology development in private companies and its utilization, etc. In addition, at Osaka University, they had an exchange meeting with students from government agencies around the world, and discussed the differences and similarities between road maintenance management in Indonesia and other countries. The participants learned about the importance of preventive maintenance, budgetary measures for asset management, and the introduction of new technology in road asset management, and obtained information to consider its applicability to Indonesia in the future.





Figure 1 1st Training in Japan

[0-5] Drafting the Project Completion Report

Project Completion Report (PCR) is planned to be submitted in August 2023.

1-2-2 Activities for Output 1

[1-3] Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.

(1) 1st Technical Working Group (TWG) was held on 18th September 2019 to discuss the outline of the Project, members of TWG and Project Monitoring and Baseline Survey.

(2) 2nd TWG was held on 24th July 2020 to discuss technical issues of system development. All member of TWG and officials from JICA Indonesia office participated the meeting.

(3) WG-2 meeting was held on 19th August 2020 to confirm Road Inspection, Road Inventory and Road Maintenance Workflow related information

(4) 3rd WG was held on 24th September 2021 to discuss the progress of system development, and test survey result of DPS-IRI.

(5) 4th TWG was held on 20th July 2022 to share the information on the project outline and progress of system development with CPs and other relevant organizations.

(6) 5th TWG was held on 22nd August 2022 to discuss about the draft work plan of the 1st year Pilot Project in 2022.

(7) 6th TWG was held on 23th September 2022 to discuss about system implementation environment, such as server environment, requirements of IRI Measurement & DPS-IRI and VIS, and confirmation of the Work Plan of Pilot Project in 2022.

Table 8 List of Meetings Organized

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants

1	1st Technical Meeting (Kick-off Meeting)	Outline of the Project / Technical Working Group (TWG) /Project Monitoring & Baseline Survey	CRIF Office	18th September, 2019	CRIF members
2	Explanation of Pilot Selection and Pilot Project Meeting	Outline of Project / Explanation of Pilot Project / Explanation of Criteria and Procedure for Selection	Jakarta	14th November, 2019	9 candidates cities and CRIF In total of 23
3	1st TWG	Specification of all systems (CRMS, DPD-IRI and VIS) and database framework	CRIF Office	29th November, 2019	CRIF, Data Center in MPWH, DGH, IRI and BAPPENAS In total of 29
4	1st WG-1 Meeting	Confirmation of information related to Activity 1-1 and 1-2	CRIF Office	11th December, 2019	CRIF Member of CRIF (Mr. Yussf and Yolanda)
5	1st Workshop in Sukabumi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Sukabumi	10 February, 2020	Deputy mayor of Sukabumi City, City staff and CRIF In total of 46
6	2nd Technical Meeting with Sukabumi City	Confirmation of various answers on questionnaire	Sukabumi	11th February, 2020	Key staff of BINAMARGA
7	1st Workshop in Tebing Tinggi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Tebing Tinggi	17th February, 2020	Mayor of Tebing Tinggi City, City staff and CRIF In total of 36
8	3rd Technical Meeting with Tebing Tinggi City	Confirmation of various answers on questionnaire	Tebing Tinggi	17th February, 2020	Key staff of BINAMARGA
9	2nd WG-1 Meeting	Confirmation of Budget Making Process	CRIF Office	20th February, 2020	WG member of CRIF
10	2nd TWG	Technical specifications and development schedule of all systems, and system integration concept with other applications	Online	24th June, 2020	CRIF, Sukabumi, Tebing Tingi and DGH In total of 45

11	1st WG-2 Meeting	Confirmation of Road Maintenance Activities and Road Inventory Data	Online	19th August, 2020	WG-2 Member from all stakeholders
12	3rd WG-1 Meeting	Discussion of the deterioration forecasting model in CRMS	Online	25th September, 2020	WG-1 member from CRIF, DGH, BAPPENAS and Pilot Two Cities
13	1st WG-3 Meeting	Confirmation of issues related to the Pilot Project including material procurement and future plan	Online	9th October, 2020	WG-3 member from CRIF, DGH, BAPPENAS and Pilot Two Cities
14	2nd WG-2 Meeting with Sukabumi	Confirmation of the procedures of budget and road maintenance plan in Sukabumi city	Online	9th November, 2020	WG-2 member from Sukabumi
15	3rd WG-2 Meeting with Tebing Tinggi	Confirmation of the procedures of budget and road maintenance plan in Tebing Tinggi	Online	26th November, 2020	WG-2 member from Tebing Tinggi
16	3rd TWG	Progress of system development, and test survey result of DPS-IRI	Online	24th September, 2021	CRIF, Sukabumi, Tebing Tingi and DGH
17	4th TWG	Presentation on Project Outline and Progress of System Development	CRIF meeting room / Online	20th July 2022	CRIF, Polytechnic and KIAT team
18	5th TWG	Discussion on the work plan for the 1st year Pilot Project	CRIF meeting room / Online	22th August 2022	CRIF, Sukabumi, Tebing Tingi and DGH
19	6th TWG	System Implementation Environment / Requirements of IRI Measurement & DPS-IRI and VIS / Work Plan of Pilot Project	CRIF meeting room / Online	23th September 2022	CRIF, Sukabumi, Tebing Tingi and DGH

The intensive training was conducted in two pilot cities using the systems (CRMS, DPS-IRI and VIS) that supports the road maintenance work from road inspections to the formulation of maintenance plans in 2022., The training in April 2022 has not been conducted in Tebing Tinggi City due to the inability to travel domestically to Tebing Tinggi City due to COVID-19.

Table 9 Intensive Training for Road Maintenance with the systems

Date	Site	Contents

April, 2022	Sukabumi City	・ Outline of new road maintenance procedure using the systems ・ System operations and test running ・ Field training for visual inspection and IRI survey
September, 2022	Sukabumi City and Tebing Tinggi City	



Figure 2 Intensive Training in Sukabumi and Tebing Tinggi

[1-4] Develop the database framework of regional roads across the country.

Database framework was prepared and discussed with WG-1 member in September and November, 2020. The draft database framework, outline of City Road Management System (CRMS), Road Inspection System (IRI measurement system and data processing system for IRI value calculation, and visual inspection system) were discussed in the 1st TWG held on November 29, 2019 and agreed on the database framework and outline design of respective system.

The Project has been developing a comprehensive City Road Management System (CRMS), and the data needed for CRMS will be collected, processed and verified by two sub-systems, namely Visual Inspection System (VIS) and Data Processing System for IRI Value Calculation (DPS-IRI), which are also to be developed under the Project. CRMS will comprise of three systems as shown below.

An e-learning platform will be developed as educational content to support the sustainable implementation of road maintenance process based on the systems to be introduced.

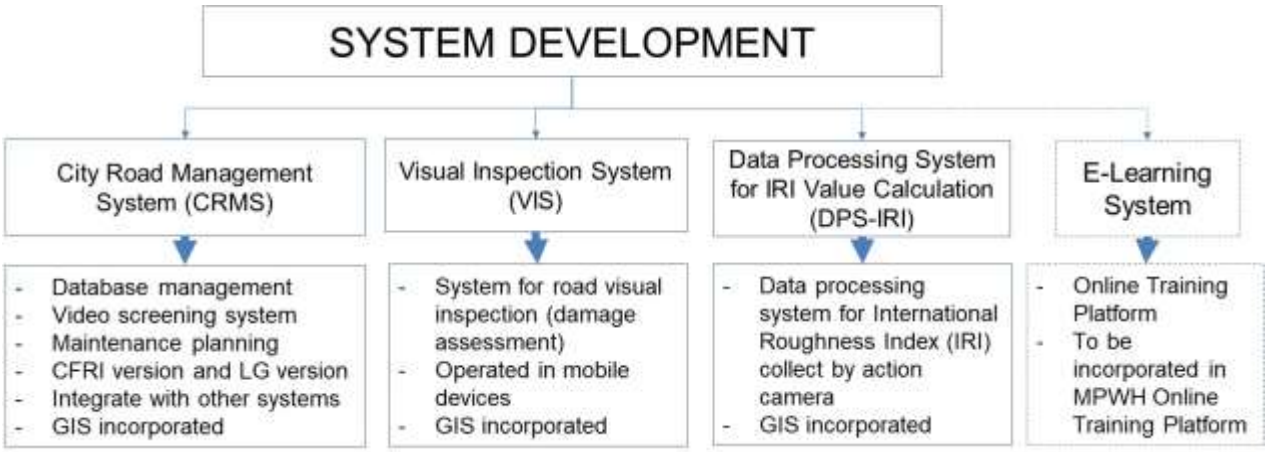


Figure 3 Component of City Road management System

The outline of activities and functions of CRMS, VIS and DPS-IRI are summarized in the following sections.

(1) City Road Management System (CRMS)

The specification of CRMS was discussed and confirmed with counterpart member at 1st TWG Meeting held of 29 November 2019. JET presented preliminary design of the system interface also. Indonesian counterparts have strongly requested to design the system as simple as possible considering the technical capability of city officials and sustainability of the system.

The final version of system specification (TOR) was prepared taking concerns of counterpart members into consideration. The outline design of CRMS was also discussed with some IT companies to ensure that CRMS can be developed by local IT companies. The following functions are included in the CRMS design.

Table 10 Functions Planned in CRMS

CRMS Functions (CRIF Version)	CRMS Function (Local Government Version)
1. Data Management • Data input, Data Importation from Local Governments, Integration, Output, etc.	1. Data Management • Data Input (Data from Road Inventories, Road Assets, Inspections, Traffic Volume, and Repairs)
2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists	2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists
3. Assessment and Analysis • Benchmarking Assessment, Pavement Performance Comparison	3. Assessment & Analysis • Assessment of Pavement Deterioration Performance, Setting of Priorities for Repairs
4. Budget Allocation Planning • Setting of Conditions, Simulation of Budget Allocation Plans	4. Formulation of Maintenance Plan • Supporting the Formulation of Annual, Mid- and Long-term Budget Plans for Local Level
5. Reporting • Prepare Report as Necessary	5. Reporting • Prepare Report as Necessary

The overall structure of CRMS is shown in Figure 4.

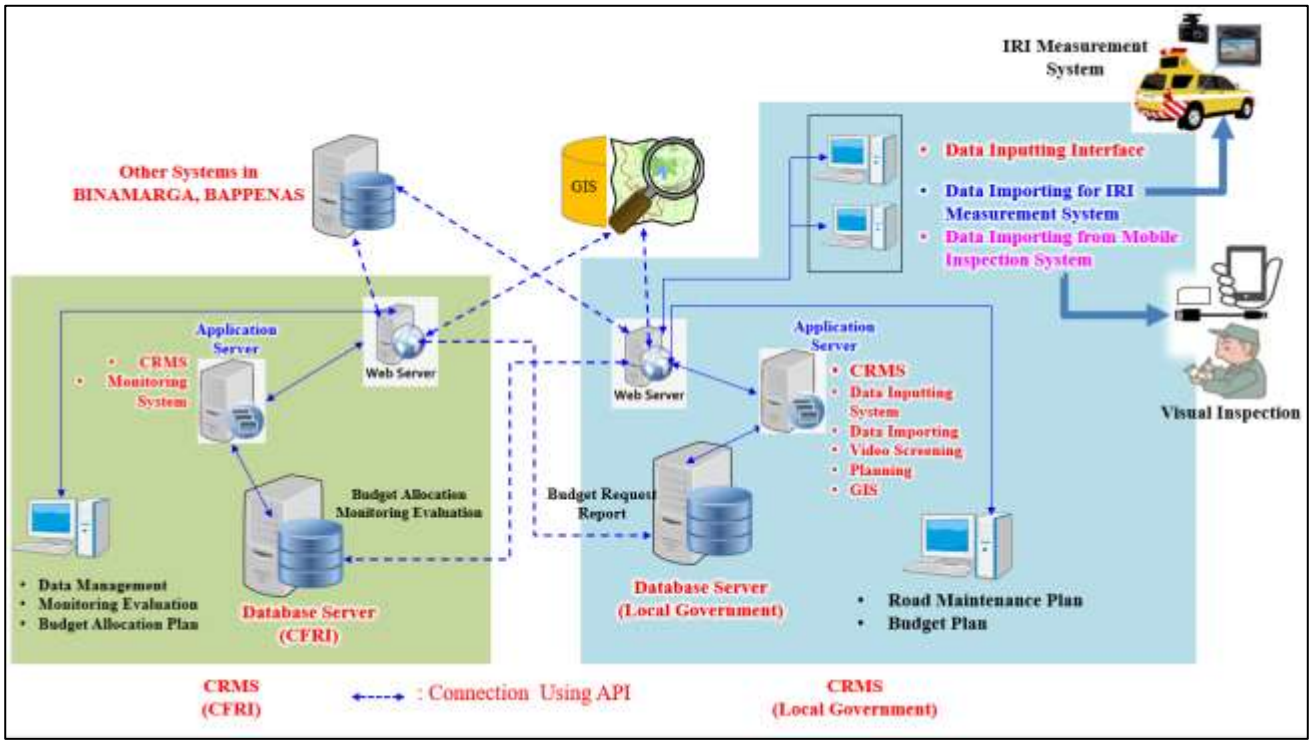


Figure 4 Overall Structure of CRMS

CRMS consists of the following modules:

Table 11 CRMS Modules

SN	Module Name	SN.	Module Name
1.	Data Inputting Module	7.	Project Formulation and Contract Packaging Module
2.	Road Inspection Module	8.	Reporting Module
3.	Map Module	9.	Documents Module
4.	Road Video Screening Module	10.	Human Resource Management Module
5.	Data Monitoring and Analysis Module	11.	System Integration Module
6.	Maintenance Planning Module		

Local IT Consultant (System Developer) was selected from the competitive bidding and started system development work from May 2020. System Developer together with JICA Project Team has confirmed MPWH IT policy while designing the system. Version 1 of most system functions was completed, and OJT was initiated for two cities. The following table shows the overall status of CRMS development.

Table 12 Status of CRMS development and Introduction

Module	Current Status	Remarks
System Administration Module	Completed (ver.1)	
Data Inputting Module	Completed (ver.1)	OJT held in April, Sep. 2022
Road Inspection Module	Completed (ver.1)	OJT held in April, Sep. 2022
Map Module	Completed (ver.1)	OJT held in April, Sep. 2022
Road Video Screening Module	Completed (ver.1)	
Maintenance Planning Module		
• Pavement deterioration model	Completed (ver .1)	OJT held in April, Sep. 2022
• Annual & Medium-term plan	Completed (ver .1)	OJT held in April, Sep. 2022
Data Monitoring & Analysis Module	Partially developed (ver. 1)	
Integration Module	Partially developed	
Reporting Module	Partially developed (ver.1)	
Documents Module	Partially developed (ver.1)	
System Installation		
MPWH System penetration and security Check	Completed	
Installation in MPWH server and domain	Completed	www.crms.pu.go.id

(2) Visual Inspection System (VIS)

Prior to the VIS system development, the JET discussed and drafted the VIS development specification. The development of VIS to support the implementation of Visual Inspection and Field Verification is a key activity of the Project, especially for on-site data collection. Inspection data recorded on-site is stored in CRMS. Therefore, when designing and developing VIS, the data compatibility between VIS and CRMS must be considered. The VIS design includes the following functions and requirements.

Table 13 Function/Requirements of VIS

No.	Function/Requirements	Remarks
1	Display current location of the user by GPS function of the device.	
2	Import & Display on the map for Inspection results	Vehicle Inspection (IRI values) / Screening Survey results / Visual Inspection (Road, Facility) / Field Verification / Common Inventory Data
3	Input & Record & Export for Inspection results	Visual Inspection (Road, Facility) / Field Verification
4	Take & Record photos with location information of the damage point	XY coordinate
5	Register & Display the area where the Inspection was completed on site	

The outline of VIS is shown in Figure 5.

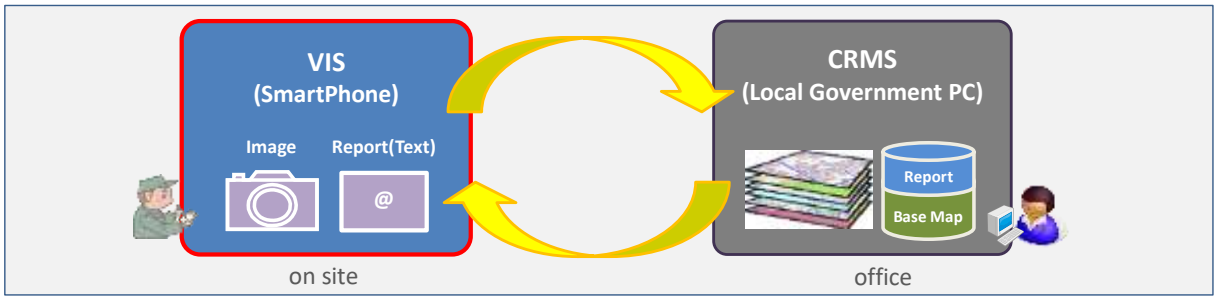


Figure 5 Outline of VIS

Based on the system requirements and several technical discussions to define the System configuration, Functions, Database definition, Compatibility and Data transfer with CRMS, etc., detailed system design document of VIS has been created by the local IT Company. Parallelly, actual performance of the system functions has been confirmed on the basis of the prototype system.

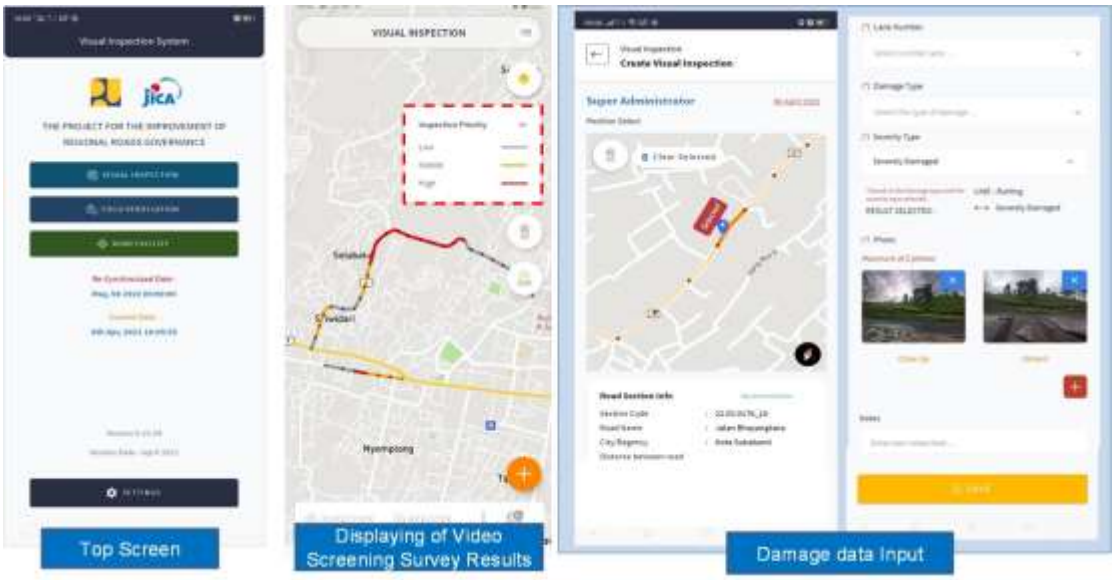


Figure 6 Windows design of VIS

VIS is divided into three major functions, 1) Visual Inspection (Pavement) , 2) Visual Inspection (Facility) , and 3) Field Verification (Pavement) , each of which is almost complete as version 1. Training for road inspections using version 1 has been started. Data synchronization with CRMS and further verification and training will be conducted to implement the system.

Table 14 Current progress of VIS development

Feature	Status
Visual Inspection (Pavement)	
/Map view (IRI, Video Screening)	Completed (ver.1)
/Create, Register	Completed (ver.1)
/Data Synchronization	Completed (ver.1)
/Mockup	Completed (ver.1)
Visual Inspection (Facility)	
/Map view (Visual Inspection result)	Completed (ver.1)
/Create, Register	Completed (ver.1)
/Data Synchronization	Partially developed
/Mockup	Completed (ver.1)
Field Verification (Pavement)	
/Map view (Visual Inspection result)	Completed (ver.1)
/Create, Register	Completed (ver.1)
/Data Synchronization	Partially developed
/Mockup	Partially developed

(3) Data Processing System for IRI Value Calculation

Prior to the system development of the Data Processing System for IRI Value Calculation (DPS-IRI), draft system specifications for the system functions, processes, and data formats were organized, based on action-camera test measurement and system requirements discussion by the JST.

Table 15 Function/Requirements of DPS-IRI

No.	Function/Requirements	Type	Remarks
1	Import Video data and G-metrix	Import/Export	Video data (mp4 format) G-metrix (fit format)
2	Display GPS location and Video viewer, Image viewer	Display	
3	Convert Video to series of Images at time interval	Conversion	
4	Overlay and make a link between G-metrix and series of Images	Analysis	G-metrix (XY, Acceleration, Time)
5	Processing module for IRI value calculation	Analysis	
6	Display Base map and processed data	Map/GIS	Open source GIS and base map data
7	Convert “XY to Point” and “Point to Line”	Map/GIS	
8	IRI value shall be added as attribute information of the Line data	Map/GIS	
9	Perform Geospatial analysis, GIS processing, data editing	Map/GIS	

10	Define and change parameter values in parameter settings	Setting	such as interval value used in processing

Table 16 Current progress of DPS-IRI development

Module	Status
Import and display video data	Need to be revised for "Gopro" version
Processing video & Sensor data	Completed (ver.1)
Create Point data	Completed (ver.1)
Point selection	Completed (ver.1)
Point editing	Completed (ver.1)
Line conversion	Completed (ver.1)
IRI analysis	Adjustment by field measurement
Data compatibility between DPS and IRI calculation module	Confirmed
Data Export	Completed (ver.1)

in the 6th TWG meeting held on 23th September 2022, the specification change of action camera has been discussed and confirmed. Initially, the decision was made to use Garmin but it has been discontinued in Indonesia. Therefore, JST proposed to change from Garmin to Gopro, because Gopro camera device can be purchased easily in Indonesia. The test survey and data validation have been conducted in case of Gopro camera, and it is confirmed that measurement process using Garmin or Gopro are the same, and accuracy of IRI values using Garmin or Gopro are almost same results.

(4) System Implementation Environment

The system implementation environment has been discussed and confirmed in the 6th TWG meeting held on 23th September 2022. The following points has been agreed with TWG members.

1. The systems (CRMS, VIS and DPS-IRI) will be implemented in the Cloud Sever managed by PUSDATIN, PUPR.
2. The specifications of the action camera to be provided will be changed from Garmin to GoPro.
3. Equipment procurement for the system implementations is shown in the following table.

Table 17 Equipment procurement for the system implementations

1.	**Desktop Computer** Memory:8GB RAM CPU: Intel Core i7 Capacity/HDD: (1 TB) Monitor 23-inch monitor HP Pavilion 23CW	**Total 3** CRIF: 1 Sukabumi: 1 Tebing Tinggi: 1

	UPS: 2000VA/1200W	
2.	**Action Camera device "Gopro Hero Black 8"**	**Total 5 sets** CRIF: 1 Sukabumi: 2 Tebing Tinggi: 2
3.	**Galaxy Tab A7 Lite by Samsung**	**Total 5 sets** CRIF: 1 Sukabumi: 2 Tebing Tinggi: 2

After the TWG meeting, the system has been installed in the PUSTDATIN Cloud Server for the OJT under the direction of PUSDATIN through the necessary process, including system security test, in November 2022.

1-2-3 Activities for Output 2

[2-3] Implementation of road inspections in the pilot areas

2-3-1 Road Inspection Work

(1) Review of the current situation

JET reviewed the collected information and answers to the questionnaire based on the detailed survey, in order to perform and further improve the activities of Road inspection through OJT, IRI measurement specification, DPS (Data Processing System for IRI) and VIS (Visual Inspection mobile System) development in a realistic condition.

(2) WG-2 meeting

In the WG-2 meeting (Online) held on 19th August 2020, the reviews of the road inspection work of 2 cities were confirmed and discussed to make clear understanding. JET will ask each city with additional questionnaire for more detail information to be confirmed, and additional online discussions will be held.

Table 18 Current situation of Road inspection work

Items	Sukabumi	Tebing Tinggi	Confirmed by Discussion
Vehicle for Inspection (to define calibration of IRI measurement vehicle)	Periodic: Contractor's vehicle Daily/Emergency	Periodic: Pick Up (Toyota) 1 unit Daily/Emergency	No specific vehicle
Details of Periodic Inspection	• 1 time/year • 115.744 km/year • October – December (3 months) • For Maintenance & Budget planning • **Outsourcing** • IRI measure/ Visual (pavement)	• 1 time/year • 223.05 km/year • 3months every year • For Maintenance planning • **Outsourcing** • Visual IRI calculation • Using paper, excel,	It has been confirmed that some cities can conduct road inspection only one time in a year due to the limited budget, and the other several local cities can do two times a year. It is stated that 2 times in a year according to the Regulation ("Regulation of the Minister of Public Works. Number

	• Using paper, excel, and pictures	and pictures	13/PRT/M/2011. Regarding procedures for Road maintenance and inspection").
Details of Routine/Daily Inspection	• 1 – 2 times/week • Visual/by Bina Marga staff • Safety patrol & Damage • Pavement & Road Facilities	• Daily • Visual/by Bina Marga staff • Safety patrol & Damage >>once a week and situational • Pavement & Road Facilities >>Routine work	Most of the local cities will have the budget for road inspection after March, and the local cities always conduct the road patrol survey every day. In Sukabumi City, due to the limited budget and the lack of human resources, the road inspection work is conducted when there is any complaint or report from community.
Damage type	Pothole/Crack/Rutting /Raveling/Softground/ Corrugation/Bleeding	Pothole/Crack/Rutting /Raveling	
IRI measurement	Using visual method	using visual inspection by Bina Marga Tebing Tinggi	Based on visual inspection using paper, photo, motorbike and vehicle. And there is no specific equipment used.

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

Table 19 Current situation of Road facility management

Facility Name	**Management Department**		**Confirmed by Discussion**
	Sukabumi	**Tebing Tinggi**	
Carriageway	Bina Marga	Bina Marga	Road facility management is conducted by each department. The facility information also such as inventory and damages, repair, shall be gathered by each role, then be aggregated. Road facility inspection is performed depends on needs and report from community.
Median	Bina Marga	Human Settlement Office	
Shoulder	Bina Marga	Bina Marga	
Side Drain	Bina Marga	Bina Marga	
Footpath/Sidewalk	Bina Marga	Human Settlement Office	
Street Lighting	Traffic Safety and Road Equipment Division	Human Settlement Office	
Traffic Light	Traffic Safety and Road Equipment Division	Transportation Office	
Culvert	Bina Marga	Bina Marga	
Service Lane	No Existence	No Existence	
Bus Stop	Transportation Office	Transportation Office	
Motorcycle Lane	No Existence	No Existence	
Bicycle Lane	Transportation Office	Transportation Office	
Guard Rail	Traffic Safety and Road Equipment Division	Transportation Office	
Others			

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

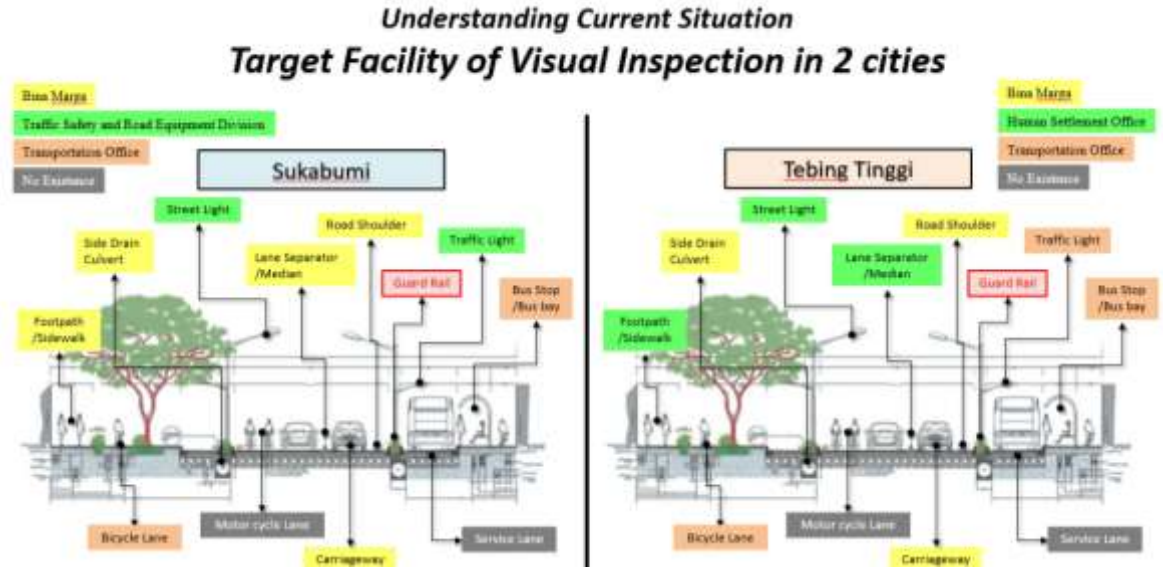


Figure 7 Current situation of Road facility management

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

Road inspections is an important role in ensuring the safety of roads by detecting on-site damage at an early stage, as well as conducting planned repairs through continuous inspections, in order to achieve efficient maintenance and management. OJT activity aims to increase the capacity and knowledge of Road inspections work personnel and support IRI measurement, visual inspections, and verifications activities. The OJT activity is supported by system technology and training with simulations with a situation or condition similar to the actual work. OJT activities in 2 pilot cities, Sukabumi city and Tebing Tinggi city, were conducted at 2 times from April to May, and from September to October, in 2022.



Figure 8 OJT for road inspection

2-3-2 IRI Measurement

(1) Creating IRI measurement specification

The method of obtaining IRI value is to mount action-camera with sensor that can acquire acceleration information on the vehicle, calculate IRI value from the acquired acceleration information. First of all, IRI measurement procedure has been considered and prepared a measurement procedure document (draft-manual), such as the mounting position of the action-camera on the vehicle, capturing settings, driving speed, weather condition, and other notes for measurement.

The next step will be based on this draft-manual, and test measurement will be carried out in Japan or in 2 cities to verify the influence on the IRI value depending on the vehicle type or driving conditions (speed, lane, weather, etc.). The results of this verification will be used for implementation in actual work and developing the IRI value calculation module.

(2) Test driving for IRI value calculation module

In order to associate relationship between road surfaces and vehicle vibrations in the IRI value calculation module, test measurement under the standard road condition was carried out in Japan. The test measurement compared the survey data of between vehicle vibration measurement using in-vehicle action-camera and flatness of road surface by actual levelling survey. The result of the comparison will be used to define the calculation logic and calibration in the development of the IRI value calculation module.

[2-5] Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF

(1) Technical meeting

The first technical meeting with official of Sukabumi city and Tebing Tinggi city were held in February 10 and 11, 2020 in Sukabumi and February 17 and 18 in Tebing Tinggi. All relevant officials of each city participated in the meeting and shared the road maintenance information based on the questionnaire which has been prepared by JET.

(2) Presentation in the technical meeting at Sukabumi city and Tebing Tinggi city

Road Maintenance and Management Procedure and Practices was presented in February 17 and 18, 2020 in Tebing Tingging by JET for the better understanding of the JICA project activity, which includes (a) Basic policy of Road Maintenance, (b) Review of Road Maintenance in Indonesia, (c) Practice of Road Maintenance in Japan, and (d) Output and Activities of JICA Project in Pilot Cities.

(3) Examination of the current budget-making procedure for regional road maintenance in the pilot areas

Based on the questionnaire survey and WG-2 meetings held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current budget-making procedures of regional road maintenance in two pilot cities have been examined in detail.

[2-6] Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.

Based on the questionnaire survey and WG-2 meetings held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current medium-term road maintenance planning procedure in two pilot cities have been examined in detail.

1-2-4 Activities for Output 3

[3-1] Conducting Detailed Engineering Survey for the Pilot Projects and Specification Design

WG-3 meeting has been held on October 9, 2020 with participants from two pilot cities who are in charge of road maintenance work to confirm current procedures of road maintenance work on site and discuss some issues for implementation of pilot projects.

In the 5th TWG meeting held on 22th August 2022, the draft of the Work Plan of the Pilot Project in 2022 was discussed, and after the meeting, JTS visited the site in Sukabumi and tbin Tinggi to survey the actual situation of road maintenance work and road conditions, and the Work Plan was updated based on the survey. Finally in the 67th TWG meeting held in 23th September 2022, the Work Plan of the Pilot Project in 2022 was explained and agreed by TWG members.

The below table shoes the outline of the Pilot Project in 2022 and 2023. In the first year, it focusses on minor or moderate damage type and routine repair work for preventive maintenance by Patching of potholes patching and cracks sealing.

Table 20 Outline of Pilot Project

Criteria	The First Pilot Project (repairs to be implemented in 2022)		The Second Pilot Project (repairs to be implemented in 2023)	
	Tebing Tinggi	Sukabumi	Tebing Tinggi	Sukabumi
Target city selection period	Apr. - Oct. 2022 (dry season)		Apr. - Oct. 2023 (dry season)	
Repair work implementation period	Work that can be done during the dry season (Apr. - Oct.)			
Target roads	Regional roads included in annual road maintenance plans			
Focused type of maintenance and repairs	• Preventative measures • Maintenance for damage other than structural damage		• Repairs (for structural damage)	
Damage severity*	• Minor / moderate (minute cracks and potholes)		• Severe (alligator cracks, structural damage)	
Planned maintenance/ repair methods	• Patching of potholes • Sealing of cracks (by sealer injection)		• (Cutting &) overlay • Partial pavement replacement	
Focused management items	• Safety and health management • Quality control (including progress control)		• Safety and health management • Quality control (including progress control) • Monitoring of the first repairs (patching & sealing)	

Granting machinery, devices or other equipment	• Compactor for pavement repair • Asphalt cutter • Crack sealing material	• Compactor for pavement repair • Asphalt cutter

* "minor / moderate" are equivalent to diagnosis criteria I / II; "severe" is equivalent to diagnosis criteria III.
(Guideline for Pavement Diagnosis (FY2017), Japan Road Association, Inc.)

[3-2] Assist Local Governments in Executing Pilot Projects

The specifications and quantities of the equipment and materials used in the maintenance work of the pilot project were discussed at the 1st TWG (held on 29th November, 2019), and the proposed specifications and quantities shown in **Table 21** were agreed. At present, the influence of COVID-19 is affecting the distribution of foreign products, so it is necessary to confirm the import status to the site when resuming travel and proceed with preparations for equipment provision. In addition, since the field activities of the experts resumed in 2022, the provided items were delivered in September to October 2022.

Table 21 Equipment and materials to be provided

No	Name of Equipment	Quantity For 1 City
1	Compactor for Pavement Repair	1 Unit
2	Asphalt / Concrete Cutter	1 Unit
3	Asphalt Crack Sealer	2 Boxes (2sites ×1Box:20 sets in a Box)
4	Cold-mix asphalt materials (Adding- Water Type) ※Aqua PATCH	6 bags (2site * 3bags) ※1bag 20kg
5	Cold-mix asphalt materials ※※Cold Patch JMTM-31	6 bags (2site * 3bags)※1bag 25kg



Figure 9 Equipment and materials to be provided

[3-3] Supervision of the Pilot Projects

According to the Work Plan, the Pilot Project in 2022 has been conducted as the following schedule in each city. The detail of procedure and contents of the Pilot Project is described in the Work Plan.

Table 22 Schedule of the Pilot Project in 2022

Pilot City	Schedule
Sukabumi	October 17th 2022 - October 20th 2022
Tebing Tinggi	October 24th 2022 - October 27th 2022

[3-4] Analysis and Summarization of the Results of the Pilot Project

Following the pilot project, ongoing monitoring will be conducted to verify its effectiveness.

1-3 ACHIEVEMENT OF OUTPUT

1-3-1 Output 1: Improve the operational capability of CRIF.

(1) Monitoring of the Project Achievements

Monitoring is routine work that is project-internal. During the implementation of the Project, monitoring operations are conducted so as to check whether or not project activities are implemented and project outputs are produced as planned. If it is necessary, the modification of the Project is considered and carried out.

Monitoring is a pillar of the project management because the Project manages the objectives based on the indicators and revises the Activities and Outputs in response to the various changes during the implementation period.
Monitoring activities shall be conducted mainly by the counterpart (C/P) in consideration of the project sustainability after the termination of the Project. Under this concept, the Monitoring System (MS: refer to the Attachment 3) shall consensually be established in cooperation with C/P.

(2) Monitoring System

In order to confirm the progresses of the Outputs and Project Purpose achieved by the project activities, C/P and JICA Expert Team (JET) monitor the progresses based on the MS. The specific contents of the MS are as follows:

1. Components of PDM (narrative summary, indicators, means of verification);
2. Monitoring method (persons/organizations in charge, frequency, remarks);
3. Target value (baseline value, final target value); and
4. Achievements of each financial year (FY 2019 – 2023).

The project achievements will be monitored and filled out in the MS on the basis of the progress. Also, each form (questionnaire, data entry sheet, etc.) necessary for data collection will be designed accordingly, and the forms for data collection will be organized in cooperation with C/P.
The MS will be modified if some difficulties are found during the implementation. Ultimately, it is expected that the monitoring activities will contribute to the project sustainability through the establishment of user-friendly and simplified MS.

1-3-2 Output 1: Improve the operational capability of CRIF.

(1) Self-ratings of CRIF on their operational capabilities

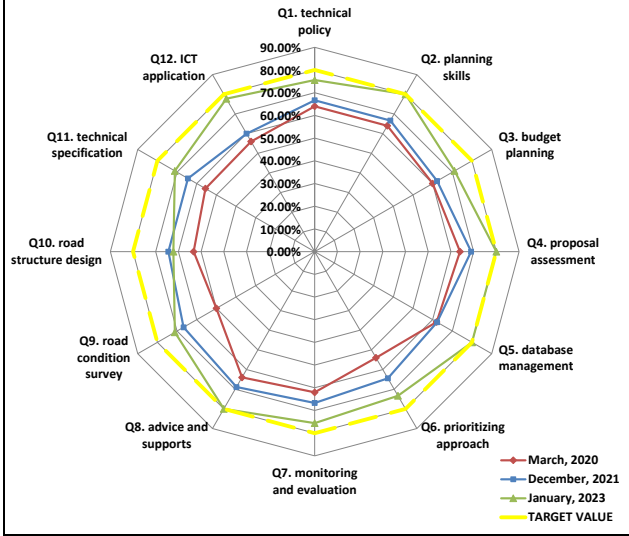
From the aspects of the evaluation items in Table 23, the self-rating survey on the operational capabilities of CRIF was carried out, and the total rating on average (average rating) was extracted through the calculation of each evaluation item (12 questions). As shown in Table 23, the average rating extracted from the 3rd questionnaire survey (January 2023) was **74.8%** (target value: 80%). It would be necessary to improve the rating up to the target value by 5.2% increase on average by the end of 2023.
Also, there were five (5) items below the average rating (74.8%), including “Q3: budget planning for regional road administration (71.1%)”, “Q6: Approach for prioritizing road maintenance projects (73.3%)”, “Q9: Road condition survey skills (71.1%)”, “Q10: Road structure design for pavement (62.2%)”, and “Q11: Knowledge of technical specification on road maintenance (71.1%).” In particular, it is necessary for CRIF to improve the skills and knowledge on the practical aspects, such as road condition survey, road structure design for pavement, and technical specification on

road maintenance. The Project shall prioritize these items to be strengthened towards the achievement of the target value.

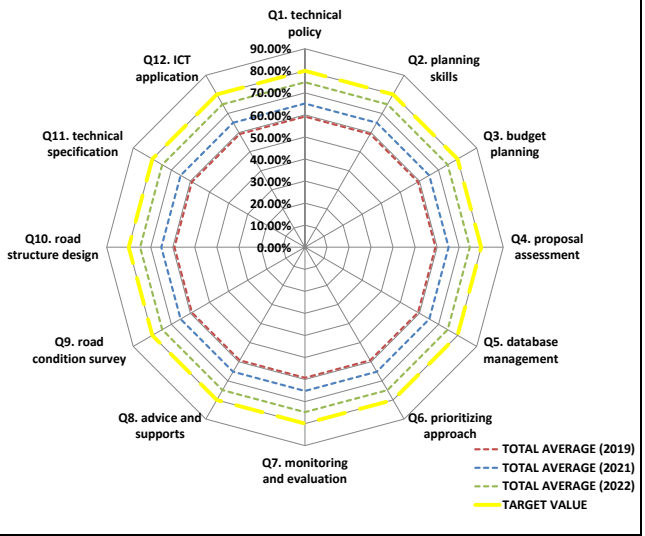
Table 23 Result of CRIF self-ratings on their operational capabilities

	(1) March 2020 (10 respondents)	(2) Dec. 2021 (9 respondents)	(3) Jan. 2023 (9 respondents)
I. Administrative Aspects			
Q1. Technical policy development for regional roads	**64.0%**	**66.7%**	**75.6%**
Q2. Planning skills for regional road administration	**64.0%**	**66.7%**	**80.0%**
Q3. Budget planning for regional road administration	**60.0%**	**62.2%**	**71.1%**
Q4. Procedure of proposal assessment for regional road administration	**64.0%**	**68.9%**	**80.0%**
Q5. Database management for regional road administration	**62.0%**	**62.2%**	**80.0%**
Q6. Approach for prioritizing road maintenance projects	**54.0%**	**64.4%**	**73.3%**
Q7. Monitoring and evaluation skills for regional road administration	**62.0%**	**66.7%**	**75.6%**
Q8. How to provide administrative advice & supports for local gov'ts	**64.0%**	**68.9%**	**80.0%**
II. Practical Aspects			
Q9. Road condition survey skills	**50.0%**	**66.7%**	**71.1%**
Q10. Road structure design for pavement	**53.3%**	**64.4%**	**62.2%**
Q11. Knowledge of technical specification on road maintenance	**55.6%**	**64.4%**	**71.1%**
Q12. ICT application to regional road maintenance	**56.0%**	**60.0%**	**77.8%**
Total Rating on Average (Q1 – Q12)	**59.2%**	**65.2%**	**74.8%**

Source: Results of the Questionnaire Survey (Form 2) of the Monitoring System



History of actual ratings (solid line) from March 2020 to January 2023



History of average ratings (dotted line) from 2019 to 2022

Figure 10 Tendency of CRIF self-ratings on the operational capabilities (actual and average ratings)

1-3-3 Output 3: Develop the practical engineering method.

(1) Self-ratings of engineers and technicians at the pilot city governments on their practical engineering method of regional road maintenance

The overall average ratings attained to **69%** (target value: 75%), *i.e.*, 10% increase from the previous survey as shown in **Table 24**. The first pilot projects in the target cities were implemented by preparing the specification designs with the assistance of the JET. Although they were quite small-scale, the activities might influence the rating results positively.

On the other hand, the self-ratings on "Q3: ICT application to city road maintenance (56.7%)," "Q6: Efficient use of inspection equipment (58.9%)," and "Q13: Laboratory testing skills and knowledge (53.3%)" were below 60%. Therefore, it is expected that the Project shall intensely carry out the OJT for road management systems with ICT application, inspection equipment, and laboratory test in 2023.

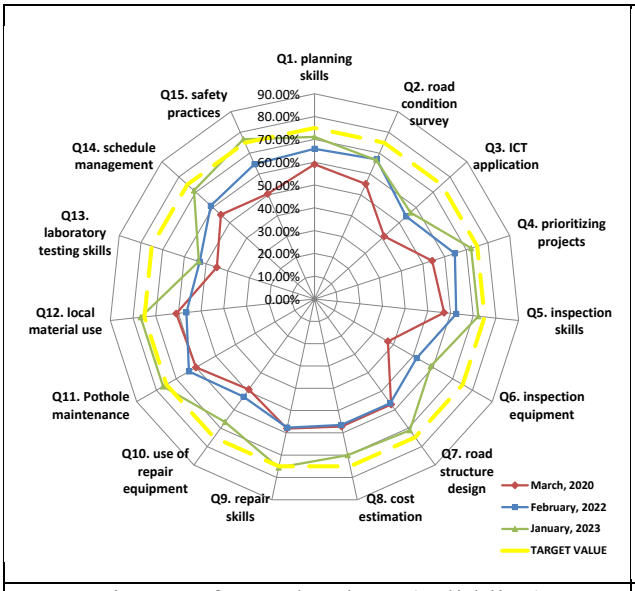
Table 24 Result of self-ratings of engineers and technicians working in pilot cities on their practical engineering method

	(1) March 2020 (21 respondents)	(2) December 2021 (17 respondents)	(3) January 2023 (18 respondents)
I. Planning Aspects			
Q1. Planning skills and knowledge of road maintenance projects	**59.1%**	**65.9%**	**71.1%**
Q2. Road condition survey skills for city roads	**55.2%**	**67.1%**	**66.7%**

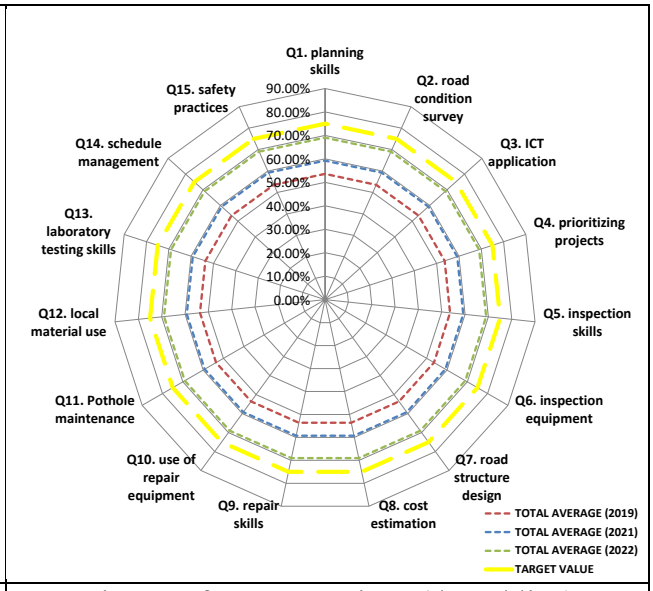
	(1) March 2020 (21 respondents)	(2) December 2021 (17 respondents)	(3) January 2023 (18 respondents)
Q3. ICT application to city road maintenance	**41.1%**	**54.1%**	**56.7%**
Q4. How to prioritize road maintenance projects	**54.3%**	**64.7%**	**72.2%**
Q5. Inspection skills of road improvement	**57.1%**	**62.5%**	**72.2%**
Q6. Efficient use of inspection equipment	**37.1%**	**51.8%**	**58.9%**
II. Implementation Aspects			
Q7. Road structure design for pavement, *e.g.*, drainage and bridge	**57.1%**	**56.5%**	**71.1%**
Q8. Cost estimation of road maintenance projects	**57.1%**	**56.5%**	**70.0%**
Q9. Repair skills of road improvement	**58.1%**	**57.7%**	**75.6%**
Q10. Efficient use of repair equipment	**49.0%**	**52.9%**	**66.7%**
Q11. Pothole maintenance skills	**60.0%**	**63.5%**	**76.7%**
Q12. Efficient use of local materials for road maintenance	**61.0%**	**56.5%**	**76.7%**
Q13. Laboratory testing skills and knowledge	**45.0%**	**52.9%**	**53.3%**
Q14. Schedule management of road maintenance projects	**55.2%**	**61.2%**	**71.1%**
Q15. Safety practices for workers and road users during the implementation	**50.5%**	**64.7%**	**76.7%**
Total Rating on Average (Q1 – Q15)	**53.6%**	**59.2%**	**69.0%**

Source: Results of the Questionnaire Survey (Form 5) of the Monitoring System

As the result of **Figure 11** is not balanced when compared with the shape of the CRIF self-rating results described above, it is necessary to take measures for making a "round shape" balanced among the evaluation items.



History of actual ratings (solid line) from March 2020 to January 2023



History of average ratings (dotted line) from 2019 to 2022

Figure 11 Tendency of self-ratings of technical staff in pilot cities on their practical engineering method (actual and average ratings)

1-4 ACHIEVEMENT OF THE PROJECT PURPOSE

Project Purpose is to properly promote regional road maintenance projects in the pilot cities under the initiative of CRIF. In order to measure the achievement of the Project Purpose, two indicators were established as explained below.

(1) Completion status and self-assessment of regional road maintenance projects by the pilot city governments indicated in the annual road maintenance plan

The completion rates in both cities are maintained at more than 90% (target value) as indicated in **Table 25**. On the other hand, since the self-assessment of the two target cities on the project completion, maintenance quality, and project management for regional road maintenance projects is around 70% (target value: 80%), the future challenges are to improve the self-assessment of all the regional road maintenance projects through the effective utilization of project outcomes, such as lessons learned and good practices of the pilot projects carried out in 2022-2023.

Table 25 Completion status and self-assessment of regional road maintenance projects

Indicator 1 of Project Purpose		2019	2020	2021	2022
Completion status (status quo with **more than 90%**)	Sukabumi	88.9%	94.3%	93.3%	100 %
	Tebing Tinggi	94.5%	100 %	100 %	100 %

Indicator 1 of Project Purpose		2019	2020	2021	2022
Self-assessment (target value: **80%**)	Sukabumi	61.1%	60.0%	64.9%	71.0%
	Tebing Tinggi	62.0%	61.9%	62.0%	70.9%

Source: Achievement records of the annual road maintenance plans by the pilot cities

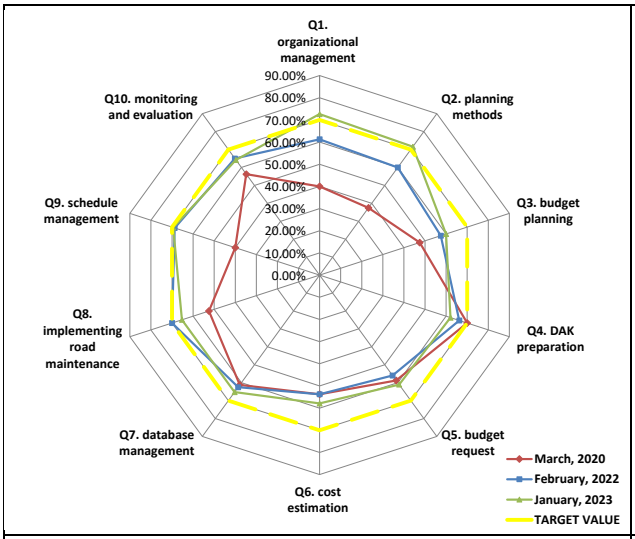
(2) Satisfaction ratings of the pilot city governments on the consultations by CRIF

As CRIF has actively communicated with and provided the consultations for both cities, the overall average ratings attained to **65%** (target value: 70%) as shown in **Table 26**. On the other hand, the satisfaction ratings on budgetary issues, such as "Q3: Budget planning for DAK (60.0%)", "Q4: DAK preparation for road maintenance projects (62.1%)", "Q5: Budget request procedures (61.1%)", and "Q6: Cost estimation (57.9%)", were lower than other items and less than 65%. Thus, it is necessary to brush up the quality of consultations on the budgetary aspects.

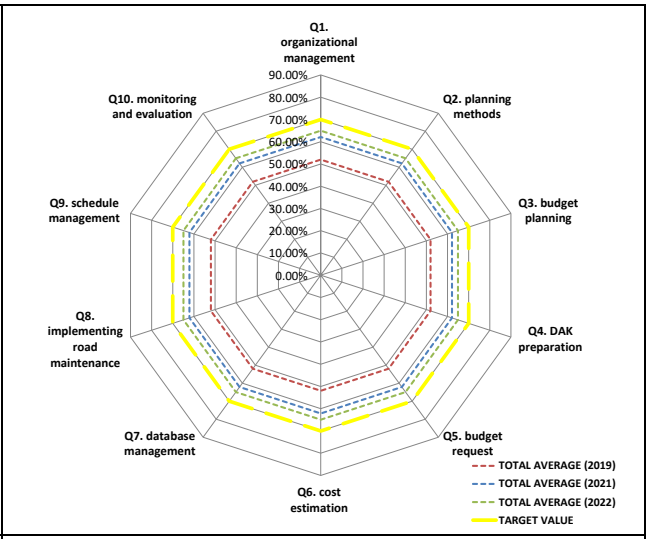
Table 26 Result of satisfaction ratings of the pilot city governments on CRIF consultations

	(1) March 2020 (16 respondents)	(2) February 2022 (16 respondents)	(3) January 2023 (19 respondents)
Q1. Organizational management for road maintenance	**40.0%**	**61.3%**	**72.6%**
Q2. General planning methods for road maintenance projects	**37.5%**	**60.0%**	**71.6%**
Q3. Budget planning for DAK	**47.5%**	**57.5%**	**60.0%**
Q4. DAK preparation for road maintenance projects	**70.0%**	**66.3%**	**62.1%**
Q5. Budget request procedures for road maintenance projects	**58.8%**	**56.0%**	**61.1%**
Q6. Cost estimation of road repair and preventive maintenance	**53.8%**	**53.8%**	**57.9%**
Q7. Database management for road maintenance projects	**61.3%**	**62.5%**	**65.3%**
Q8. Implementation of road maintenance projects	**52.5%**	**70.0%**	**65.3%**
Q9. Schedule management for road maintenance projects on DAK	**40.0%**	**68.8%**	**69.5%**
Q10. Monitoring and evaluation methods for road maintenance	**56.3%**	**65.0%**	**64.2%**
Total Rating on Average (Q1 – Q10)	**51.9%**	**62.1%**	**65.0%**

Source: Results of the Questionnaire Survey (Form 1) of the Monitoring System



History of actual ratings (solid line) from March 2020 to January 2023



History of average ratings (dotted line) from 2019 to 2022

Figure 12 Tendency of the CRIF consultations assessed by the pilot city governments (actual and average ratings)

1-5 ACHIEVEMENTS OF THE OVERALL GOAL

Overall Goal is to sustainably maintain regional roads in the pilot cities and disseminate the implementation approaches to the regional roads outside the pilot cities. This Goal will be accomplished three (3) years after the termination of the Project, i.e., by December 2026.

(1) Lengths (km) of road inspections and repairs in the pilot cities

In Tebing Tinggi, the length of road repair in 2022 was decreased in comparison with the one in 2021 due to (a) the budget reduction for road maintenance, (b) price increase of raw materials, labor costs, equipment use, etc., (c) repair for heavily damaged roads with a lot of budget, and (d) spending for bridge repair as presented in **Table 27**.

In Sukabumi, since the budget was allocated for the measures of COVID-19 in 2020 and 2021, the one for road maintenance was declined during these periods. However, the budget for road maintenance in 2022 was increased by 2.5 times compared to the one in 2021 due to the policy change of the city government out of COVID-19 measures as explained below. As a result, because the number of road maintenance projects was increased from 45 in 2021 to 84 in 2022, the lengths of road inspections and repairs were extended as well. Moreover, the target lengths which will be achieved by the end of 2026 are 60 km and 137 km for road inspections as well as 30 km and 65 km for road repairs in Tebing Tinggi and Sukabumi respectively.

Table 27 Lengths (km) of road inspections and repairs in pilot cities (2019–2022)

Indicator 1 of Overall Goal		2019	2020	2021	2022	**2026 (Target)**
Road inspections (km)	Sukabumi	68.8	47.8	77.5	107.7	**137**
	Tebing Tinggi	55.8	45.1	40.5	40.5	**60**
Road repairs (km)	Sukabumi	24.6	7.8	9.5	29.3	**65**
	Tebing Tinggi	22.3	15.9	22.1	9.5	**30**

Source: Records of Sukabumi City and Tebing Tinggi City

1-6 CHANGES OF RISKS AND ACTIONS FOR MITIGATION

1-6-1 Important Assumptions for the achievements of the Outputs

(1) Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.

With reference to the budgetary sources in 2022 for road maintenance in Tebing Tinggi, the city government budget and DAK were reduced by approximately 40% respectively comparing to the previous year 2021. On the other hand, governor financial aid (Rp. 2 billion) from North Sumatra Province was provided for road maintenance in Tebing Tinggi, which was not planned to receive at the beginning of the year. Overall, the budget for road maintenance in Tebing Tinggi was reduced by 34% in 2022 as explained in **Table 28**. Moreover, DAK is not disbursed for road maintenance in Tebing Tinggi in 2023 because the roads are in very good condition (DD1>75%).

In Sukabumi, although a lot of budget was allocated for COVID-19 measures in 2020 and 2021, the budget for road maintenance came to Rp 41.4 billion in 2022 from Rp 16.6 billion in 2021 (increase by 2.5 times). In terms of the budgetary sources in 2022 for road maintenance, the budget disbursement from city government was largely increased by approximately six (6) times compared to the previous year 2021 due to the policy change from COVID-19 measures. Likewise for Tebing Tinggi, however, since DAK is not disbursed for road maintenance in 2023, the expected budget will be only from the city government at this moment. Thus, the C/P in Sukabumi tries to propose road maintenance projects to the provincial government in West Java.

Lastly, the budget disbursement for regional road maintenance did not affect the project activities in the target cities in 2022.

Table 28 Tendency of road maintenance budget in the pilot cities (FY2019 – 2022)

Pilot City	FY 2019	FY 2020	FY 2021	FY 2022
Sukabumi	Rp. 18,387,524,910	Rp. 9,419,299,609	Rp. 16,578,560,862	Rp. 41,363,482,832
Tebing Tinggi	Rp. 24,753,998,000	Rp. 23,151,814,000	Rp. 32,559,775,000	Rp. 21,510,153,000

Source: Questionnaire results from Sukabumi City and Tebing Tinggi City

(2) Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities. Although the flood took place in Tebing Tinggi (no natural disasters in Sukabumi in 2022), the project activities, *per se*, have been implemented as planned in 2022. The natural disaster resulted in stoppage and delay for their own road maintenance activities in Tebing Tinggi due to the implementation of emergency operations.

1-7 PROGRESS OF ACTIONS UNDERTAKEN BY JICA

N/A

1-8 PROGRESS OF ACTIONS UNDERTAKEN BY GOVERNMENT OF INDONESIA

N/A

1-9 PROGRESS OF ENVIRONMENTAL AND SOCIAL CONSIDERATIONS (IF APPLICABLE)

N/A

1-10 PROGRESS OF CONSIDERATIONS ON GENDER/PEACE BUILDING/POVERTY REDUCTION

N/A

1-11 OTHER REMARKABLE/CONSIDERABLE ISSUES RELATED/AFFECT TO THE PROJECT

N/A

2. DELAY OF WORK SCHEDULE AND/OR PROBLEMS (IF ANY)

2-1 DETAIL

N/A

2-2 CAUSE

N/A

2-3 ACTION TO BE TAKEN

N/A

2-4 ROLES OF RESPONSIBLE PERSONS/ORGANIZATION

N/A

3. MODIFICATION OF THE PROJECT IMPLEMENTATION PLAN

3-1 PO

N/A

3-2 OTHER MODIFICATIONS ON DETAILED IMPLEMENTATION PLAN

(1) Modification of the PDM

In order to practically and effectively utilize the PDM, the project period is supposed to be modified as indicated in the Table 29 below.

Table 29 Modification of the PDM

Components of the PDM		Corrections
Basic Information	Target Groups and other parts in the PDM (in version 2-2)	Change from "CFRI" to "CRIF" Before: Centre of Facilitation for Regional Infrastructure (CFRI) After: Centre for Regional Infrastructure Facilitation (CRIF) As mentioned above, although "CFRI" was changed to "CRIF", the only part which was modified was the organization name. Thus, it was agreed in the 5th JCC that the version number (Version 2-2) of the PDM remained unchanged.

4. PREPARATION OF GOVERNMENT OF INDONESIA TOWARD AFTER COMPLETION OF THE PROJECT

Overall, the indicators on spider charts and other figures have been increased gradually, and it could be concluded that the Project has favorably moved forward so far. There are several reasons to be considered as follows:

- Although the quantity of aqua patch for the pilot projects was quite limited, the quality of road maintenance was improved outstandingly;
- The road management systems, such as CRMS, VIS, and DPS-IRI, were introduced in the two target cities; and
- Training in Japan was successfully completed, and the experiences were reflected into their capacity enhancement.

As future challenges, there are several concerns to be addressed towards the termination of the Project as indicated below:

- As DAK for the two target cities will not be allocated in 2023, they shall consider to secure the budget for the road maintenance though other budget sources, such as governor provincial aid, city government budget, etc.
- In the Overall Goal, Indonesian side needs to expand the implementation approaches of the Project (annual plan, practical engineering methods, etc.) outside the two target cities. Thus, it is required for CRIF to decide the dissemination areas across the country, in consultation with Sukabumi and Tebing Tinggi if necessary. The Project plans to convene the dissemination seminars for other local governments outside Sukabumi and Tebing Tinggi before the termination of the Project. Specifically, the Project will arrange the region-wide seminars to share the implementation approach, experiences, practical methods, etc. with the other local governments as indicated in the Activity 1-8 and 3-7.
- Personnel assignment for the Project shall be considered to promote the project activities smoothly. Whereas there are two key personnel assigned for the Project in Tebing Tinggi, the only one key person is mainly responsible for the Project in Sukabumi. Thus, the other personnel shall be involved in the project activities more intensely. From the perspective of the Sustainability, moreover, it is recommended that (a) at least two key personnel shall be assigned and (b) Bina Marga section in the two target cities shall regularly have the opportunities to share the knowledge and skills with their staff as countermeasures for the sudden personnel transfer, in order to establish the organization in which other staff can also undertake the project activities continuously.

II. PROJECT MONITORINGT SHEET I & II

See the attached.

END

Japan International Cooperation Agency

JICA Indonesia
Sentral Senayan II, 14th Floor
Jl. Asia Afrika No. 8, Jakarta 10270, INDONESIA
Tel: (62-21) 5795-2112 (hunting) Fax: (62-21) 5795-2116

Ref.No: 028/PRJ/04/2022

Jakarta, April 12th 2022

To:
Mr. Krisno Yuwono ST., MT.
Head of Center for Regional Infrastructure Facilitation
Ministry of Public Works and Housing

Subject: Response to the Request for the Covering Letter for the Extension Period of the Project for the Improvement of Regional Road Governance

Dear Sir,

We would like to express our sincere appreciation to your support on our activities in Indonesia, especially on the project for the Improvement of Regional Road Governance

With reference from your letter no.HL 0105-Sf/73 dated on 25 February 2022 regarding the request to send the cover letter to the Secretary General for the extension period of the captioned project, currently, JICA Headquarter is in the process of finishing the draft of Minutes of Meeting for Record of Discussion modification to extend the Project period. After the draft is complete, we will send a letter to the Secretary General containing all detailed explanation needed concerning the extension of the Project shortly.

By this letter, we hereby submit to you as well, the Minutes of Meeting (MoM) 4th Joint Coordinating Committee which has been signed from our side. Thank you for your kind assistance and cooperation.

Yours Sincerely,

HONZU Shigeo
Senior Representative
JICA Indonesia Office

CC: Secretary General of Ministry of Public Works and Housing

Attachment : Signed Minutes of Meeting of 4th Joint Coordinating Committee

MINISTRY OF PUBLIC WORKS AND HOUSING
SECRETARIAT GENERAL
CENTER FOR REGIONAL INFRASTRUCTURE FACILITATION
Jalan Pattimura Nomor 20 – Kebayoran Baru - Jakarta 12110 Telepon 021-7246248 Faksimili 021-7246248

No : HL 0105-Sf/73 Jakarta, 25 February 2022

Encl :

Re : Request for the covering letter for the extension period of the project for improvement of regional road governance

To :
Mr. Shigeo Honzu
Senior Representative
JICA Indonesia Office

Dear Mr.Honzu,

Regarding the extension of the Project for Improvement of Regional Road Governance that will be expired in May 2022 and also referring to the Minutes of Meeting (MoM) 4th Joint Coordinating Comitee on February 15th 2022, The JICA Indonesia Office will issue the letter to the Secretary General of MPWH concerning the detail information of the project along with the revised Record of Discussion (RoD)

We would like to request the JICA Indonesia Office to issue the mentioned letter above so that we can continue to work together in this project towards fruitful outcomes.

Thank you for your kind attention, cooperation and your respond at your earliest convenience.

Sincerely Yours,

Krisno Yuwono,ST.,MT.
Head of Center for Regional Infrastructure Facilitation

CC:
1. Secretary General of MPWH (as a report);
2. Director General for Highways, MPWH

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MINUTES OF MEETING

OF

THE 4th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 15th February, 2022

The 4th meeting of the Joint Coordinating Committee (JCC) was held on 15th February 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of Center for Regional Infrastructure Facilitation (CRIF). The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring
3. Progress of System Development of CRMS, DPS-IRI and VIS
4. Extension of the Project Period
5. Activity Plan for the First Half of 2022

After discussions, JCC approved and confirmed the following points:

[Approved]

1. Monitoring Sheet Ver.4
2. Necessity to extend the Project Period for Activities in Indonesia until March 2024

[Confirmed]

3. Project Progress under the Covid Pandemic Situation
4. Schedule for the Development of CRMS, VIS and DPS-IRI
5. Necessity of the Discussion about the Server Arrangement for the Systems at TWG Meeting
6. Activity Plan for the First Half of 2022

Mr. Krisno Yuwono, Head of CRIF, declared the meeting closed with his appreciation for all attendees.

15th February 2022

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of Center for Regional
Infrastructure Facilitation
Ministry of Public Works and Housing

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TTE OLEH BSrE

THE 4th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	4th Joint Coordination Committee Meeting	**Sheet**	4 pages
Location	Link Zoom Meeting	**Date**	15th February 2022
Participants:	▪ *C/P members from* CRIF, *DGH (BINAMARGA), Centre of Data and Information Technology, International Cooperation Bureau (MPWH), Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert (Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details, please refer to the attached Attendance List*		
Meeting Materials	▪ *Handouts of Presentation (attached)*		
Recorded by:	JICA Team		

Item		Outline of Discussion and Conclusions
1.0	1.1	Mr. Taufik declared to commence the 4th JCC meeting, and Mr. Krisno Yuwono was introduced as the new Head of Center for Regional Infrastructure Facilitation (CRIF) and the chairman of JCC.
	1.2	Mr. Krisno gave an opening speech and explained the purpose of the 4th JCC Meeting, one of which was to discuss the extension of the project period.
	1.3	Mr. Honzu, Senior Representative of JICA Indonesia Office, gave an opening speech to express the best wishes to the JCC meeting.
2.0		***Progress Report***
	2.1	Dr. Aoki presented the progress report of activities of this project, and reported that the Monitoring Sheet Version 4 was prepared and submitted.
3.0		***Presentation -2: Project Monitoring***
	3.1	Mr. Hirakawa presented the results of Project Monitoring. In the presentation, he proposed to modify the project period because the JICA Expert Team (JET) has not been dispatched since April 2020. Thus, it would be required to extend the period to conduct road maintenance cycles in two seasons.
	3.2	He informed that as the JET members could not visit Indonesia, JET and its counterpart had tried to carry out parts of the project activities, such as arrangements of meetings and online lectures. When JET visited Sukabumi City in December 2021, JET collected the data about the completion status and self-assessment of road maintenance work. Although the completion rate of road maintenance projects is retained with a high percentage, the self-assessment composed of quality and project management is still a low percentage (60%). As the target value is 80%, it is crucial for the Project to effectively carry out the pilot projects for the improvement of the quality and

		project management for road maintenance.
	3.3	Mr. Hirakawa assumed that the lengths (km) of road inspections and repairs in Sukabumi were reduced from FY 2019 to 2020 due to the budget allocation for COVID-19 measures (i.e., budget diversion from road maintenance budget to COVID measures). However, it is assumed that the lengths of inspections and repairs would be restored if the budget is allocated for road maintenance as in the past.
4.0		***Presentation -3: Progress of Development of CRMS, DPS-IRI and VIS***
	4.1	Dr. Pantha explained the current status of system development for 3 systems, such as City Road Management System (CRMS), Visual Inspection System (VIS) and Data Processing System for IRI (DPS-IRI).
	4.2	He explained the current progress of CRMS that basic features of most of the modules were almost completed as version 1, and few modules such as integration, reporting and documents, are partially developed. However, JET is still necessary to verify output of the modules with the real data collected from the actual field.
	4.3	Dr. Pantha also explained the current status of VIS development that most of them are completely developed as version 1.
	4.4	As for the current progress of DPS-IRI development, Dr. Pantha presented that most of the modules have already been developed as version 1. For the improvement of the IRI calculation module, JET is planning to conduct the test survey in 2 pilot cities (Sukabumi and Tebing Tinggi) for final adjustment under actual conditions and to fix the measurement method in actual situations.
5.0		***Subjects of Discussion: Extension of the Project Period***
	5.1	Dr. Aoki presented a proposal for the extension of the project period. While the initial project period is from September 2019 up to July 2022, JET proposed that the project period will be extended to March 2024 in order to implement the road maintenance cycle in two dry seasons in Indonesia and conduct training for technical transfer to achieve the goals of the project.
6.0		***Subjects of Discussion: Activity plan for the first half of 2022***
	6.1	Dr. Aoki explained the plan of activities that will be conducted in the first half of 2022. For the Output 1, JET will collect data using the DPS-IRI, VIS first, and that data will be exported to the CRMS for verification of system outputs. And the output format and budget allocation procedures will be discussed among JET, CRIF and Pilot cities.
	6.2	For the Output 2, JET plans to visit both pilot cities to conduct the demonstration of the new systems, and test operation using the DPS-IRI and VIS. Also, the budget making procedure will be discussed in the pilot cities.
	6.3	Lastly, for the Output 3, JET will survey and discuss the selection method of the location for this year's pilot project. Regarding the introduction of the equipment and materials for the pilot projects, JET is considering using those produced in Indonesia due to the difficulties of importing from overseas under the situation of COVID-19.
	6.4	He also informed that online training will resume in February. JET has already prepared the training materials to be delivered during the training.
7.0		***Discussions***
	7.1	Mr. Dimas from PUSDATIN (Centre of Data and Information Technology) of MPWH, asked again about how to handle the IRI measurement at bumps, which he asked at a previous TWG

		meeting. In addition, he asked about the necessity for local governments to set up their on-premises servers, while PUPR uses cloud servers.
	7.2	Dr. Pantha answered that the bumps would affect IRI analysis, then the DPS-IRI has a function that can eliminate the factors (noise factors), such as the speed bump, stops at intersections, train crossing or others, for the IRI calculation. Prof. Tomiyama also agreed with this statement.
	7.3	Regarding the server, Dr. Pantha explained that it may be desirable to set up a server considering operational costs and continuity of the system utilisation. The disadvantage of using a cloud server is that the local governments have to pay a usage fee of the service and that should not lead to abandonment of the system.
	7.4	Mr. Dimas informed that MPWH once provided a server to the local government, but the server was not well managed. He said that the maintenance of a cloud server is easier, and the maintenance cost is cheaper. In terms of security and capacity of data, cloud services seem to have greater merits. Pak Dimas is willing to make a calculation in case of using cloud servers if needed.
	7.5	Mr. Krisno responded that even though the local government's web server is managed by a different agency/institution, there should be no problem. The issue of server maintenance should be considered, and a commitment from the local governments for sustainable maintenance should be required. However, this matter cannot be decided in this meeting, then further review and survey will be required.
	7.6	Dr. Aoki agreed with Mr. Krisno that another meeting to discuss the details for the server should be arranged.
	7.7	Ms. Grace from the Bureau of Budget Planning and Foreign Cooperation of MPWH, reminded the procedure of project extension and modification of Record of Discussion (RD). She suggested that CRIF report to the General Secretariat with MoM that mentioned the project extension and the previous Record of Discussions (RD).
	7.8	Ms. Pratiwi from the Bureau of Budget Planning and Foreign Cooperation of MPWH, reminded that if there is something that has already been handed over to the local governments, the information must be updated according to the updated RD.
	7.9	Mr. Honzu explained the procedures that the result of today's JCC meeting will be reported to JICA HeadQuarters (HQs), and after the decision by HQs, the revised RD which includes the extension of project period shall be signed by both parties. If necessary, the JICA Indonesia Office will issue the letter to the Director General and the Secretary General.
	7.10	Ms. Ishii, JICA Indonesia Office, supplemented the procedure as follows; After reporting the result of today's meeting to the HQs, the HQs will prepare the Minutes of Meeting (MoM) to modify the RD, and MPWH (PUPR) will confirm the contents of MoM. If the contents of the MoM are agreed, the MoM will be signed by both sides, and it is the procedure for the modification of RD.
8.0		***Conclusions***
	8.1	Mr. Krisno concluded the meeting, as below: 1. Even during the Covid-19 pandemic, project activities are still going well. 2. For the extension of the project period to be processed soon, CRIF will request to JICA Indonesia Office to issue a letter to the Secretariat General and CRIF will make an explanation to the Secretary General.

9.0		***Closing Remark***
	9.1	Mr. Krisno Yuwono declared the meeting closed with his appreciation to all attendees.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno Yuwono	Head of CFRI		
2	Sari Satria	CFRI		
3	Taufik	CFRI		
4	Saddam Amin	JICA Assistant		
5	Kazuya Aoki	JICA Team		
6	Ryousuke Kaneko	JICA Team		
7	Bhoj Raj Phanta	JICA Team		
8	Masafumi Yamauchi	JICA Team		
9	Takaaki Hirakawa	JICA Team		
10	Juneichiro Ikeda	JICA Indonesia		
11	Takeo Sugimoto	JICA Team		
12	Shunji Hata	JICA Team		
13	Ishii	Reprepsentative of JICA		
14	Kazuya Tomiyama	JICA Team		
15	Luzmi Malia Izza	JICA Team		
16	Mei Lia	JICA Team		
17	Dewi Idhayani	Representative of JICA Indonesia		
18	Honzu	Representative of JICA		
19	Pratiwi Nursusilowati	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
20	Dini Audrie	CFRI		

21	Rahayu Santoso Putri			
22	Akhbar			

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	ALVIAN SANI	[redacted]		
2	ADI CHANDRA			
3	LIA WILIYANI			
4	Rika Sulaeman			
5	Sisca Puspita S			
6	Ajeng Dwi L			
7	M. Ibrahim Idris			
8	TINA. MARYANI			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Roza Aghoska	[redacted]		
2	Rizky Muffly			
3	Salmon Frarsh			
4	Gerrard Sirait			
5	Charles Panggabean			
6	Aria Leo B.			
7	Zulkarnain			
8	Adolf B. Silaban			
9	M. Arif Nugraha			
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MINUTES OF MEETING

OF

THE 5th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 22nd June, 2022

The 5th meeting of Joint Coordinating Committee (JCC) was held on 22nd June 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of Center for Regional Infrastructure Facilitation (CRIF). The meeting agenda, presented materials and attendance list are attached.

CRIF made presentations on the change of CP members.

After discussions, JCC approved the change of CP members as the following table:

Before	Amended Version
• Head of the Center of Facilitation for Regional Infrastructure • Director of Road Network Development, DGH • Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure • Head of Division Land and Road Transportation, Bappenas • Deputy Director of Planning Integration and Network System, DGH • Deputy Director of Data Analysis and System Development, DGH • Head of Division, Programming and Evaluation, Institute of Road Engineering • Others (Two pilot cities)	• Head of Center for Regional Infrastructure Facilitation • Director for Road and Bridge Management System and Strategy, Directorate General of Highways • Head of Division of Specific Allocation Funds for Roads and Bridges, Center for Regional Infrastructure Facilitation • Head of Division Land and Road Transportation, Bappenas • Head of Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways • Head of Road and Bridge Data and Information System Development Subdirectorate, Directorate General of Highways • Director for Public Works Polytechnic • Head of Subnational Roads Subdirectorate, Directorate General of Highways • Head of Centre for Data and Information Technology • Others (Two pilot cities)

Mr. Krisno Yuwono, Head of CFRI, declared the meeting closed with his appreciations for all attendees.

22nd June 2022

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of the Center for Regional Infrastructure Facilitation
Ministry of Public Works and Housing

THE 5th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	5th Joint Coordination Committee Meeting	**Sheet**	2 pages
Location	Link Zoom Meeting	**Date**	22nd June 2022

Participants:	▪ *C/P members from CRIF, International Cooperation Bureau (MPWH), Public Works Polytechnic, BAPPENAS, DGH (BINAMARGA, Sukabumi City)* ▪ *JICA Indonesia Office* ▪ *JICA Team* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		Outline of Discussion and Conclusions
1.0	1.1	Mr. Taufik declared to commence the 5th JCC meeting.
	1.2	Mr. Krisno gave an opening speech and explained the purpose of the 5th JCC Meeting, one of which was to discuss about the change of CP members of Indonesia side.
	1.3	Mr. Honzu, Senior Representative of JICA Indonesia Office, gave an opening speech to express the best wishes to the JCC meeting.
		Presentation : Change of CP Members
2.0	2.1	On behalf of CRIF, Mr. Taufik, official of CRIF, made a presentation on the change of CP members. He proposed adding new CP members and change the official name of the department of CPs according to the newly published official documents and project progressed. As new members, 1) Director for Public Works Polytechnic, 2) Head of Subnational Roads Sub-Directorate, Directorate General of Highways and 3) Head of Centre for Data and Information Technology were proposed and approved by JCC.
3.0		***Discussion***
	3.1	Dr. Aoki thanked the new members from three departments, and requested to receive technical support and discussion on sustainable use of technologies to be introduced in the Project.
	3.2	Mr. Rikal Andani from Public Works Polytechnic asked about the e-learning system which is being developed in the Project.
	3.3	Dr. Pantha explained that the training contents is being prepared and the platform for the e-learning system will be prepared in the MPWH which can be used for technology transfer to nationwide regional offices. JICA Team would like to discuss about the procedure of development of e-learning system with Public Works Polytechnic as they are expertise in road and bridge inspections in Indonesia.

	3.4	Mr. Rikal Andani in Public Works Polytechnic asked the current status and progress of the systems to be developed and introduced in this project.
	3.5	Dr. Pantha explained that three systems are being developed, such as 1) DPS-IRI, 2) VIS and 3) CRMS. The first versions of them have been completed released in Sukabumi city for trial implementation. We are planning to carry out a trial operation in Tebing Tinggi city, and after that we will discuss the next version to calibrate and update based on the opinions of system users. During the project period, version upgrades are repeated and when the project is over, the completed system is transferred. The CRMS covers pavement management and other road facilities, however bridge management is not covered.
	3.6	Mr. Krisno suggested to hold an another meeting between Public Works Polytechnic and JICA Team to discuss the further detail of the project progress. Ms. Ishii, JICA Indonesia Office, confirmed the organization structure change and inviting new participant. She said that from now on we have to update the MoM for RD modification and JICA HQs will approve it in one or two weeks. We will try to accelerate the process, and we would like to ask for cooperation of PUPR.
4.0		***Closing Remark***
	4.1	Mr. Krisno Yuwono declared the meeting closed with his appreciations to all attendees.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 22nd June 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno Yuwono	Head of CRIF		
2	Taufik	CRIF		
3	Kazuya Aoki	JICA Team		
4	Bhoj Raj Phanta	JICA Team		
5	Kazuya Tomiyama	JICA Team		
6	Luzmi Malia Izza	JICA Team		
7	Rikal Andani	Public Works Polytechnic		
8	Adi Chandra	Bina Marga DPUTR Sukabumi		
9	Mana Tanaka	JICA Team		
10	Maudy Artanti			
11	Grace	International Cooperation Bureau (MPWH)		
12	Alvynia V	International Cooperation Bureau (MPWH)		
13	Pratiwi Nursusilowati	International Cooperation Bureau (MPWH)		
14	Annisa Rindiana F			
15	Fakhrunisa			
16	Ishii	Representative of JICA		
17	Shigeo Honzu	Representative of JICA		
18	Dewi Idhayani	Representative of JICA		
19	Dika	Bappenas		
20	Ade Maulana	Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways (DGH		

Annex 1: Monitoring System (M/S) for the PIRRG from FY 2019 to FY 2023 **Ver. 4 (as of Jan. 20th, 2023)**

Components of the PDM			Monitoring Method			Target Value		Achievements of Each Financial Year				
Narrative Summary	Indicators	Means of Verification	Person/Organization in Charge	Frequency	Remarks	Baseline	Target Value*[1]	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Overall Goal: **Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.**	(1) The lengths (km) of road inspections and repairs in the pilot areas are respectively increased.	(1) Database record developed by the Project	Engineer, Center of Facilitation for Regional Infrastructure (CRIF)	Annually	The target lengths (km) will be established by the end of 1st Quarter of 2023.	Kota Sukabumi Insp: 107.7 km Rep. 29.3 km (in 2022)	Kota Sukabumi **Insp: 137 km** **Rep. 65 km** **(in 2026)**	Kota Sukabumi Insp: 68.8 km Rep. 24.6 km	Kota Sukabumi Insp: 47.8 km Rep. 7.8 km	Kota Sukabumi Insp: 77.5 km Rep. 9.5 km	Kota Sukabumi Insp: 107.7 km Rep. 29.3 km	Kota Sukabumi Insp: XXX km Rep. XXX km
						Kota Tebing Tinggi Insp: 40.5 km Rep. 9.5 km (in 2022)	Kota Tebing Tinggi **Insp: 60 km** **Rep. 30 km** **(in 2026)**	Kota Tebing Tinggi Insp: 55.8 km Rep. 22.3 km	Kota Tebing Tinggi Insp: 45.1 km Rep. 15.9 km	Kota Tebing Tinggi Insp: 40.5 km Rep. 22.1 km	Kota Tebing Tinggi Insp: 40.5 km Rep. 9.5 km	Kota Tebing Tinggi Insp: XXX km Rep. XXX km
	(2) The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	(2) Checklist of the annual road maintenance plan and of the practical engineering method	Head of Division for Road and Bridge Administration, CRIF	Annually (From the data of Year 2022)	The target value will be established by the end of 2022.	N/A	**XX areas** **(X areas in Suka.** **X areas in TT)** **(in 2026)**	N/A	N/A	N/A	N/A	XXX areas (X areas in Suka. X areas in TT)
Project Purpose: **Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CRIF.**	(1) The self-assessment of all the regional road maintenance projects exceeds 80% on average in the pilot areas with the completion rate of more than 90% for the maintenance projects indicated in the annual road maintenance plan.	(1) Annual reports prepared by the local governments in the pilot areas	Head of Sub-division for M&E, CRIF	Annually		Completion status		Completion status				
						Kota Sukabumi 88.9 % (in 2019)	**90.0 %** **(in 2023)**	Kota Sukabumi 88.9%	Kota Sukabumi 94.3%	Kota Sukabumi 93.3%	Kota Sukabumi 100%	Kota Sukabumi XX.X %
						Kota Tebing Tinggi 94.5 % (in 2019)		Kota Tebing Tinggi 94.5%	Kota Tebing Tinggi 100%	Kota Tebing Tinggi 100%	Kota Tebing Tinggi 100%	Kota Tebing Tinggi XX.X %
						Self-assessment		Self-assessment				
						Kota Sukabumi 61.1 % (in 2019)	**80.0 %** **(in 2023)**	Kota Sukabumi 61.1%	Kota Sukabumi 60.0%	Kota Sukabumi 64.9%	Kota Sukabumi 71.0%	Kota Sukabumi XX.X %
						Kota Tebing Tinggi 62.0 % (in 2019)		Kota Tebing Tinggi 62.0%	Kota Tebing Tinggi 61.9%	Kota Tebing Tinggi 62.0%	Kota Tebing Tinggi 70.9%	Kota Tebing Tinggi XX.X %
	(2) The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CRIF exceed 70% on average.	(2) Questionnaire survey to the local governments in the pilot areas (Refer to ***Form 1***)	Engineer, CRIF	Annually		51.9 % (Mar. 2020)	**70.0 %** **(Dec. 2023)**	–	51.9% (in Mar.)	62.1% (in Feb. 2022)	65.0% (in Jan. 2023)	XX.X % (in Dec.)
Output 1: **The operational capability of CRIF is improved.**	(1) The self-ratings of CRIF on their operational capabilities exceed 80% on average.	(1) Questionnaire survey to CRIF (Refer to Form 2)	Engineer, CRIF	Annually		59.2 % (Mar. 2020)	**80.0 %** **(Dec. 2023)**	–	59.2% (in Mar.)	65.2% (in Dec.)	74.8% (in Jan. 2023)	XX.X % (in Dec.)
	(2) The operations based on the SOP for regional road administration are executed by CRIF.	(2) Performance checklist based on the SOP (Refer to ***Form 3***)	Engineer, CRIF	Semi-annually	Starting from the end of FY 2022 with the draft SOP.	N/A	CRIF properly executes regional road administration based on the performance checklist for the SOP (Form 3).	N/A	N/A	N/A	N/A	XXX (in June) XXX (in Dec.)

Components of the PDM			Monitoring Method			Target Value		Achievements of Each Financial Year				
Narrative Summary	Indicators	Means of Verification	Person/Organization in Charge	Frequency	Remarks	Baseline	Target Value*[1]	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Output 2: **The process for formulating the regional road maintenance plans is strengthened in the pilot areas.**	(1) The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist.	(1) Checklist for formulating the annual road maintenance plan (Refer to ***Form 4***)	Engineer, CRIF	Annually	The checklist is prepared before July 2022.	N/A	The annual road maintenance plan contains all necessary items based on the checklist (Form 4).	N/A	N/A	N/A	N/A	XXX (in Jan.)
	(2) Database is properly operated and managed by the local governments in the pilot areas.	(2) Project Monitoring Sheet	Engineer, CRIF	Semi-annually	Starting from June 2023 after the completion of the database development.	N/A	Local governments properly operate and manage the database fulfilling the requirements established by the Project.	N/A	N/A	N/A	N/A	XXX (in June) XXX (in Dec.)
Output 3: **The practical engineering method of regional road maintenance is developed through the pilot projects.**	(1) The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average.	(1) Questionnaire survey to the engineers and technicians at the local governments (Refer to ***Form 5***)	Engineer, CRIF	Annually		53.6 % (Mar. 2020)	**75.0 %** **(Dec. 2023)**	–	53.6% (in Mar.)	59.2% (in Feb. 2022)	69.0% (in Jan. 2023)	XX.X % (in Dec.)
	(2) Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	(2) Documents prepared in the Activity 3-4	Engineer, CRIF	Annually	After the pilot projects, the Project verifies practical engineering methods in November 2023.	N/A	Lessons learned, good/bad practices, etc. for practical engineering methods are extracted from the pilot projects.	N/A	N/A	N/A	N/A	XXX (in Dec.)

NOTE:

*[1]: Target values are subject to the modification through further examinations and discussions in the future.

Project Monitoring Sheet I (Version 6: 20th January, 2023)

Project Design Matrix ($PDM_{2\text{-}2}$)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – March, 2024 (4.7 years[*4]) **Version No. 2-2**

Target Groups: Engineers/administrative staff in the Centre for Regional Infrastructure Facilitation (CRIF), DGH and the local governments in the pilot areas **Date:** 15th February, 2022

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds XX areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		Refer to Project Monitoring Sheet (PMS) Summary	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CRIF.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CRIF exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	Refer to PMS Summary	–
Outputs 1. The operational capability of CRIF is improved.	1-1 The self-ratings of CRIF on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CRIF.	1-1 Questionnaire survey to CRIF 1-2 Performance checklist based on the SOP	The staff of CRIF and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	Refer to PMS Summary	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		Refer to PMS Summary	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		Refer to PMS Summary	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

*[4]: Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the same period for one year and eight months to mainly carry out the pilot projects which were entirely cancelled in 2020 and 2021.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CRIF.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

Refer to PMS Summary

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Plan of Operations (PO)

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year												2nd Year												3rd Year												4th Year											
		I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV		
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Expert																																																	
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30													
	Actual	28		21	16																						18					23						26				23							
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24													
	Actual	19		17																																					15							
PMS / Road Database	Plan	30		21			21							27			21			30				21					30			18			21	30												
	Actual	30	1	14	6		20																							27								30										
Road Maintenance Plan	Plan			21			21						30						21				30						27			30				30													
	Actual			20	1		20																									21						10										
Road Design	Plan			18			18					30			30									30			30		18							21													
	Actual			20			17																													28		30										
Road Inspection	Plan			18			30					30								21			30									21																
	Actual			19			17																											8					23										
IRI Measurement System	Plan											9								9			9									9							23										
	Actual																																	9					9										
Construction Supervision	Plan											30			45									30			45			30									22										
	Actual																																			30													
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18													
	Actual	19	12	20																																												
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21													
	Actual	14				25	17																				18			15						19												
Training Plan / Gender	Plan			15								15												30										15														
	Actual						15																										11				30											
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18									20													
	Actual	28		20																													13					19										
Equipment																																																	
Road Inspection Equipment	Plan																																															
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Road Maintenance Equipment	Plan																																															
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Road Management System	Plan																																															
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PC and Software for Road Management System in the pilot areas	Plan																																															
	Actual																																															
Others	Plan																																															
	Actual																																															
Training in Japan and/or Third Countries																																																
Road Maintenance	Plan																																															
	Actual																																															

Activities	Year	1st Year												2nd Year												3rd Year												4th Year											
Sub-Activities		I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV		
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Output 1: The operational capability of CFRI is improved.																																																
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.	Plan																																															
	Actual																																															
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.	Plan																																															
	Actual																																															
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.	Plan			△			△					△					△												△							△												
	Actual			▲			▲					▲	▲																																				
1-4 Develop the database framework of regional roads across the country.	Plan																																															
	Actual																																															
1-5 Arrange the development policy direction of regional roads across the country.	Plan																																															
	Actual																																															
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan																																															
	Actual																																															
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.	Plan																																															
	Actual																																															
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan																							△													△												
	Actual																																																
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																																																
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan																																															
	Actual																																															
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan																																															
	Actual																																															
2-3 Conduct road inspections in the pilot areas.	Plan																																															
	Actual																																															
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan																																															
	Actual																																															
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.	Plan																																															
	Actual																																															
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.	Plan																																															
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	Actual																																															
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.	Plan																																															
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Inputs	Year	1st Year												2nd Year												3rd Year												4th Year											
		I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV		
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Expert																																																
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24				24			30				30													
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Road Design	Plan			18			18					30			30									30					30		18					21												
	Actual			20			17																													28		30										
Road Inspection	Plan			18			30					30								21			30									21																
	Actual			19			17																											8					23										
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Construction Supervision	Plan											30			45									30			45			30																		
	Actual																																			30			22										
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18			24						18													
	Actual	19	12	20																																												
Organization Management / Project Monitoring	Plan	14				25		20			15			20			15			20			15			15			15			15				21												
	Actual	14				25	17																				18		15							19					18						
Training Plan / Gender	Plan			15								15												30											15												
	Actual						15																									11				30					17						
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18									20												
	Actual	28		20																												13						19										
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																																															
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan																																														
	Actual																																															
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan																																														
	Actual																																															
3-3 Supervise the pilot projects in collaboration with CFRI.	Plan																																														
	Actual																																															
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan																																														
	Actual																																															
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan																																														
	Actual																																															
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan																																														
	Actual																																															
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan																							△												△												
	Actual																																																
Duration / Phasing	Plan																																															
	Actual																																															

Monitoring Plan	Year	1st Year												1												3rd Year												4th Year											
		I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV		
Monitoring																																															
Joint Coordinating Committee	Plan	△	Kickoff					△						△						△						△						△				△												
	Actual	▲										▲						▲											▲					▲					▲										
Set-up the Detailed Plan of Operations and Project Indicators	Plan							△																																								
	Actual							▲																																									
Submission of Monitoring Sheet	Plan	△						△						△						△						△						△																
	Actual	▲						▲											▲											▲											▲								
Monitoring Workshop	Plan							△						△						△						△						△																
	Actual					▲																																											
Reports/Documents																																																
Work Plan	Plan	△																																													
	Actual	▲																																													
Project Completion Report	Plan																																					△										
	Actual																																														
Public Relations																																															
Preparation of PR materials	Plan							■						■						■						■						■				■												
	Actual																																															

■ To complete project activities within the solid line.
To continuously conduct project activities during the dotted line.
△ To conduct meetings/seminars, execute monitoring, and prepare reports.

Plan of Operations (PO)

Version 2
Date 31 March, 2020

Project Title: The Project for the Improvement of Rec

Inputs	5th Year I 9	10	11	II 12	1	2	III 3	4	5	IV 6	7	8	Remarks	Monitoring: Issue	Monitoring: Solution
Expert														N/A	
Team Leader / Road Maintenance 1															
Deputy Team Leader / Road Maintenance 2															
PMS / Road Database															
Road Maintenance Plan															
Road Design															
Road Inspection															
IRI Measurement System															
Construction Supervision															
PMS / Road Management System 1															
Organization Management / Project Monitoring															
Training Plan / Gender															
PMS / Road Management System 2 / Project Coordinator															
Equipment														N/A	
Road Inspection Equipment															
Road Maintenance Equipment															
Road Management System															
PC and Software for Road Management System in the pilot areas															
Others															
Training in Japan and/or Third Countries															
Road Maintenance															

Activities / Sub-Activities	5th Year I 9	10	11	II 12	1	2	III 3	4	5	IV 6	7	8	Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
Output 1: The operational capability of CFRI is improved.													WG-1			
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.													PMS / Road Database	CFRI	Ongoing	
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.													PMS / Road Database	CFRI	Ongoing	
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.													PMS / Road Database	CFRI IRE	Ongoing	
1-4 Develop the database framework of regional roads across the country.													PMS / Road Database	CFRI IRE	Ongoing	
1-5 Arrange the development policy direction of regional roads across the country.													PMS / Road Database	CFRI	N/A	
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.													PMS / Road Database	CFRI	N/A	
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.													PMS / Road Database	CFRI	N/A	
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.													PMS / Road Database	CFRI	N/A	
Output 2: The process for formulating the regional road maintenance plans is str													WG-2			
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.													PMS / Road Management System 1	CFRI, Local gov'ts of the pilot areas (LGPA)	Ongoing/Pilot areas were selected in Feb. 2020.	
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.													PMS / Road Management System 1	CFRI LGPA	Ongoing	
2-3 Conduct road inspections in the pilot areas.													PMS / Road Management System 1	CFRI LGPA	Ongoing	
2-4 Develop the database of regional road maintenance in the pilot areas.													PMS / Road Management System 1	CFRI LGPA	N/A	
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.													PMS / Road Management System 1	CFRI LGPA	N/A	
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.													PMS / Road Management System 1	CFRI LGPA	N/A	
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.													PMS / Road Management System 1	CFRI LGPA	N/A	
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.													PMS / Road Management System 1	CFRI LGPA	N/A	

Inputs	5th Year												Remarks		Issue	Solution
	I			II			III			IV						
	9	10	11	12	1	2	3	4	5	6	7	8				
Expert															N/A	
Team Leader / Road Maintenance 1																
Deputy Team Leader / Road Maintenance 2																
PMS / Road Database																
Road Maintenance Plan																
Road Design																
Road Inspection																
IRI Measurement System																
Construction Supervision																
PMS / Road Management System 1																
Organization Management / Project Monitoring																
Training Plan / Gender																
PMS / Road Management System 2 / Project Coordinator																
Output 3: The practical engineering method of regional road maintenance is deve													WG-3			
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.													Road Design	CFRI LGPA	Ongoing	
3-2 Assist the local governments in the pilot areas to execute pilot projects.													Road Design	CFRI LGPA	Ongoing	
3-3 Supervise the pilot projects in collaboration with CFRI.													Road Design	CFRI LGPA	N/A	
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.													Road Design	CFRI LGPA	N/A	
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.													Road Design	CFRI LGPA	Ongoing	
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.													Road Design	CFRI LGPA	N/A	
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.													Road Design	CFRI LGPA	N/A	
Duration / Phasing																

Monitoring Plan	5th Year												Remarks	Issue	Solution
	I			II			III			IV					
Monitoring															
Joint Coordinating Committee														See the remarks.	
Set-up the Detailed Plan of Operations and Project Indicators														N/A	
Submission of Monitoring Sheet														N/A	
Monitoring Workshop														N/A	
Reports/Documents															
Work Plan														N/A	
Project Completion Report														N/A	
Public Relations															
Preparation of PR materials														N/A	

To complete project activities within the solid line.
To continuously conduct project activities during the dottec
To conduct meetings/seminars, execute monitoring, and pre

TO CR of JICA Indonesia OFFICE

PROJECT MONITORING SHEET

Project Title: The Project for the Improvement of Regional Roads Governance
Version of the Sheet: Ver. 6

Name: Kazuya Aoki
Title: Team Leader
Submission Date: 14th September 2023

I. SUMMARY

1. PROGRESS

1-1 PROGRESS OF INPUTS

1-1-1 Indonesia Side

(1) Personnel

Project Director (PD) and Project Manager (PM) were identified under Record of Discussion (hereinafter to be called as "R/D") and assigned in September 2019. The rest of counterpart personnel was selected through the progress of the Project. In September 2019, 9 personnel for three Working Groups (hereinafter referred to as "WG") have been assigned (3 personnel for each WG) from the Center of Facilitation for Regional Infrastructure (hereinafter referred to as "CRIF"). Other related departments of the Ministry of Public Works and Housing (hereinafter referred to as "MPWH"), such as Department General of Highway (hereinafter referred to as "DGH"), Center for Data and Information Technology and Institute of Road Engineering (IRE) have assigned their officials as representatives of their respective divisions. Further 16 personnel from pilot cities (6 personnel from Sukabumi City and 10 personnel from Tebing Tinggi City) are assigned in February 2020. BAPPENAS has also been assigning their officials as member of JCC and WG in all meetings. The change of CP members was approved at the 5th JCC meeting held in June 2022. Amended version of the counterpart members is described in the following table. Furthermore, at the 5th JCC meeting, the English names of the counterpart organizations were corrected. The English name of the main counterpart is changed to Center for Regional Infrastructure Facilitation (hereinafter to be called as "CRIF").

Table 1-1 Approved New Counterparts Members

Before	Amended Version
・ Head of the Center of Facilitation for Regional Infrastructure	・ Head of Center for Regional Infrastructure Facilitation

・ Director of Road Network Development, DGH ・ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure ・ Head of Division Land and Road Transportation, Bappenas ・ Deputy Director of Planning Integration and Network System, DGH ・ Deputy Director of Data Analysis and System Development, DGH ・ Head of Division, Programming and Evaluation, Institute of Road Engineering ・ Others (Two pilot cities)	・ Director for Road and Bridge Management System and Strategy, Directorate General of Highways ・ Head of Division of Specific Allocation Funds for Roads and Bridges, Center for Regional Infrastructure Facilitation ・ Head of Division Land and Road Transportation, Bappenas ・ Head of Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways ・ Head of Road and Bridge Data and Information System Development Subdirectorate, Directorate General of Highways ・ Director for Public Works Polytechnic ・ Head of Subnational Roads Subdirectorate, Directorate General of Highways ・ Head of Centre for Data and Information Technology ・ Others (Two pilot cities)

Table 1-2 Main Counterparts

Title	Name	Organization/Position
Project Director	Krisno Yuwono	Head of CRIF
Project Manager	Sari Satria Dwipayana	Head of Division for Road and Bridge DAK Provision, CRIF
Leader of WG-1	Bapak Amiruddin Yusuf	Engineer, Road and Bridge Administration Division, CRIF
Leader of WG-2	Bapak Muhamad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF
Leader of WG-3	Bapak Muhammad Taufik	Head of Subdivision for Monitoring, Evaluation and Reporting, Road & Bridge Administration Division, CRIF

(2) Provision of the project office and facilities necessary for the project implementation

Project office space has been allocated in the building of CRIF office.

(3) Expenses for the pilot projects executed by the local governments in the pilot areas

The first pilot project was conducted in Tebing Tinggi City from 17th October 2022 to 20th October 2022, and in Sukabumi City from 24th October 2022 to 27th October 2022, with the budget of Indonesia side. The second pilot project was conducted in Tebing Tinggi City from 11th July 2023 to 2nd August 2023, and in Sukabumi City, it will be conducted in September and October in 2023, with the budget of Indonesia side.

(4) Administrative and operational expenses necessary for the project implementation

Expenses agreed at R/D has been secured and handled by the Indonesia side.

1-1-2 Japanese Side

(1) Experts

In accordance with the amended contract agreed in August 2019 between JICA and JICA Expert Team (JET), the experts have been assigned. After that, Dr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system in February 2020, then the number of experts has increased into a total 12 experts.
And Ms. Ono, the expert in charge of Training Plan / Gender , has been changed to Ms. Tanaka in May 2021.
Experts have been assigned since September 1, 2019, and at the end of January 2023, all experts have been assigned for a total of 30.91 Man/Month (hereinafter to be called as "MM") out of the Project total assignment of 63.0 MM (assignment in Indonesia only). Since April 2020, there are no assignments in Indonesia due to the outbreak of COVID-19. However, during that period, JET has continued activities by online remote work from Japan. In the monitoring sheet version 3, the total assignment in Indonesia was described as 68MM, however, since a part of activities were converted to remote work from Japan, the current number of assignments is 65MM by the end of August 2023. The details are given in the Project Monitoring Sheet II (PO).

Table 1-3 Dispatched Experts

Experts	Position	Total (MM)
Kazuya Aoki	Team Leader / Road Maintenance 1	6.93 MM
Masafumi Yamauchi	Deputy Team Leader / Road Maintenance 2	2.23 MM
Bhoj Raj Pantha	PMS/Road Database	6.13 MM
Shunji Hata	Road Maintenance Plan	4.23 MM
Eiji Noguchi	Road Design	4.77 MM
Takeo Sugimoto	Road Inspection	4.00 MM
Kazuya Tomiyama	IRI measurement system	0.90 MM
Hiroshi Ueda	Construction Supervision	3.23 MM
Junichi Oshima / Tetsuo Uno	PMS/Road Management System 1	2.10 MM
Takaaki Hirakawa	Organization Management / Project Monitoring	5.17 MM
Naoko Ono / Mana Tanaka / Ippei Kato	Training Plan / Gender	2.43 MM
Ryusuke Kaneko	PMS/Road Management System 2 / Project Coordinator	3.67 MM
Total (by end of August 2023)		42.20 MM

(2) Training of counterpart personnel in Japan and/or the Third Countries

Under the Project, two times training in Japan are planned, and the first training in Japan was held from 28th November 2022 to 9th December 2022 with the participants of total 8 counterparts. The second training in Japan was held from 19th June 2023 to 30th June 2023 with the participants of total 10 counterparts, including Mr. Krisno Yuwono who is the Project Director.

(3) Provision of Equipment

At the 1st Joint Coordination Committee meeting (hereinafter called as "JCC") held on September 24, 2019, specification of procurement equipment was approved by the counterparts. The furniture (desks and chairs) for the project office were installed by JET. Construction equipment and materials for the Pilot Project were handed over to the CP in October 2023. The equipment for system operation, such as GoPro Cameras, tablet PCs and Desktop PCs, were handed over to the CP and installed to CRIF and 2 pilot cities by JET in March 2023.

(4) Local expenses for the project activities as necessary

Local expense has been utilized mainly for consultant cost, office equipment, so far.

1-2 PROGRESS OF ACTIVITIES

Project activities to achieve the project purpose under Work Plan were agreed at the 1st JCC. Project activities described in Project Monitoring Sheet I (Project Design Matrix: PDM) summarized in the Table 1-4 shown below. Progress of each activity is described accordingly in the sections that follow.

Table 1-4 Outline of Project Activities

Outputs	Activity No.	Activities
Common Activities to All Outputs	0-1	Development and Discussion of the Work Plan and the Monitoring Sheet
	0-2	Setting PDM Indicators
	0-3	Holding Joint Coordination Committee (JCC) Meetings
	0-4	Conducting the Training in Japan
	0-5	Drafting the Project Completion Report
Outputs 1: The operational capability of CRIF is improved.	1-1	Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.
	1-2	Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
	1-3	Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.
	1-4	Develop the database framework of regional roads across the country.

	1-5	Arrange the development policy direction of regional roads across the country.
	1-6	Prepare the proposal of budget allocation plan for regional road maintenance.
	1-7	Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.
	1-8	Convene the region-wide seminars for the other local governments outside the pilot areas.
Outputs 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1	Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
	2-2	Confirm the current status and issues of regional road maintenance in the pilot areas.
	2-3	Conduct road inspections in the pilot areas.
	2-4	Develop the database of regional road maintenance in the pilot areas.
	2-5	Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF.
	2-6	Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.
	2-7	Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
	2-8	Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.
Outputs 3: The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1	Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
	3-2	Assist the local governments in the pilot areas to execute pilot projects.
	3-3	Supervise the pilot projects in collaboration with CRIF.
	3-4	Analyze and document the results of the pilot projects, including safety and management aspects.
	3-5	Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
	3-6	Identify the technical issues on human resources development in the local governments of the pilot areas.
	3-7	Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

1-2-1 Common Activities to All Outputs

[0-1] Development and Discussion of the Work Plan and the Monitoring Sheet

The Work Plan was discussed with CP and confirmed in September 2019. The monitoring sheet ver.1 to ver.5 were prepared by collaboration between CP and JET and confirmed in the JCC meeting.

[0-2] Setting PDM Indicators

Refer to the section 1-3 ACHIEVEMENT OF OUTPUT

[0-3] Holding Joint Coordination Committee (JCC) Meetings

Outline of JCC is summarized in Table 1-5. Member of JCC was set as agreed at R/D and assigned in

September 2019.

Table 1-5 Outline of JCC

Chair	Head of the Center of Facilitation for Regional Infrastructure
Meeting Frequency	About every 6 months In principle, meetings are held to discuss the Work Plan and the interim progress reports and the final report.
Roles	▪ Discussion and approval on the annual work plan of the Project ▪ Assessment of the situation regarding achievement and progress of the annual work plan of the Project ▪ Investigation and exchange of opinions on issues in the Project implementation process ▪ Facilitate to overcome any critical issues (if occur) during the Project implementation
Members	**Indonesia** ▪ Head of the Center of Facilitation for Regional Infrastructure ▪ Director of Road Network Development, DGH ▪ Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure ▪ Head of Division Land and Road Transportation, BAPPENAS ▪ Deputy Director of Planning Integration and Network System, DGH ▪ Deputy Director of Data Analysis and System Development, DGH ▪ Head of Division, Programming and Evaluation, Institute of Road Engineering ▪ Others **Japan** ▪ The Japanese Embassy in Indonesia ▪ JICA Indonesia Office ▪ JICA Expert Team Members, etc.

(1) 1st JCC

The 1st JCC meeting was held on 24th September 2019 in Meeting Room in CRIF, Heritage Building 4th Floor, MPWH, under the chairmanship of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. In the 1st JCC meeting, the Work Plan and Monitoring Sheet Ver.1 were approved. The minute of JCC meeting is attached.

(2) 2nd JCC

The 2nd JCC was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the CRIF, with total of 30 participants. In the 2nd JCC meeting, the Monitoring Sheet Ver.2 and the Project Indicators which are described in the updated PDM were approved. The minute of JCC meeting is attached.

(3) 3rd JCC

The 3rd JCC was held on 20th January 2021 by online under the chairmanship of Mr. Dedy Gunawan, Head

of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure, with total of 45 participants. In the 3rd JCC meeting, the Monitoring Sheet Ver.3 was approved. The minute of JCC meeting is attached.

(4) 4th JCC

The 4th JCC was held on 15th February 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of CRIF, with total of 39 participants. In the 4th JCC meeting, the Monitoring Sheet Ver.4 was approved. The minute of JCC meeting is attached.

(5) 5th JCC

The 5th JCC was held on 22nd June 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of CFRI, with total of 20 participants. In the 5th JCC meeting, the change of counterpart members was approved. The minute of JCC meeting is attached.

(6) 6th JCC

The 6th JCC was held on 20th January 2023 in Meeting Room in CRIF, Heritage Building 4th Floor, MPWH, and online under the chairmanship of Mr. Krisno Yuwono, Head of CFRI, with total of 24 participants. In the 6th JCC meeting, the Monitoring Sheet Ver.5 was approved. The minute of JCC meeting is attached.

(7) 7th JCC

The 7th JCC will be held on 15th September 2023.

[0-4] Conducting the Training in Japan

The first training in Japan was held from 28th November 2022 to 9th December 2022 with the participants of total 8 counterparts.

Course Title: Roads Maintenance Policy and Infrastructure Asset Management in Japan
Period: From 28th November 2022 to 9th December 2022 (12 days) [**Table 1-7**]
Participants: 8 counterpart members [**Table 1-6**]

Table 1-6 List of Participants for the first Training Japan in 2022

#	Name	Title	Affiliation
1	Mr.Rikal Andani	Lecturer	Polytechnic, Ministry of Public Works and Housing
2	Ms.Brigitta Yolanda Puspa Persada	Junior Expert	Center for Regional Infrastructure Facilitation, Ministry of Public Works and Housing
3	Mr.Muhamad Taufik	Sub Coordinator	Center for Regional Infrastructure Facilitation, Ministry of Public Works and Housing
4	Dr.Asep Irawan	Head Agency	PU Agency of Sukabumi City

5	Mr.Adi Chandra Maulana	System Analyst	PU Agency of Sukabumi City
6	Mr.Zulkarnain, ST	Supervisor	PU Agency of Tebing Tinggi City
7	Mr.Muhammad Arif Nugraha, ST	Supervisor	PU Agency of Tebing Tinggi City
8	Ms.Nurafni Nugroho Putri	Engineer (First Expert)	Directorate General of Highways, Ministry of Public Works and Housing

Table 1-7 Training Program for the first Training Japan in 2022

DATE	CONTENTS	Lecturer
2022/11/28	Arrival and Check In	
2022/11/29	Briefing	JICA
	Presentation about Country Report	JICA
	National and Regional Roads Maintenance Policy in Japan	Ministry of Land, Infrastructure, Transport and Tourism
2022/11/30	Roads Maintenance and Pavement management System in Kyoto City	Kyoto City
2022/12/1	Latest technology of Infrastructure Asset Management and suggestions for practice in Indonesia (lecture and discussion)	Kyoto University
	Evidence Based Policy Making (EBPM) for Infrastructure Asset Management policy and decision making	Osaka University
	Introduction of the latest research on Infrastructure Asset Management in Osaka University, and discussion	Osaka University
2022/12/2	Human Resource Development for Asset Management / Infrastructure Museum	Gifu University
2022/12/5	Regional Road Maintenance and Management in Setagaya	Setagaya Ward
	Regional Road Maintenance and Management in Kawasaki	Kawasaki City
2022/12/6	Joint research with the Indonesian government and case studies of pavement research in Japan (Cooperation research project with IRE and PWRI)	Public Works Research Institute
	Regional Road Maintenance and Management in Chofu	Chofu City
2022/12/7	Latest Pavement Recycling Machinery and its Deployment in Indonesia	SAKAI HEAVY INDUSTRIES, LTD.
	Regional Road Management with comprehensive maintenance scheme in Japan	ORIENTAL CONSULTANTS Co.,Ltd
2022/12/8	Advanced Infrastructure Management Technology using Geo-Spatial Data and its Application to Indonesia	PASCO CORPORATION
	Presentation about Learning in Japan	JICA
	Closing and Certificate	JICA
2022/12/9	Departure from Narita International Airport	



Figure 1-1 1st Training in Japan in 2022

The second training in Japan was held from 19th June 2023 to 30th June 2023 with the participants of total 10 counterparts.

Course Title: Local Road Maintenance and Management with Climate Resilience
Period: From 19th June 2023 to 30th June 2023 (12 days) [**Table 1-9**]
Participants: 10 counterpart members [**Table 1-8**]

Table 1-8 List of Participants for the second Training Japan in 2023

#	Name	Title	Affiliation
1	Krisno Yuwono, ST, MT	Head of Center for Regional Infrastructure Facilitation	Ministry of Public Works and Housing
2	Reza Aghista	Head of Public Works and Spatial Planning Agency, Tebing Tinggi City	Ministry of Public Works and Housing, Tebing Tinggi
3	Sony Hermanto,S.H.,M.Si	Head of Public Works and Spatial Planning Agency, Sukabumi City	Ministry of Public Works and Housing, Sukabumi
4	Muhamad Taufik	Sub-coordinator of Planning & Programming	Ministry of Public Works and Housing

5	Brigitta Yolanda Puspa Persada	Staff/ Functional department: Mapping junior surveyor	Ministry of Public Works and Housing
6	Setia Dewi Prihapsari	Senior Statistics staff/Head of the Data and Information Working Team for Infrastructure and Disaster Statistics	Ministry of Public Works and Housing
7	Asep Supriyadi,A.Ma.,PKB.,S.H	Supervisor in Functional Department of Road and Bridge Development Sub-Section	Ministry of Public Works and Housing, Sukabumi
8	Rizky Mufty Aqsha	Head of Bina Marga Section	Ministry of Public Works and Housing, Tebing Tinggi
9	Tri Aryani	Laboratory Supervisor	Polytechnic PU
10	Anitya Darmaningtyas Maheswara Rahardjo	Junior Staff of Road and Bridge Technic	Ministry of Public Works and Housing

Table 1-9 Training Program for the second Training Japan in 2023

DATE	CONTENTS	Lecturer
2023/6/19	Arrival and Check In	
2023/6/20	Briefing	JICA
	Presentation about Country Report	JICA
	Road maintenance of national and regional roads	Ministry of Land, Infrastructure, Transport and Tourism
2023/6/21	Large-scale plant for pavement technology and road waste treatment	TAIYU KENSETSU Co., Ltd.
	Toll Road Operations in Aichi Prefecture (Toll Road Concession)	Aichi Road Concession Co., Ltd.
2023/6/22	Monitoring of regional roads with the participatory approach of residents (regarding the supporters of social infrastructure maintenance)	Gifu Prefecture
	Field visit	Shirakawa Go
2023/6/23	Improving the efficiency of road maintenance operations through the use of in-vehicle sensors and big data analysis	Okazaki City / AISIN Corporation
	Field visit	Okazaki City
2023/6/24	Introduction of Japanese traditional cultures in Kyoto	Kyoto
2023/6/26	Development of a comprehensive evaluation method for the maintenance of roadside slopes	Kyushu Univ
	Reporting system on road damages by using LINE for citizens	Fukuoka City
2023/6/27	Bridge maintenance at Megami Ohashi	Nagasaki Road Agency
2023/6/28	Road and bridge maintenance in Kyushu and international cooperation	Nagasaki Univ.
	Nagasaki Prefecture's "Michimori System" in the framework of Industry-Government-Academia collaboration	NPO Michimori
2023/6/29	Presentation about Learning in Japan	JICA
	Closing and Certificate	JICA

2023/6/30	Departure from Chubu International Airport	

The planned training program in Japan was successfully completed. The training program included visits to the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), universities, local governments, and private companies, focusing on road maintenance and management and risk management in Japan, local road maintenance, and asset management policies. Discussions were held on the actual situation of road maintenance in Japan, organization, human resource development, budget subsidy scheme, technology development in private companies and its utilization, etc. In addition, at Osaka University, they had an exchange meeting with students from government agencies around the world, and discussed the differences and similarities between road maintenance management in Indonesia and other countries. The participants learned about the importance of preventive maintenance, budgetary measures for asset management, and the introduction of new technology in road asset management, and obtained information to consider its applicability to Indonesia in the future.



Figure 1-2 2nd Training in Japan in 2023

[0-5] Drafting the Project Completion Report

Project Completion Report (PCR) is planned to be submitted in March 2024.

1-2-2 Activities for Output 1

[1-1] Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.

The roles and responsibilities of CRIF was confirmed and summarized in the technical report. The section of Roads and Bridges section that is the main CP in this Project is divided into two sub-sections, Planning and monitoring.

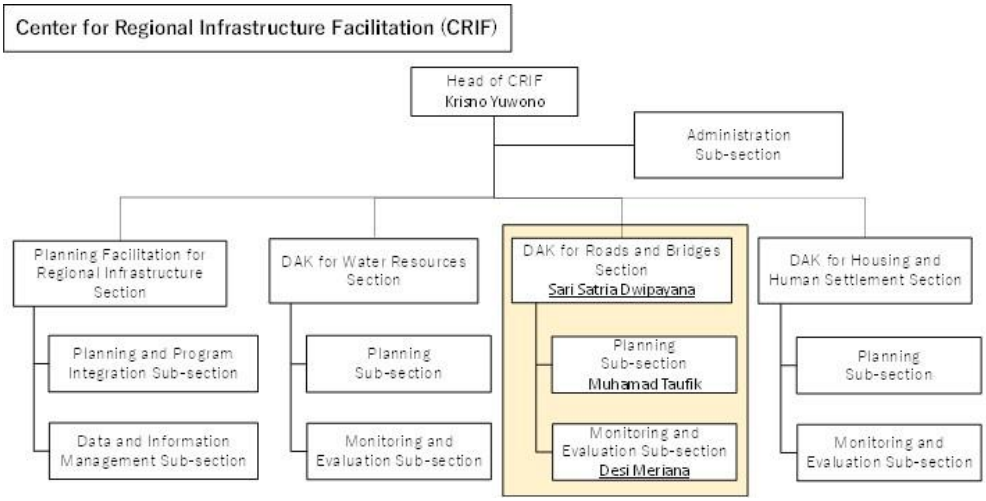


Figure 1-3 Structure of CRIF

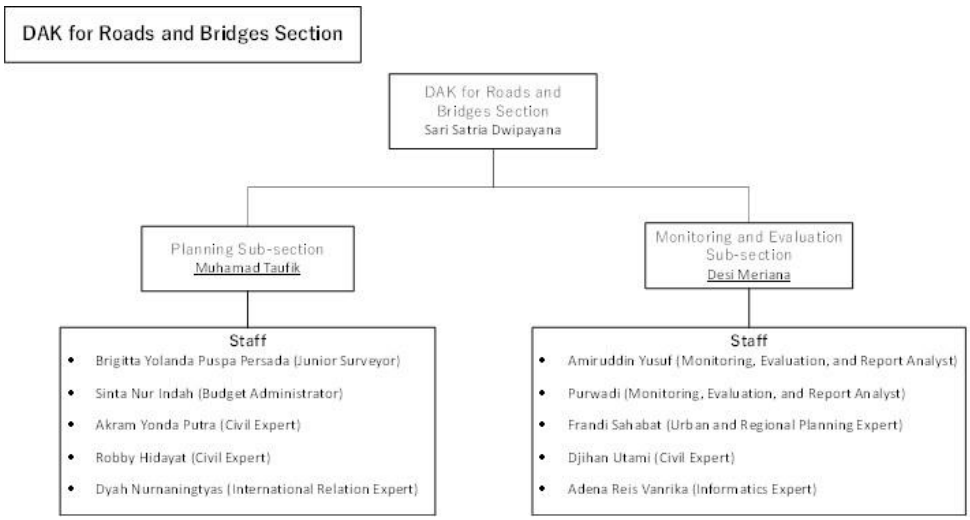


Figure 1-4 Structure of Roads and Bridges section

CRIF is a center under the Secretariat General of Ministry of Public Works and Housing (MPWH). The legal basis for CRIF is the Ministerial Regulation No. 13 (Year 2020) regarding the organization and workflow of

the MPWH. The CRIF has the tasks to facilitate planning, coaching, monitoring, and evaluating the implementation of regional infrastructure (Article 731, Ministerial Regulation No. 13, 2020). There are several functions of CRIF as shown below:

- Preparation of technical policies, programs, and budgets for the implementation of regional infrastructure;
- Implementation on facilitation of planning and coaching for regional infrastructure;
- Implementation of monitoring, evaluation, and reporting of the implementation of regional infrastructure; and
- Implementation of central administrative and household affairs.

The Division of Roads and Bridges carries out the preparation of technical policies, plans, and programs, the implementation of guidance and facilitation, as well as the monitoring, evaluation, and reporting on the implementation of regional road and bridge infrastructure (Article 736, Ministerial Regulation No, 13, 2020). The scopes of work are as follows:

- Special Allocation Fund (DAK) on road and bridge management.
- Grant for provincial road improvement maintenance/regional road grant program management; and
- Technical Cooperation for the improvement of regional road governance with JICA.

[1-2] Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.

The current status and issues or regional road maintenance has been confirmed based on the TWG and other meetings between JET and CP.

The process of local roads maintenance for DAK (Infrastructure Specific Allocation Fund) is defined in the Technical Guideline for special allocation funds implementation on infrastructure in 2016 in MPWH (no. 33/PRT/M/2016) (Ref. No.1). According to the guideline, the definition of DAK is a fund sourced from the State Revenue and Expenditure Budget allocated to certain Regions with aim of helping to fund special activities of infrastructure that have not yet reached the Minimum Service Standards and Standards for Guidelines and Criteria or to encourage the acceleration of regional development. The scope of DAK has periodic maintenance, road rehabilitation activities, road improvement, periodic maintenance, bridge rehabilitation, bridge replacement, and completion of road, bridge construction.

CRIF conducts the monitoring and evaluate DAK implementation through the DAK e-monitoring system. Local governments submit the proposal for DAK budget with road condition survey results. Before the Project, there is no specified equipment to collect IRI value in local government in Indonesia, Road condition is checked by visual inspection and evaluated into 4 discrete rank, such as Good, Medium, Light Damage and Heavy Damage.

[1-3] Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.

The following meetings have been conducted.

(1) 1st Technical Working Group (TWG) was held on 18th September 2019 to discuss the outline of the Project, members of TWG and Project Monitoring and Baseline Survey.
(2) 2nd TWG was held on 24th July 2020 to discuss technical issues of system development. All member of TWG and officials from JICA Indonesia office participated the meeting.
(3) WG-2 meeting was held on 19th August 2020 to confirm Road Inspection, Road Inventory and Road Maintenance Workflow related information.
(4) 3rd WG was held on 24th September 2021 to discuss the progress of system development, and test survey result of DPS-IRI.
(5) 4th TWG was held on 20th July 2022 to share the information on the project outline and progress of system development with CPs and other relevant organizations.
(6) 5th TWG was held on 22nd August 2022 to discuss about the draft work plan of the 1st year Pilot Project in 2022.
(7) 6th TWG was held on 23th September 2022 to discuss about system implementation environment, such as server environment, requirements of IRI Measurement & DPS-IRI and VIS, and confirmation of the Work Plan of Pilot Project in 2022.
(8) 7th TWG was held on 7th July 2023 to discuss about the contents of the Work Plan of Pilot Project in 2023 and the method for annual road condition reporting to SIPDJD, and confirmed the Work Plan of Pilot Project in 2023.

Table 1-10 List of Meetings Organized

SN	Meeting Name	Topics Discussed	Venue	Date	Target Participants
1	1st Technical Meeting (Kick-off Meeting)	Outline of the Project / Technical Working Group (TWG) /Project Monitoring & Baseline Survey	CRIF Office	18th September, 2019	CRIF members
2	Explanation of Pilot Selection and Pilot Project Meeting	Outline of Project / Explanation of Pilot Project / Explanation of Criteria and Procedure for Selection	Jakarta	14th November, 2019	9 candidates cities and CRIF In total of 23
3	1st TWG	Specification of all systems (CRMS, DPD-IRI and VIS) and database framework	CRIF Office	29th November, 2019	CRIF, Data Center in MPWH, DGH, IRI and BAPPENAS In total of 29

4	1st WG-1 Meeting	Confirmation of information related to Activity 1-1 and 1-2	CRIF Office	11th December, 2019	CRIF Member of CRIF (Mr. Yussf and Yolanda)
5	1st Workshop in Sukabumi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Sukabumi	10 February, 2020	Deputy mayor of Sukabumi City, City staff and CRIF In total of 46
6	2nd Technical Meeting with Sukabumi City	Confirmation of various answers on questionnaire	Sukabumi	11th February, 2020	Key staff of BINAMARGA
7	1st Workshop in Tebing Tinggi City	Project Outline / Road Maintenance Management Procedure and Practices / City Road Management System/ Road Inspection System / Pilot Project	Tebing Tinggi	17th February, 2020	Mayor of Tebing Tinggi City, City staff and CRIF In total of 36
8	3rd Technical Meeting with Tebing Tinggi City	Confirmation of various answers on questionnaire	Tebing Tinggi	17th February, 2020	Key staff of BINAMARGA
9	2nd WG-1 Meeting	Confirmation of Budget Making Process	CRIF Office	20th February, 2020	WG member of CRIF
10	2nd TWG	Technical specifications and development schedule of all systems, and system integration concept with other applications	Online	24th June, 2020	CRIF, Sukabumi, Tebing Tingi and DGH In total of 45
11	1st WG-2 Meeting	Confirmation of Road Maintenance Activities and Road Inventory Data	Online	19th August, 2020	WG-2 Member from all stakeholders
12	3rd WG-1 Meeting	Discussion of the deterioration forecasting model in CRMS	Online	25th September, 2020	WG-1 member from CRIF, DGH, BAPPENAS and Pilot Two Cities
13	1st WG-3 Meeting	Confirmation of issues related to the Pilot Project including material procurement and future plan	Online	9th October, 2020	WG-3 member from CRIF, DGH, BAPPENAS and Pilot Two Cities

14	2nd WG-2 Meeting with Sukabumi	Confirmation of the procedures of budget and road maintenance plan in Sukabumi city	Online	9th November, 2020	WG-2 member from Sukabumi
15	3rd WG-2 Meeting with Tebing Tinggi	Confirmation of the procedures of budget and road maintenance plan in Tebing Tinggi	Online	26th November, 2020	WG-2 member from Tebing Tinggi
16	3rd TWG	Progress of system development, and test survey result of DPS-IRI	Online	24th September, 2021	CRIF, Sukabumi, Tebing Tingi and DGH
17	4th TWG	Presentation on Project Outline and Progress of System Development	CRIF meeting room / Online	20th July 2022	CRIF, Polytechnic and KIAT team
18	5th TWG	Discussion on the work plan for the 1st year Pilot Project	CRIF meeting room / Online	22th August 2022	CRIF, Sukabumi, Tebing Tingi and DGH
19	6th TWG	System Implementation Environment / Requirements of IRI Measurement & DPS-IRI and VIS / Work Plan of Pilot Project	CRIF meeting room / Online	23th September 2022	CRIF, Sukabumi, Tebing Tingi and DGH
20	7th TWG	Work Plan of Pilot Project in 2023 / Method for annual road condition reporting to SIPDJD	CRIF meeting room / Online	7th July 2023	CRIF, Sukabumi, Tebing Tingi

The intensive training was conducted in two pilot cities using the systems (CRMS, DPS-IRI and VIS) that supports the road maintenance work from road inspections to the formulation of maintenance plans. The training in April 2022 has not been conducted in Tebing Tinggi City due to the inability to travel domestically to Tebing Tinggi City due to COVID-19. In 2023, the intensive trainings were conducted in two cities.

Table 1-11 Intensive Training for Road Maintenance with the systems

Date	Site	Contents
April, 2022	Sukabumi City	・ Outline of new road maintenance procedure using the systems ・ System operations and test running ・ Field training for visual inspection and IRI survey
September, 2022	Sukabumi City and Tebing Tinggi City	
March, 2023	Sukabumi City and Tebing Tinggi City	・ Outline of Road Inspection ・ Evaluation method of pavement damage

May / June, 2023	Sukabumi City and Tebing Tinggi City	・ Evaluation of road inspection process ・ Discussion of IRI value and utilization
August 2023	Sukabumi City and Tebing Tinggi City	・ Evaluation of road inspection result ・ Operation of data management on the system
September 2023	Sukabumi City and Tebing Tinggi City	・ Outline of road maintenance plan ・ Process of planning based on the road maintenance planning manual and CRMS



Figure 1-5 Intensive Training in Sukabumi and Tebing Tinggi

[1-4] Develop the database framework of regional roads across the country.

Database framework was prepared and discussed with WG-1 member in September and November, 2020. The draft database framework, outline of City Road Management System (CRMS), Road Inspection System (IRI measurement system and data processing system for IRI value calculation, and visual inspection system) were discussed in the 1st TWG held on November 29, 2019 and agreed on the database framework and outline design of respective system.

The Project has been developing a comprehensive City Road Management System (CRMS), and the data needed for CRMS will be collected, processed and verified by two sub-systems, namely Visual Inspection System (VIS) and Data Processing System for IRI Value Calculation (DPS-IRI), which are also to be developed under the Project. CRMS will comprise of three systems as shown below.

An e-learning platform will be developed as educational content to support the sustainable implementation of road maintenance process based on the systems to be introduced.

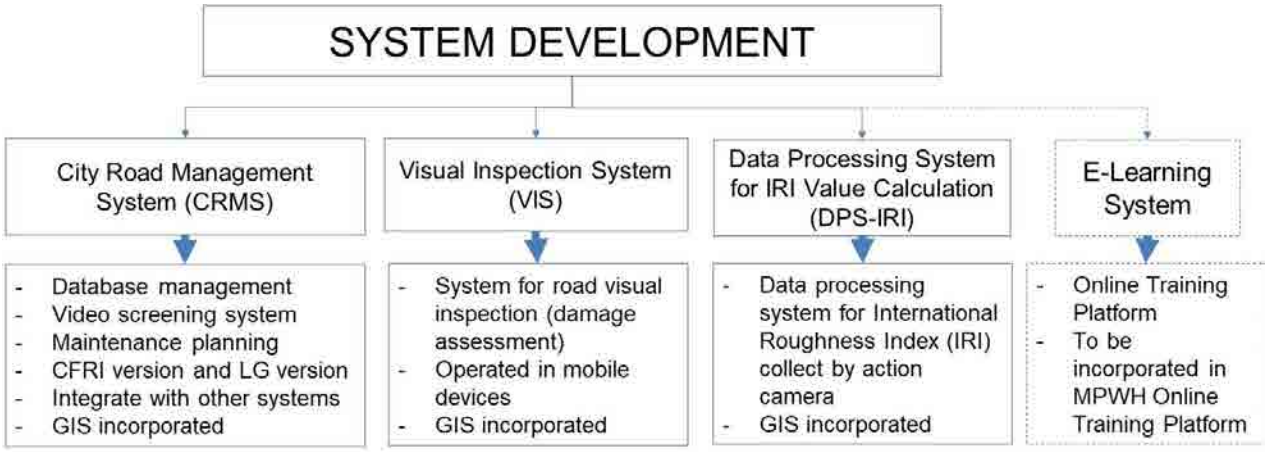


Figure 1-6 Component of City Road management System

The outline of activities and functions of CRMS, VIS and DPS-IRI are summarized in the following sections.

(1) City Road Management System (CRMS)

The specification of CRMS was discussed and confirmed with counterpart member at 1st TWG Meeting held of 29 November 2019. JET presented preliminary design of the system interface also. Indonesian counterparts have strongly requested to design the system as simple as possible considering the technical capability of city officials and sustainability of the system.

The final version of system specification (TOR) was prepared taking concerns of counterpart members into consideration. The outline design of CRMS was also discussed with some IT companies to ensure that CRMS can be developed by local IT companies. The following functions are included in the CRMS design.

Table 1-12 Functions Planned in CRMS

CRMS Functions (CRIF Version)	CRMS Function (Local Government Version)
1. Data Management • Data input, Data Importation from Local Governments, Integration, Output, etc.	1. Data Management • Data Input (Data from Road Inventories, Road Assets, Inspections, Traffic Volume, and Repairs)
2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists	2. Monitoring (Network & Road Maintenance Works) • Data Display (Tabular & Map) and Output Lists
3. Assessment and Analysis • Benchmarking Assessment, Pavement Performance Comparison	3. Assessment & Analysis • Assessment of Pavement Deterioration Performance, Setting of Priorities for Repairs

4. Budget Allocation Planning • Setting of Conditions, Simulation of Budget Allocation Plans	4. Formulation of Maintenance Plan • Supporting the Formulation of Annual, Mid- and Long-term Budget Plans for Local Level
5. Reporting • Prepare Report as Necessary	5. Reporting • Prepare Report as Necessary

The overall structure of CRMS is shown in Figure 1-7.

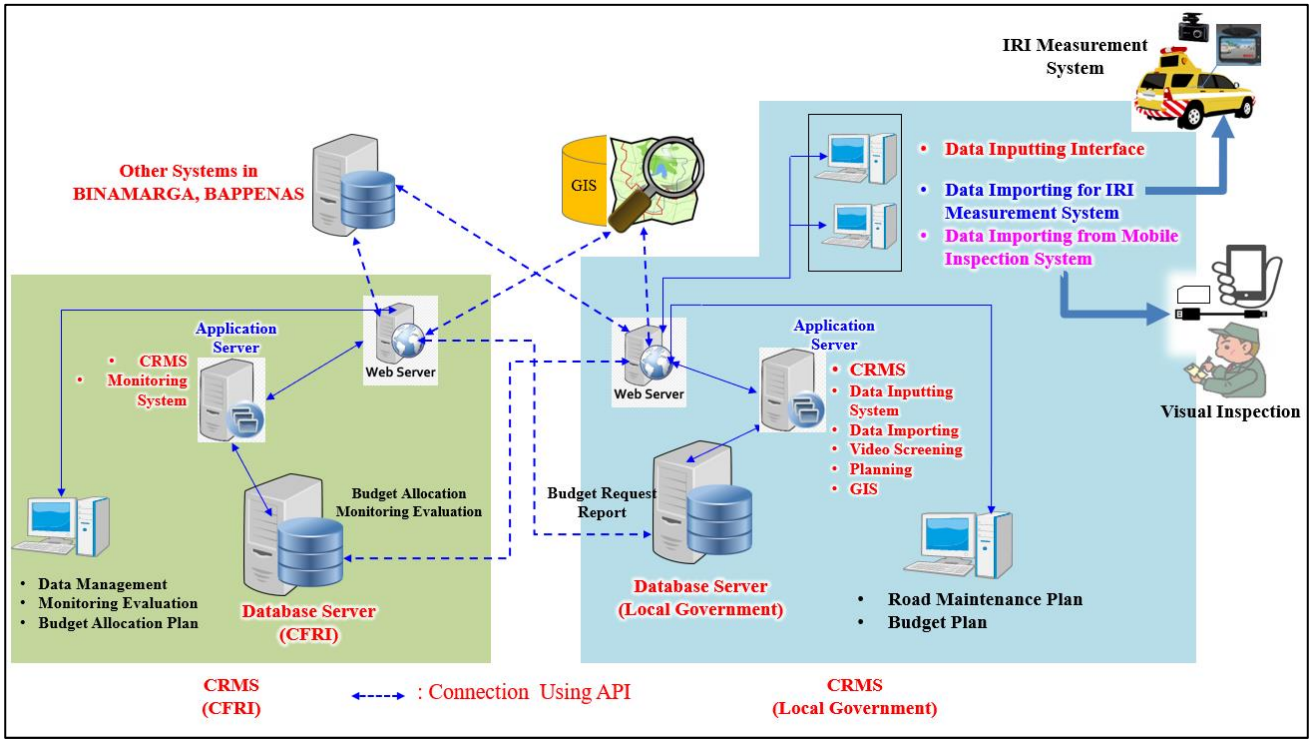


Figure 1-7 Overall Structure of CRMS

CRMS consists of the following modules:

Table 1-13 CRMS Modules

SN	Module Name	SN.	Module Name
1.	Data Inputting Module	7.	Project Formulation and Contract Packaging Module
2.	Road Inspection Module	8.	Reporting Module
3.	Map Module	9.	Documents Module
4.	Road Video Screening Module	10.	Human Resource Management Module
5.	Data Monitoring and Analysis Module	11.	System Integration Module
6.	Maintenance Planning Module		

Local IT Consultant (System Developer) was selected from the competitive bidding and started system development work from May 2020. System Developer together with JICA Project Team has confirmed

MPWH IT policy while designing the system. Version 1 of most system functions was completed, and OJT was initiated for two cities after the installation to the MPWH server and domain in November 2022.

(2) Visual Inspection System (VIS)

Prior to the VIS system development, the JET discussed and drafted the VIS development specification. The development of VIS to support the implementation of Visual Inspection and Field Verification is a key activity of the Project, especially for on-site data collection. Inspection data recorded on-site is stored in CRMS. Therefore, when designing and developing VIS, the data compatibility between VIS and CRMS must be considered. The VIS design includes the following functions and requirements.

Table 1-14 Function/Requirements of VIS

No.	Function/Requirements	Remarks
1	Display current location of the user by GPS function of the device.	
2	Import & Display on the map for Inspection results	Vehicle Inspection (IRI values) / Screening Survey results / Visual Inspection (Road, Facility) / Field Verification / Common Inventory Data
3	Input & Record & Export for Inspection results	Visual Inspection (Road, Facility) / Field Verification
4	Take & Record photos with location information of the damage point	XY coordinate
5	Register & Display the area where the Inspection was completed on site	

The outline of VIS is shown in Figure 1-8.

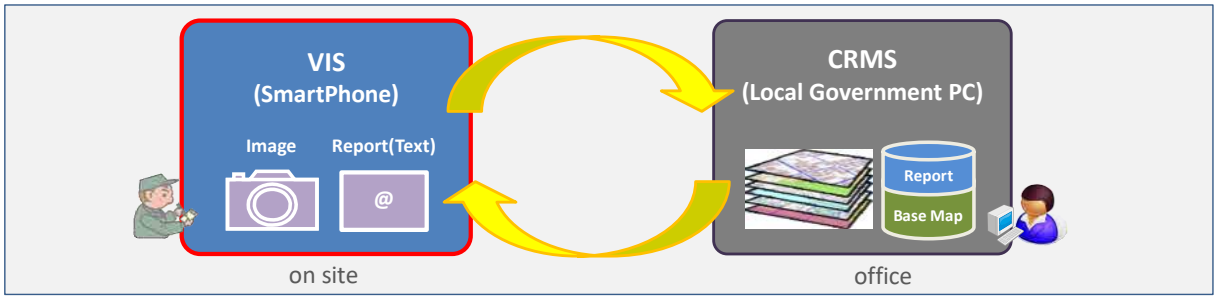


Figure 1-8 Outline of VIS

Based on the system requirements and several technical discussions to define the System configuration, Functions, Database definition, Compatibility and Data transfer with CRMS, etc., detailed system design document of VIS has been created by the local IT Company. Parallelly, actual performance of the system functions has been confirmed on the basis of the prototype system.

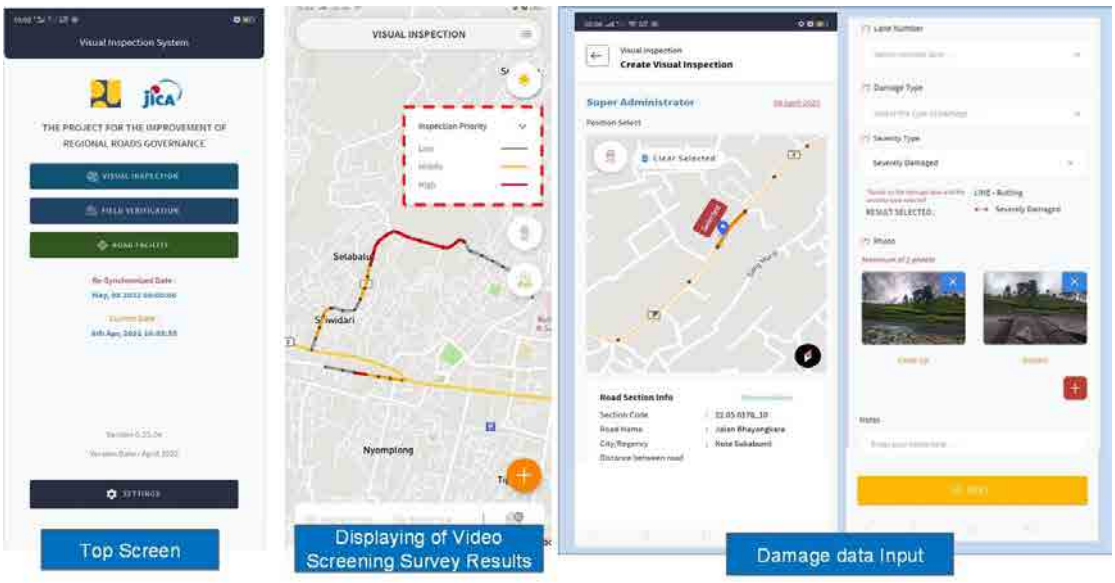


Figure 1-9 Windows design of VIS

VIS is divided into three major functions, 1) Visual Inspection (Pavement), 2) Visual Inspection (Facility) , and 3) Field Verification (Pavement) ,each of which is completed as version 1. Training for road inspections using version 1 has been started. Data synchronization function with CRMS has been developed and further verification and training is being conducted to implement the system.

(3) Data Processing System for IRI Value Calculation

Prior to the system development of the Data Processing System for IRI Value Calculation (DPS-IRI), draft system specifications for the system functions, processes, and data formats were organized, based on action-camera test measurement and system requirements discussion by the JST.

Table 1-15 Function/Requirements of DPS-IRI

No.	Function/Requirements	Type	Remarks
1	Import Video data and G-metrix	Import/Export	Video data (mp4 format) G-metrix (fit format)
2	Display GPS location and Video viewer, Image viewer	Display	
3	Convert Video to series of Images at time interval	Conversion	
4	Overlay and make a link between G-metrix and series of Images	Analysis	G-metrix (XY, Acceleration, Time)
5	Processing module for IRI value calculation	Analysis	
6	Display Base map and processed data	Map/GIS	Open source GIS and base map data
7	Convert “XY to Point” and “Point to Line”	Map/GIS	

8	IRI value shall be added as attribute information of the Line data	Map/GIS	
9	Perform Geospatial analysis, GIS processing, data editing	Map/GIS	
10	Define and change parameter values in parameter settings	Setting	such as interval value used in processing

in the 6th TWG meeting held on 23th September 2022, the specification change of action camera has been discussed and confirmed. Initially, the decision was made to use Garmin but it has been discontinued in Indonesia. Therefore, JST proposed to change from Garmin to Gopro, because Gopro camera device can be purchased easily in Indonesia. The test survey and data validation have been conducted in case of Gopro camera, and it is confirmed that measurement process using Garmin or Gopro are the same, and accuracy of IRI values using Garmin or Gopro are almost same results.

(4) System Implementation Environment

The system implementation environment has been discussed and confirmed in the 6th TWG meeting held on 23th September 2022. The following points has been agreed with TWG members.

1. The systems (CRMS, VIS and DPS-IRI) will be implemented in the Cloud Sever managed by PUSDATIN, PUPR.
2. The specifications of the action camera to be provided will be changed from Garmin to GoPro.
3. Equipment procurement for the system implementations is shown in the following table.

Table 1-16 Equipment procurement for the system implementations

1.	**Desktop Computer** Memory:8GB RAM CPU: Intel Core i7 Capacity/HDD: (1 TB) Monitor 23-inch monitor HP Pavilion 23CW UPS: 2000VA/1200W	**Total 3** CRIF: 1 Sukabumi: 1 Tebing Tinggi: 1
2.	**Action Camera device "Gopro Hero Black 8"**	**Total 5 sets** CRIF: 1 Sukabumi: 2 Tebing Tinggi: 2
3.	**Galaxy Tab A7 Lite by Samsung**	**Total 5 sets** CRIF: 1 Sukabumi: 2 Tebing Tinggi: 2

After the TWG meeting, the system has been installed in the PUSTDATIN Cloud Server for the OJT under the direction of PUSDATIN through the necessary process, including system security test, in November 2022.

[1-5] Arrange the development policy direction of regional roads across the country.

National Medium-Term Development Plan (RPJMN-2015-2019), National Development Policy (RPJMN 2015-2019) and other plan for regional road development were reviewed and analyzed the terms related to reginal road maintenance.

[1-6] Prepare the proposal of budget allocation plan for regional road maintenance.

It was confirmed in the first TWG meeting held in September 2019 that the CRIF is not involved in the budget allocation for local government, but CRIF will collect the data and calculate the technical index which is one indicator for budget allocation by Ministry of Finance.

For budget planning in local road maintenance, CRIF prepares an indicator that provides the basis for budget allocation, based on various data submitted by the local governments. These indicators (ITJ) are defined by the following formulae. The data for each indicator is submitted by the local governments. Depending on this evaluation, the DAK budget for the following year may not be allocated.

Road Technical Index (ITJ) = 35% Ikj + 25% Ikb + 5% Iki + 5% Iprj + 5% Ipd + 20% Ipl + 5% Ipg

Ikj (35%) = Road Condition Index

Longer Good/Fair road condition will get lower score, Longer damage road condition will get higher score(same as 2020)

Ikb (25%) = Bridge condition Index

If any damage's bridge, then 25%, if not 0%

Data of bridge condition taken from SIPDJD

Iki (5%) = Road Performance Index

Percentage of road condition comparison from this year to last year.

If increase, then 5%. If decrease, then 0%. In another word, road condition is improved or not

Iprj (5%) = Road Routine Maintenance Index

Routine maintenance is not included in DAK

If any budget for routine maintenance (no matter how much money), then will get 5%

If not including the budget, then 0%

Ipd (5%) = Percentage Index of local Budget

If any budget for proposing road from local budget (no matter how much money), then will get 5%

If not including the budget, then 0%

Ipl (20%) = DAK E-Monitoring report compliance Index

Quarter report. 4 is 20%, 3 is 15%, 2 is 10% ,1 is 5%. Also, implementation of projects will be considered

Ipg (5%) = SHP/geospatial of local data file compliance Index

If city submit local geospatial data then 5%, if not 0%

To increase the reliability of this indicator, JET proposed that the data collection systems introduced in the project, the DPS-IRI, be used to calculate the indicator.

[1-7] Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.

JET has prepared this document on the Standard Operating Procedure (SOP) to have the Ministry of Public Works and Housing (MPWH) refer it in their official documents. Thus, it is expected that the official documents on SOP will be developed and updated by the Indonesian side for the future.

The workflow of SOP for regional road administration by CRIF is indicated in **Figure 1-10** below. The SOP also includes the original operations of CRIF which are not covered with the JICA Project.

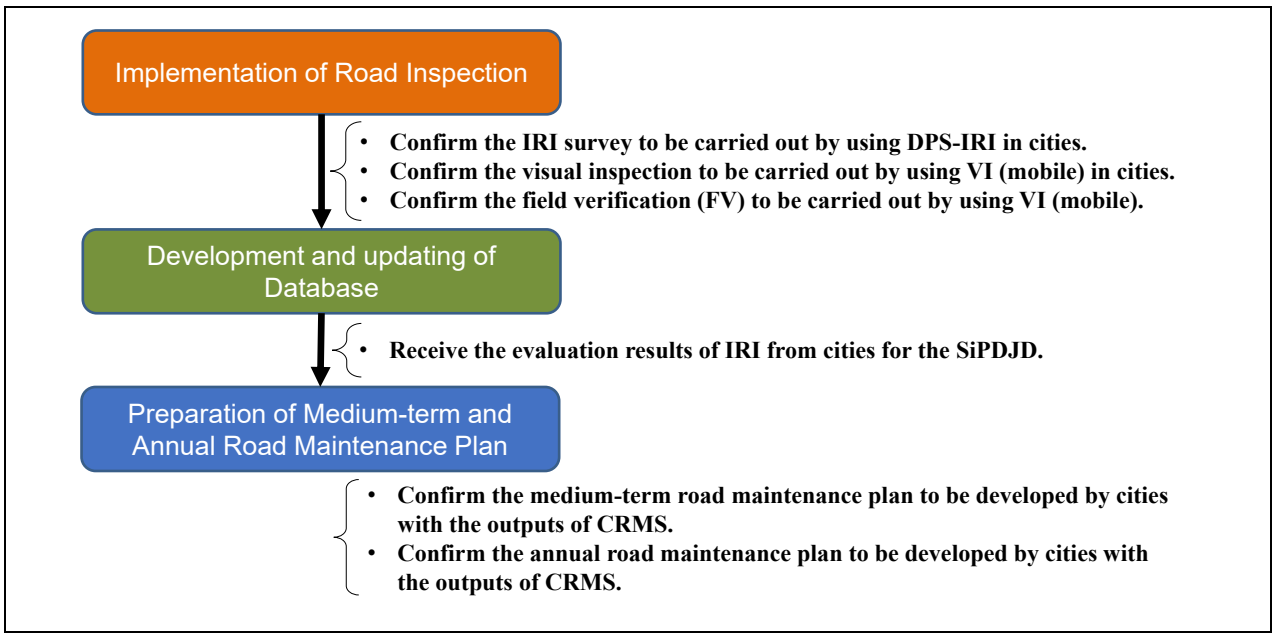


Figure 1-10 Workflow of SOP for Regional Road Administration by CRIF

[1-8] Convene the region-wide seminars for the other local governments outside the pilot areas.

The region-wide seminars will be held in March 2024.

1-2-3 Activities for Output 2

[2-1] Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.

For pilot areas selection, JET prepared the procedure and criteria for the selection. The process is divided into two steps; the Step-1 is to select approximately 10 candidate cities from all cities in Indonesia using the first criteria, and the next Step-2 is to select two pilot areas finally using the second criteria focusing on technical and management perspective of road maintenance work, including the roles/responsibilities, human resources, technical competency, etc. The procedure and criteria for the Step-1 have been finalized through the discussion with counterparts.

The meeting of Explanation of Pilot Site Selection & Pilot Project has been held on November 14, 2019 by inviting the selected 10 cities, and 9 cities attended. Attended cities were requested to submit the answer sheet for the questionnaire and the commitment letter of participation to Pilot project to ensure willingness and motivation for the pilot project. Finally, 8 cities have submitted the required documents to JET by October 28, 2019.

JET and counterparts evaluated the submitted documents from 8 cities and finally two cities, Sukabumi and Tebing Tinggi, have been selected as pilot areas. The final selection results have been announced to two cities by CRIF after MPWH's approval.

[2-2] Confirm the current status and issues of regional road maintenance in the pilot areas.

JET carried out the survey to confirm current status of road maintenance in the pilot areas to assess the following issues and summarized them in the Technical Report.

- The budgeting process of regional road maintenance projects (inspection > data management > budget planning > budget request)
- The budget execution process (road maintenance and repair plan > design for repair works > repair work > completion of work > data accumulation).

[2-3] Conduct road inspections in the pilot areas

[2-3-1] Road Inspection Work

(1) Review of the current situation

JET reviewed the collected information and answers to the questionnaire based on the detailed survey, in order to perform and further improve the activities of Road inspection through OJT, IRI measurement specification, DPS (Data Processing System for IRI) and VIS (Visual Inspection mobile System) development in a realistic condition.

(2) WG-2 meeting

In the WG-2 meeting (Online) held on 19th August 2020, the reviews of the road inspection work of 2 cities were confirmed and discussed to make clear understanding. JET will ask each city with additional questionnaire for more detail information to be confirmed, and additional online discussions will be held.

Table 1-17 Current situation of Road inspection work

Items	Sukabumi	Tebing Tinggi	Confirmed by Discussion
Vehicle for Inspection (to define calibration of IRI measurement vehicle)	Periodic: Contractor's vehicle Daily/Emergency	Periodic: Pick Up (Toyota) 1 unit Daily/Emergency	No specific vehicle
Details of	• 1 time/year	• 1 time/year	It has been confirmed that some

Periodic Inspection	• 115.744 km/year • October – December (3 months) • For Maintenance & Budget planning • **Outsourcing** • IRI measure/ Visual (pavement) • Using paper, excel, and pictures	• 223.05 km/year • 3months every year • For Maintenance planning • **Outsourcing** • Visual IRI calculation • Using paper, excel, and pictures	cities can conduct road inspection only one time in a year due to the limited budget, and the other several local cities can do two times a year. It is stated that 2 times in a year according to the Regulation ("Regulation of the Minister of Public Works. Number 13/PRT/M/2011. Regarding procedures for Road maintenance and inspection").
Details of Routine/Daily Inspection	• 1 – 2 times/week • Visual/by Bina Marga staff • Safety patrol & Damage • Pavement & Road Facilities	• Daily • Visual/by Bina Marga staff • Safety patrol & Damage >>once a week and situational • Pavement & Road Facilities >>Routine work	Most of the local cities will have the budget for road inspection after March, and the local cities always conduct the road patrol survey every day. In Sukabumi City, due to the limited budget and the lack of human resources, the road inspection work is conducted when there is any complaint or report from community.
Damage type	Pothole/Crack/Rutting /Raveling/Softground/ Corrugation/Bleeding	Pothole/Crack/Rutting /Raveling	
IRI measurement	Using visual method	using visual inspection by Bina Marga Tebing Tinggi	Based on visual inspection using paper, photo, motorbike and vehicle. And there is no specific equipment used.

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

Table 1-18 Current situation of Road facility management

Facility Name	**Management Department**		**Confirmed by Discussion**
	Sukabumi	**Tebing Tinggi**	
Carriageway	Bina Marga	Bina Marga	Road facility management is conducted by each department. The facility information also such as inventory and damages, repair, shall be gathered by each role, then be aggregated. Road facility inspection is performed depends on needs and report from community.
Median	Bina Marga	Human Settlement Office	
Shoulder	Bina Marga	Bina Marga	
Side Drain	Bina Marga	Bina Marga	
Footpath/Sidewalk	Bina Marga	Human Settlement Office	
Street Lighting	Traffic Safety and Road Equipment Division	Human Settlement Office	
Traffic Light	Traffic Safety and Road Equipment Division	Transportation Office	
Culvert	Bina Marga	Bina Marga	
Service Lane	No Existence	No Existence	
Bus Stop	Transportation Office	Transportation Office	

Motorcycle Lane	No Existence	No Existence	
Bicycle Lane	Transportation Office	Transportation Office	
Guard Rail	Traffic Safety and Road Equipment Division	Transportation Office	
Others			

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

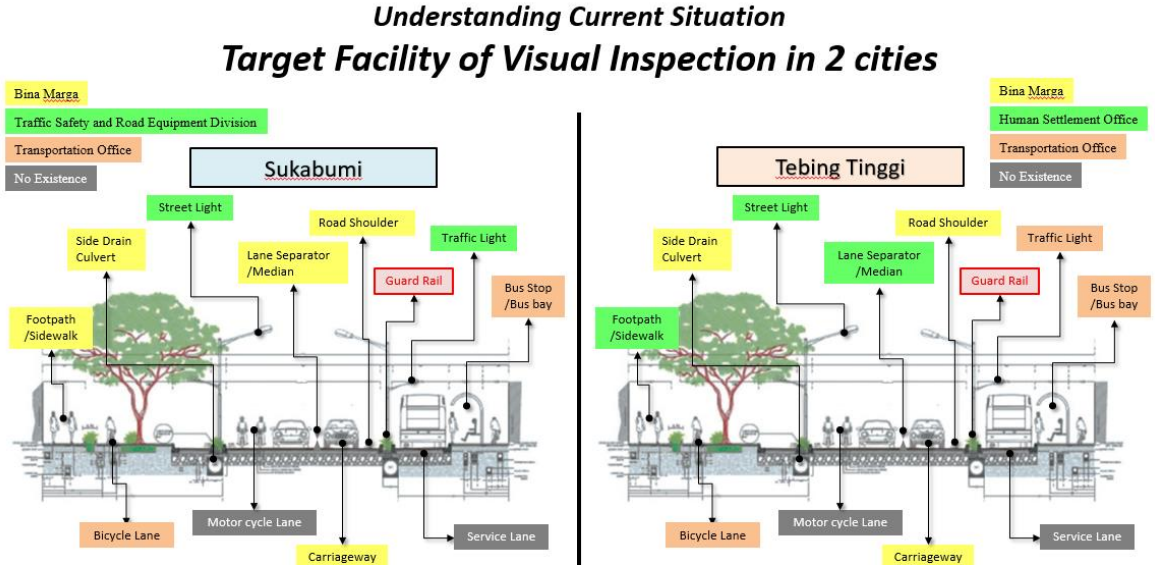


Figure 1-11 Current situation of Road facility management

Source: Answer by Sukabumi city & Tebing Tinggi city and Discussion in WG-2

Road inspections is an important role in ensuring the safety of roads by detecting on-site damage at an early stage, as well as conducting planned repairs through continuous inspections, in order to achieve efficient maintenance and management. OJT activity aims to increase the capacity and knowledge of Road inspections work personnel and support IRI measurement, visual inspections, and verifications activities. The OJT activity is supported by system technology and training with simulations with a situation or condition similar to the actual work. OJT activities in 2 pilot cities, Sukabumi city and Tebing Tinggi city, were conducted at 2 times from April to May, and from September to October, in 2022.



Figure 1-12 OJT for road inspection

［2-3-2］IRI Measurement

(1) Creating IRI measurement specification

The method of obtaining IRI value is to mount action-camera with sensor that can acquire acceleration information on the vehicle, calculate IRI value from the acquired acceleration information. First of all, IRI measurement procedure has been considered and prepared a measurement procedure document (draft-manual), such as the mounting position of the action-camera on the vehicle, capturing settings, driving speed, weather condition, and other notes for measurement.

The next step will be based on this draft-manual, and test measurement will be carried out in Japan or in 2 cities to verify the influence on the IRI value depending on the vehicle type or driving conditions (speed, lane, weather, etc.). The results of this verification will be used for implementation in actual work and developing the IRI value calculation module.

(2) Test driving for IRI value calculation module

In order to associate relationship between road surfaces and vehicle vibrations in the IRI value calculation module, test measurement under the standard road condition was carried out in Japan and Jakarta Indonesia. The test measurement compared the survey data of between vehicle vibration measurement using in-vehicle action-camera and flatness of road surface by actual levelling survey. The result of the comparison will be used to define the calculation logic and calibration in the development of the IRI value calculation module.

[2-4] Develop the database of regional road maintenance in the pilot areas.

Through the OJT in two cities, the database of regional road maintenance is being developed from the beginning of 2023, and it will be continued to complete the data collection work for road maintenance planning for year 2024.

[2-5] Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF

JET has examined the budget making procedure of regional road maintenance through the TWG and other technical meetings and survey and established the new process of budget making procedure with the database and CRMS.

(1) Technical meeting
The first technical meeting with official of Sukabumi city and Tebing Tinggi city were held in February 10 and 11, 2020 in Sukabumi and February 17 and 18 in Tebing Tinggi. All relevant officials of each city participated in the meeting and shared the road maintenance information based on the questionnaire which has been prepared by JET.

(2) Presentation in the technical meeting at Sukabumi city and Tebing Tinggi city
Road Maintenance and Management Procedure and Practices was presented in February 17 and 18, 2020 in Tebing Tingging by JET for the better understanding of the JICA project activity, which includes (a) Basic policy of Road Maintenance, (b) Review of Road Maintenance in Indonesia, (c) Practice of Road Maintenance in Japan, and (d) Output and Activities of JICA Project in Pilot Cities.

(3) Examination of the current budget-making procedure for regional road maintenance in the pilot areas
Based on the questionnaire survey and WG-2 meetings held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current budget-making procedures of regional road maintenance in two pilot cities have been examined in detail.

(4) The Guidelines, BUDGET MAKING PROCEDURE MANUAL, using the system implemented were prepared and explained to the two pilot cities during the OJT.

[2-6] Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.

Based on the questionnaire survey and WG-2 meetings held on November 9 in Sukabumi and November 26 in Tebing Tinggi, 2020, the current medium-term road maintenance planning procedure in two pilot cities have been examined in detail.

Medium-term road maintenance plan for 2024 will be prepared in the end of 2023 or in the beginning of 2024 based on the collected data using DPS-IRI, VIS, and CRMS.

[2-7] Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.

The Budget plan for road maintenance for 2024 will be prepared in the end of 2023 or in the beginning of 2024 based on the collected data using DPS-IRI, VIS, and CRMS.

[2-8] Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.

Annual road maintenance plan for 2024 will be prepared in the end of 2023 or in the beginning of 2024 based on the collected data using DPS-IRI, VIS, and CRMS.

1-2-4 Activities for Output 3

[3-1] Conducting Detailed Engineering Survey for the Pilot Projects and Specification Design

WG-3 meeting has been held on October 9, 2020 with participants from two pilot cities who are in charge of road maintenance work to confirm current procedures of road maintenance work on site and discuss some issues for implementation of pilot projects.

In the 5th TWG meeting held on 22nd August 2022, the draft of the Work Plan of the Pilot Project in 2022 was discussed, and after the meeting, JET visited the site in Sukabumi and tbin Tinggi to survey the actual situation of road maintenance work and road conditions, and the Work Plan was updated based on the survey. Finally in the 6th TWG meeting held on 23rd September 2022, the Work Plan of the Pilot Project in 2022 was explained and confirmed by TWG members.
For the pilot project in 2023, in the 7th TWG meeting held on 7th July 2023, the Work Plan of the Pilot Project in 2022 was discussed and confirmed by the TWG members.

The below table shoes the outline of the Pilot Project in 2022 and 2023. In the first year, it focusses on minor or moderate damage type and routine repair work for preventive maintenance by Patching of potholes patching and cracks sealing.

Table 1-19 Outline of Pilot Project

Criteria	The First Pilot Project (repairs to be implemented in 2022)		The Second Pilot Project (repairs to be implemented in 2023)	
	Tebing Tinggi	Sukabumi	Tebing Tinggi	Sukabumi
Target city selection period	Apr. - Oct. 2022 (dry season)		Apr. - Oct. 2023 (dry season)	
Repair work implementation period	Work that can be done during the dry season (Apr. - Oct.)			
Target roads	Regional roads included in annual road maintenance plans			
Focused type of maintenance and repairs	• Preventative measures • Maintenance for damage other than structural damage		• Repairs (for structural damage)	
Damage severity*	• Minor / moderate (minute cracks and potholes)		• Severe (alligator cracks, structural damage)	
Planned maintenance/ repair methods	• Patching of potholes • Sealing of cracks (by sealer injection)		• (Cutting &) overlay • Partial pavement replacement	
Focused management items	• Safety and health management • Quality control (including progress control)		• Safety and health management • Quality control (including progress control) • Monitoring of the first repairs (patching & sealing)	
Granting machinery, devices or other equipment	• Compactor for pavement repair • Asphalt cutter • Crack sealing material		• Compactor for pavement repair • Asphalt cutter	

* "minor / moderate" are equivalent to diagnosis criteria I / II; "severe" is equivalent to diagnosis criteria III.
(Guideline for Pavement Diagnosis (FY2017), Japan Road Association, Inc.)

[3-2] Assist Local Governments in Executing Pilot Projects

The specifications and quantities of the equipment and materials used in the maintenance work of the pilot project were discussed at the 1st TWG (held on 29th November, 2019), and the proposed specifications and quantities shown in **Table 1-20** were agreed. At present, the influence of COVID-19 is affecting the distribution of foreign products, so it is necessary to confirm the import status to the site when resuming travel and proceed with preparations for equipment provision. In addition, since the field activities of the experts resumed in 2022, the provided items were delivered in September to October 2022.

Table 1-20 Equipment and materials to be provided

No	Name of Equipment	Quantity For 1 City
1	Compactor for Pavement Repair	1 Unit
2	Asphalt / Concrete Cutter	1 Unit
3	Asphalt Crack Sealer	2 Boxes (2sites ×1Box:20 sets in a Box)
4	Cold-mix asphalt materials (Adding- Water Type) ※Aqua PATCH	6 bags (2site * 3bags) ※1bag 20kg
5	Cold-mix asphalt materials ※※Cold Patch JMTM-31	6 bags (2site * 3bags)※1bag 25kg



Figure 1-13 Equipment and materials to be provided

[3-3] Supervision of the Pilot Projects

According to the Work Plan, the Pilot Project in 2022 has been conducted as the following schedule in each city. The detail of procedure and contents of the Pilot Project is described in the Work Plan.

Table 1-21 Schedule of the Pilot Project in 2022

Pilot City	Schedule
Sukabumi	October 17th 2022 - October 20th 2022
Tebing Tinggi	October 24th 2022 - October 27th 2022

The pilot project in 2024 has been started to conduct in two cities based on the following schedule.

Table 1-22 Schedule of the Pilot Project in 2023

Pilot City	Schedule
Sukabumi	September 2023 to October 2023
Tebing Tinggi	July 11th 2023 - August 2nd 2023

[3-4] Analysis and Summarization of the Results of the Pilot Project

Following the pilot project, ongoing monitoring will be conducted to verify its effectiveness.

[3-5] Develop the regional road maintenance manual by reviewing the current road maintenance manuals.

Draft manuals for local road maintenance, such as Road Inspection Manual, Budget Planning Manual and guideline for road repair work were prepared by JET. They will be finalized according to the progress of the activities.

[3-6] Identify the technical issues on human resources development in the local governments of the pilot areas.

Based on the discussion with the staff in 2 cities, the issues were identified.

With regard to road inspection and maintenance planning, Tebing Tinggi expected that once the systems, including the DPS-IRI, will be introduced, it would be possible to proceed with directly operations what had been proceeded with outsourced operations. Although road maintenance planning work is currently outsourced, they would like to consider using directly managed operations with the introduction of CRMS.
Regarding road inspections in Sukabumi, the city is proceeding with outsourcing (inspection of roads, footpaths, drains, etc.) and direct management (visual inspection of road surfaces), but they would like to

introduce DPS-IRI and VIS so that this can be done under direct management. As for the road maintenance plan, they will do its work by themselves by using CRMS, they would like to establish priorities for road maintenance projects more efficiently, based on objective data.

With regards to construction work, Tebing Tinggi has been outsourcing road maintenance works on site, and although outsourcing will continue to be the basic policy, the city would like to acquire practical technical skills and make effective use of the equipment provided, with a view to directly managing the work in case of minor damage.
In Sukabumi, although outsourcing is the basic route for road works, small-scale works have been carried out under direct management in the past, and that they would like to carry out speedier works, including small-scale works under direct management, by making effective use of the practical skills transferred from the Project and the equipment provided.

The following table shows the problems and measures in two cities.

Table 1-23 Problems and measures for road maintenance in Tebing Tinggi

No.	Problems	Measures
1	One of sub-coordinator in Bina Marga has been in health issue (stroke).	The Sub-section requested the assistance from another Sub-coordinator to backup the works and activities.
2	A lack of personnel in Bina Marga causes insufficiency in the field works. eg., Even though Bina Marga Section requests 10 permanent staff every year, 0-1 staff was employed only. FY 2020: 0, FY 2021: 0, FY 2022:1	It is important to optimally utilize the existing staff for the assistance of the field works although they may not have sufficient knowledge about some operations.
3	There is no laboratory facility in Bina Marga Section even though the position of a lab tester was engaged.	PU agency in TT is currently proposing a lab facility to the Ministry (PU).
4	Contract employees have little knowledge about the field technical works. Also, contract employees have not been recruited appropriately so far.	(1) Contract employees are assigned to help administrative works in Bina Marga due to little knowledge about the field technical works. (2) Selection criteria might be considered in the following ways: (a) diploma level 3 or Bachelor's degree (especially in civil engineering) at minimum; (b) actively able to use MS Office applications; and (c) knowledge in Auto CAD. (3) Selection process of potential employees should be improved through more intense communication with the Agency Head (Mr. Reza) and the Sub-section of General Affairs and Human Resources.

Table 1-24 Problems and measures for road maintenance in Sukabumi

No.	Problems	Measures
1	Lack of technical workers	It is necessary for Bina Marga to add personnel who understand about road construction and maintenance. For doing this, it is better for Bina Marga to conduct competency training for the new personnel.
2	The archive of bidding document is not well-organized.	Bina Marga needs the staff who are focusing more on data archive. The data documents need to be well-organized and supported by archive application system.
3	There is no database regarding road maintenance activities which have not been carried out.	To create database application which includes the history of road maintenance, repairs, etc.
4	Not all road sections have markings, such as 0-25, 0-50, etc.	To prepare the budget proposal to TAPD (Regional Government Budget Team) in Sukabumi city for drawing the markings.
5	Road inventory is not updated at regular intervals (depending on the budget allocation).	To propose TAPD to obtain the budget for the operational costs for road inventory and the system development. Also, Sukabumi city expects to obtain road inventory data on a regular basis through the CRMS and VIS applications.
6	Some people living around road construction areas reject the construction works.	Socialization approach toward nearby inhabitants needs to be carried out, so that they will understand that the road construction is for their convenient transport as their own benefits.
7	Sukabumi city will not be able to receive DAK for 2023. The details are as follows. (1) Roads are stable in Sukabumi compared to other areas*. (2) The policy of the central government focuses on poorer areas for allocating the DAK. (3) Sukabumi city has to get the budget for road projects from the provincial government (West Java). *: DD1 (road conditions) in Sukabumi city is 84.54% (Good= 31.96%, Fair=52.58%) beyond the criteria (75%). Thus, there will be no DAK in 2023. In case of TT, as DD1 is 89.5% (Good=80.26%, Fair=9.24%), DAK will not be allocated in 2023, either.	To propose the budgetary needs to West Java Province (province financial aid, not APBD).

[3-7] Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

The region-wide seminars to share the approaches, experiences, lessons learned, etc. of the pilot projects will be held in March 2024.

1-3 ACHIEVEMENT OF OUTPUT

1-3-1 Output 1: Improve the operational capability of CRIF.

(1) Operations based on SOP for regional road administration by CRIF

The workflow of SOP for regional road administration by CRIF consists of three items: (a) road inspections, (b) database operations and management, and (c) formulation of annual road maintenance plans (refer to the **Figure 1-14**).

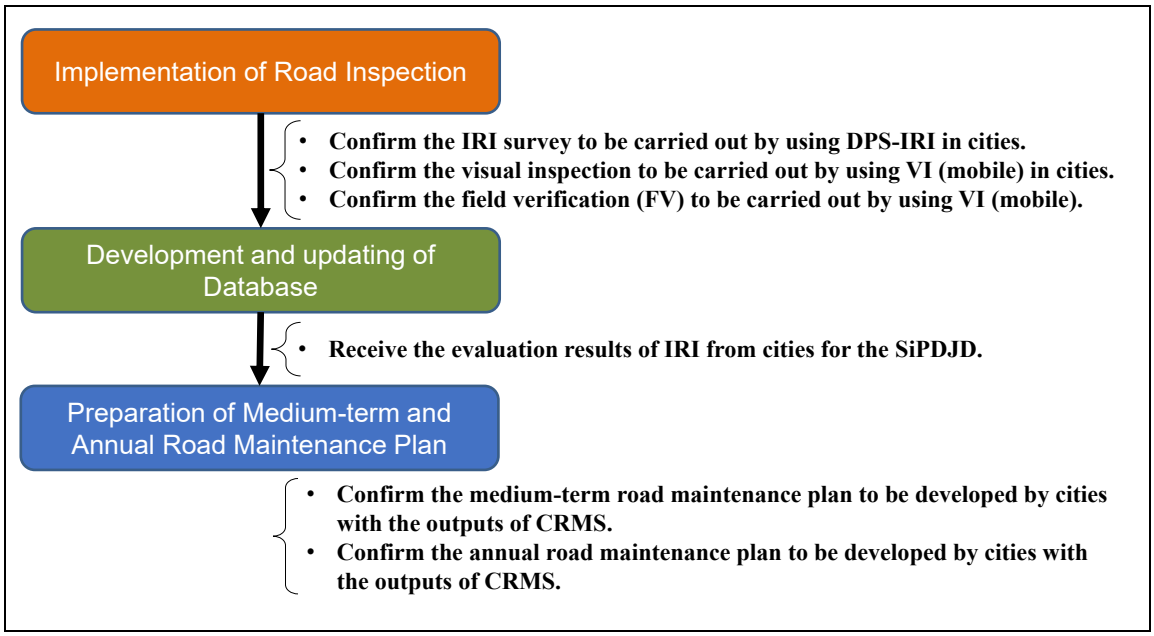


Figure 1-14 Workflow of SOP for Regional Road Administration by CRIF

Also, the performance checklist based on the SOP (refer to the **Table 1-25**) is prepared to clarify the tasks and responsibilities between the Planning Sub-section and the Monitoring and Evaluation (M&E) Sub-section in the Roads and Bridges Section of the CRIF. The performance checklist of the SOP with the demarcation of two Sub-sections are prepared from the following reason. According to the Roads and Bridges Section of CRIF, since there are no clear demarcations between the Planning and M&E Sub-sections, it is crucial to establish the appropriate SOP for the clarification of their tasks and responsibilities. Thus, the performance checklist shall be effectively utilized to clarify the tasks and responsibilities of the Sub-sections and to confirm the work progress according to the checklist as well.

Table 1-25 Performance checklist based on the SOP

Name of respondent:	Sub-section (Planning/M&E):	Date:		
No.	**Flow of procedures**	**Planning sub-section**	**M&E sub-section**	**Tick when fulfilled**
Road Inspection				
1	Confirm the IRI survey to be carried out by using DPS-IRI in cities.	○	◎	□
2	Confirm the visual inspection to be carried out by using VI (mobile) in cities.	◎	○	□

3	**Confirm the field verification (FV) to be carried out by using VI (mobile).**	◎	○	□
Database				
4	**Receive the evaluation results of IRI for the SiPDJD from cities.**	○	◎	□
Annual Road Maintenance Plan				
5	**Confirm the medium-term road maintenance plan to be developed by cities with the outputs of CRMS.**	◎	○	□
6	**Confirm the annual road maintenance plan to be developed by cities with the outputs of CRMS.**	◎	○	□

For the future activities, the Project will summarize the activities based on the workflow and prepare the draft of SOP as indicated in the "Contents of SOP" below.

Contents of SOP

1. Introduction

1.1 Objectives

1.2 Organogram

1.3 Responsibilities

2. SOP for Regional Road Administration by CRIF

2.1 Implementation of Road Inspection

2.2 Development and Updating of Database

2.3 Preparation of Medium-term and Annual Road Maintenance Plan

Appendix: Performance Checklist based on the SOP

1-3-2 Output 2: Strengthen the process for formulating the road maintenance plan.

(1) Database operations and management by pilot cities

The database operations and management will be measured along the checklist as shown below (refer to the **Table 1-26**). The checklist consists of two parts, i.e., "road inspection" and "database", and there are 12 items in total to be confirmed. Also, the shaded parts (No. 2, 3, 5, 8) of the checklist are the items to be checked by CRIF from the overall point of view, and CRIF will carry out the final confirmation.

Table 1-26 Checklist for the database operations and management

Name of City：	**Date:**		
No.	**Items to be checked**	**Tick when fulfilled**	**Rate (%)**
Road Inspection			
1	**The inspection plan is developed.**	□	―

2	**IRI survey is conducted by using DPS-IRI.**	☐	**%**[1]
3	**Visual inspection is conducted by using VI (mobile).**	☐	**%**[2]
4	**The areas to be inspected visually are registered into the CRMS by using VI (mobile).**	☐	―
5	**Field verification (FV) is conducted by using VI (mobile).**	☐	**%**[3]
Database			
6	**Road inventory data are inputted or updated.**	☐	―
7	**The data collected by DPS-IRI are imported into the CRMS database.**	☐	―
8	**The evaluation results of IRI are submitted to the SiPDJD.**	☐	―
9	**Video screening survey is conducted with the results of IRI survey.**	☐	**%**[4]
10	**Priority of visual inspection is examined with the results of video screening.**	☐	―
11	**Visual inspection data are entered into the CRMS.**	☐	―
12	**FV data are entered into the CRMS.**	☐	―

The results of the checklist for the database operations and management in the two (2) target cities are indicated in the **Figure 1-15**. Although the percentages were not a satisfactory level at this moment, there are prospects that it will be increased by the end of 2023. Also, the item 8 was not fulfilled in Sukabumi and Tebing Tinggi at this time because the evaluation result of IRI survey has not been submitted to the SiPDJD yet. Regarding the percentage in the item 5, moreover, the percentage was not extracted because it is calculated with the lengths of road maintenance indicated in the medium-term maintenance plan which has not been completed presently.

No	Items to be checked	check box	%
Road Inspection			
1	The inspection plan is developed.	☑	―
2	IRI survey is conducted by using DPS-IRI.	☑	34.59 %
3	Visual inspection is conducted by using VI (mobile).	☑	58.60 %
4	The areas to be inspected visually are registered into the CRMS by using VI (mobile).	☑	―
5	Field verification (FV) is conducted by using VI (mobile).	☑	― %

No	Items to be checked	check box	%
Road Inspection			
1	The inspection plan is developed.	☑	―
2	IRI survey is conducted by using DPS-IRI.	☑	10.44 %
3	Visual inspection is conducted by using VI (mobile).	☑	5.88 %
4	The areas to be inspected visually are registered into the CRMS by using VI (mobile).	☑	―
5	Field verification (FV) is conducted by using VI (mobile).	☑	― %

[1] The percentage (%) = (actual IRI survey length) / (total road network length) Unit of length: km
[2] The percentage (%) = (actual road inspection length) / (length indicated in the inspection plan)
[3] The percentage (%) = (actual FV length) / (length shown in the medium-term maintenance plan)
[4] The same as the item 2.

Database			
6	Road inventory data are inputted or updated.	☑	–
7	The data collected by DPS-IRI are imported into the CRMS database.	☑	–
8	The evaluation results of IRI are submitted to the SiPDJD.	☐	–
9	Video screening survey is conducted with the results of IRI survey.	☑	34.59 %
10	Priority of visual inspection is examined with the results of video screening.	☑	–
11	Visual inspection data are entered into the CRMS.	☑	–
12	FV data are entered into the CRMS.	☑	–

Checklist result of Sukabumi City in September 2023

Database			
6	Road inventory data are inputted or updated.	☑	–
7	The data collected by DPS-IRI are imported into the CRMS database.	☑	–
8	The evaluation results of IRI are submitted to the SiPDJD.	☐	–
9	Video screening survey is conducted with the results of IRI survey.	☑	10.44 %
10	Priority of visual inspection is examined with the results of video screening.	☑	–
11	Visual inspection data are entered into the CRMS.	☑	–
12	FV data are entered into the CRMS.	☑	–

Checklist result of Tebing Tinggi City in September 2023

Figure 1-15 Results of the checklist for the database operations and management

The persons in charge of monitoring activities with the checklist are the key C/P members in the two target cities, and the frequency is shown in the **Table 1-27**.

Table 1-27 Persons in charge of the checklist and its frequency to be implemented

	Persons in charge	Frequency
Database operations and management	Key C/P members of the JICA Project • Sukabumi City: Mr. Asep, Ms. Rika, Ms. Sisca, Mr. Hafidzurrahman, Mr. Idris • Tebing Tinggi City: Mr. Rizky, Mr. Zul, Ms. Aida	Semi-annually • September 2023 • March 2024

Last but not least, the checklist is a communication tool between CRIF and the target cities, so that the CRIF is able to confirm the progress and achievements of check items in the target cities on a regular basis and provide the advice for them as needed.

(2) Annual road maintenance plan formulated by local governments.

The development of annual road maintenance plan will be measured according to the draft checklist as shown below (refer to the **Table 1-28**). The checklist consists of six items to be checked. As explained above, the shaded parts (No. 5, 6) of the checklist are the items to be checked by CRIF from the overall point of view, and CRIF will carry out the final confirmation.

Table 1-28 Checklist for the annual road maintenance plan

Name of City：	**Date:**

No.	Items to be checked	Tick when fulfilled
1	**The unit costs of repair works are updated.**	☐
2	**The list of repair methods is updated.**	☐
3	**The indexes for repair prioritization are confirmed or reviewed.**	☐
4	**Deterioration of road pavement is forecasted for the medium-term road maintenance plan.**	☐
5	**Medium-term road maintenance plan is developed with the outputs of CRMS.**	☐
6	**Annual road maintenance plan is developed with the outputs of CRMS.**	☐

As the annual road maintenance plan has not been formulated yet with the CRMS, the monitoring activities with this checklist will be implemented in January or March 2024. The persons in charge are the key C/P members in the two target cities, and the frequency is indicated in the **Table 1-29**.

Table 1-29 Persons in charge of the checklist and its frequency to be implemented

	Persons in charge	Frequency
Annual Road Maintenance Plan	Key C/P members of the JICA Project • Sukabumi City: Mr. Asep, Ms. Rika, Ms. Sisca, Mr. Hafidzurrahman, Mr. Idris • Tebing Tinggi City: Mr. Rizky, Mr. Charles, Mr. Salmon, Mr. Zul	Semi-annually • January or March 2024

1-3-3 Output 3: Develop the practical engineering method.

(1) Practical engineering methods for regional road maintenance

The Project aims at developing the practical engineering method through the pilot projects, and the definition of engineering method shall be clarified as the practical road maintenance works proceed gradually.

As shown in the **Figure 1-16**, “practical engineering method” will be developed in the process of the results extracted, engineering issues related to human resources development, good practices, and the solutions to problems through the pilot projects.

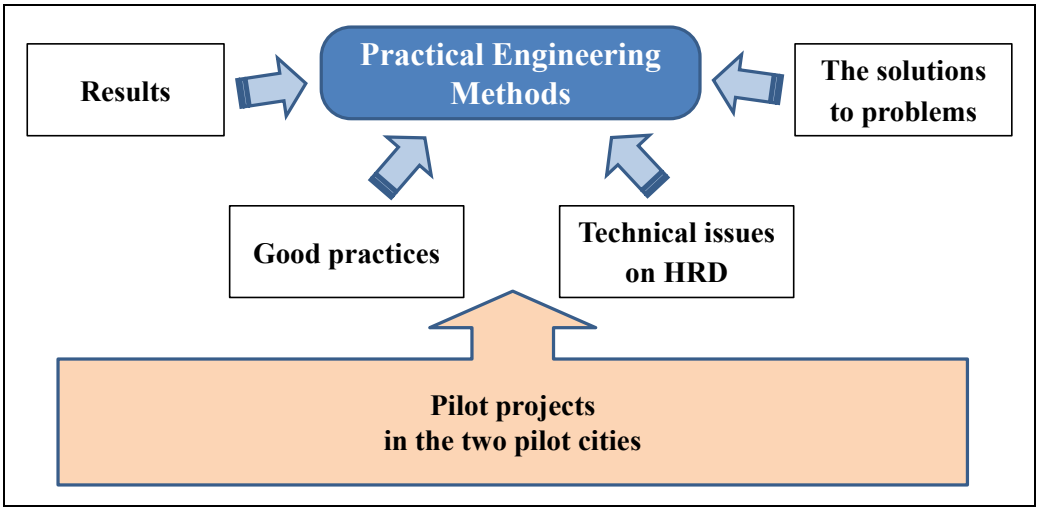


Figure 1-16 Image of the development of practical engineering method

It is confirmed whether the method has been developed or not according to the following checklist (refer to the **Table 1-30**). The Project plans to monitor the method development by using the checklist after the completion of the 2nd pilot projects in the target cities. If these items to be checked are fulfilled, it can be concluded that the practical engineering method has been developed. Also, the check items will be revised and finalized as necessary.

Table 1-30 Checklist on the development of practical engineering method

Name of Respondent:	City:	Date:
No.	**Items to be checked**	**Tick when fulfilled**
1.	**Problems and the solutions**	
(1)	**Indication of the problems identified**	☐
(2)	**The solutions to the problems**	☐
(3)	**Appropriate repair methods (overlay, partial pavement replacement, pothole patching)**	☐
2.	**Materials, machinery, devices, and equipment to be procured and used**	
(1)	**Appropriateness of the materials to be procured and used by each repair method**	☐
(2)	**Appropriateness of the machinery, devices, and equipment to be procured and used by each repair method**	☐
3.	**Work procedures and safety management**	
(1)	**Work procedures based on each repair method**	☐
(2)	**Safety management based on each repair method**	☐
4.	**Monitoring and evaluation methods**	
(1)	**Monitoring methods, including monitoring sheet, for each repair method**	☐

(2)	**Evaluation methods for each repair method**	☐
5.	**Technical issues on human resources development (HRD)**	
(1)	**Technical issues on HRD (e.g. determination of repair methods, preparation of cost estimation and bidding documents, instructions for and supervision of contractors, maintenance of the equipment provided, etc.)**	☐
(2)	**Suggestions for improvement on HRD**	☐
6.	**Extraction of good practices and lessons learned**	
(1)	**Good practices and/or experiences extracted from the pilot projects with practical engineering method**	☐
(2)	**Lessons learned extracted from the pilot projects with practical engineering method**	☐

The monitoring activities with the checklist will be implemented after the completion of the 2nd pilot projects. The persons in charge are the key C/P members in the two target cities, and its timing is indicated in the **Table 1-31**.

Table 1-31 Persons responsible for filling in the checklist and its timing

	Persons responsible for filling	Timing
Development of Practical Engineering Method	• Sukabumi City: Mr. Asep, Mr. Hafidzurrahman, Mr. Idris, Ms. Rika, Ms. Sisca • Tebing Tinggi City: Mr. Charles, Mr. Salmon, Mr. Zul, Ms. Aida	After the completion of the 2nd pilot projects in the target cities

1-4 ACHIEVEMENTS OF THE PROJECT PURPOSE

Project Purpose is to properly promote regional road maintenance projects in the pilot cities under the initiative of CRIF. The achievement of the Project Purpose will be confirmed after FY 2023, *i.e.*, at the beginning of 2024.

1-5 ACHIEVEMENTS OF THE OVERALL GOAL

Overall Goal is to sustainably maintain regional roads in the pilot cities and disseminate the implementation approaches to the regional roads outside the pilot cities. This Goal will be accomplished three (3) years after the termination of the Project, *i.e.*, by December 2026.

(1) Number of local governments adopting the project concepts (annual plan, engineering

methods, etc.) outside the pilot areas

At the beginning of the Project, 10 cities were proposed as candidates for the two (2) target cities. However, as two cities did not submit the required documents, Sukabumi and Tebing Tinggi as target cities were ultimately selected from the eight (8) cities.

Concerning the number of candidate cities to be disseminated for the Overall Goal, therefore, the remaining six (6) cities which were not initially selected are set as the target figure. Although the figure is "six (6) cities," the Indonesian side will be able to flexibly change to other cities based on the current situation and willingness of the six (6) cities, the physical access to those cities, etc.

Before the termination of the Project, moreover, the region-wide seminar (Activity 1-8 and 3-7) will be held to introduce the project activities, including the pilot projects. By providing such opportunities to share information and knowledge on the formulation process of annual road maintenance plans and the practical engineering method, CRIF will be able to promote dissemination activities smoothly on their own initiative after the termination of the Project.

1-6 CHANGES OF RISKS AND ACTIONS FOR MITIGATION

1-6-1 Important Assumption for the achievement of the Project Purpose

(1) The staff of CRIF and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.

Mr. Adi Chandra Maulana, a focal point in Sukabumi City, was transferred to the Technical Implementation Unit of the Public Works and Spatial Planning Agency (PU) as a laboratory coordinator in February 2023, and Mr. Asep Supriyadi (sub-section head of the Road and Bridge Development since January 2023) was replaced as a successor of Mr. Adi as a focal point of Sukabumi City. Also, Mr. Sony Hermanto takes over the agency head of PU in Sukabumi City from Dr. Asep Irawan since January 2023. Both successors, Mr. Asep and Mr. Sony, joined the 2nd training in Japan in June 2023.

Moreover, Mr. Arif Nugraha, one of focal points in Tebing Tinggi City, decided to study at university for his master's degree in July 2023. In case of Tebing Tinggi, however, Mr. Zulkarnain stays at the same position as a focal point, and Mr. Rizky Mufty Aqsha (Head of Bina Marga section) can also support the project activities (both of them joined the training in Japan).

The Project has been promoting the technical transfer to the C/P continuously through intensive training programs to be held since March 2023, implementation of pilot projects, etc. Thus, the Project is able to avoid administrative hindrance due to the personnel transfer or temporary turnover in the target cities.

1-6-2 Important Assumption for the achievement of the Overall Goal

(1) Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.

It is too early to mention this condition at this moment because it shall be fulfilled before the accomplishment of the Overall Goal. After the termination of the Project, however, the project activities in the two target cities might be influenced due to the insufficiency of budgetary and human resources including logistics arrangements, such as vehicles for the road data collection, etc. Therefore, the CRIF shall monitor budgetary and human resources in the target cities and provide the administrative assistance for them if it is necessary.

1-7 PROGRESS OF ACTIONS UNDERTAKEN BY JICA

N/A

1-8 PROGRESS OF ACTIONS UNDERTAKEN BY GOVERNMENT OF INDONESIA

N/A

1-9 PROGRESS OF ENVIRONMENTAL AND SOCIAL CONSIDERATIONS (IF APPLICABLE)

N/A

1-10 PROGRESS OF CONSIDERATIONS ON GENDER/PEACE BUILDING/POVERTY REDUCTION

N/A

1-11 OTHER REMARKABLE/CONSIDERABLE ISSUES RELATED/AFFECT TO THE PROJECT

N/A

2. DELAY OF WORK SCHEDULE AND/OR PROBLEMS (IF ANY)

2-1 DETAIL

N/A

2-2 CAUSE

N/A

2-3 ACTION TO BE TAKEN

N/A

2-4 ROLES OF RESPONSIBLE PERSONS/ORGANIZATION

N/A

3. MODIFICATION OF THE PROJECT IMPLEMENTATION PLAN

3-1 PO

N/A

3-2 OTHER MODIFICATIONS ON DETAILED IMPLEMENTATION PLAN

(1) Modification of the PDM

In order to practically and effectively utilize the PDM, the indicator of the Overall Goal was modified as shown in the **Table 3-1** below.

Table 3-1 Modification of the PDM

Components of the PDM		Corrections
Indicator	Overall Goal (in version 2-3)	Indicator 2: Number of local governments adopting the implementation approaches of the Project XX areas → six (6) areas At the beginning of the Project, Sukabumi and Tebing Tinggi were selected from the eight (8) cities. Concerning the number of candidate cities to be disseminated for the Overall Goal, the remaining six (6) cities which were not initially selected are set as the target figure. Although the figure is "six (6) cities," the Indonesian side is able to flexibly change to other cities according to the current situation and willingness of the six (6) cities, etc.

4. PREPARATION OF GOVERNMENT OF INDONESIA TOWARD AFTER

COMPLETION OF THE PROJECT

Intensive training programs on road inspection and road maintenance plan have been conducted since March 2023. After receiving the training programs, the C/P conducts road inspection and data entry, and they will formulate road maintenance plan according to the checklist to be prepared by the Project. Also, the practical engineering method will be developed through the pilot projects, and the method contains the necessary requirements indicated in the checklist to be finalized after the 2nd pilot projects. Specially, the development of road maintenance plan and practical engineering method is the key components when the implementation approaches of the Project are disseminated to other cities as shown in the indicator of the Overall Goal. Thus, it is expected that the target cities acquire the implementation approaches during the project period so as to contribute to the nation-wide expansion in a leadership position.

Toward the termination of the Project, furthermore, some activities shall be carried out for the dissemination of the project implementation approaches before the termination of the Project. For instance, the region-wide seminar (Activity 1-8 and 3-7) and a proposed study tour might be a milestone for the achievement of the Overall Goal. By providing such opportunities to share information and knowledge on the formulation process of annual road maintenance plans and the practical engineering method, there are prospects that CRIF will be able to promote dissemination activities smoothly on their own initiative after the termination of the Project.

II. PROJECT MONITORINGT SHEET I & II

See the attached.

END

Project Monitoring Sheet I (Version 6: 14th September, 2023)

Project Design Matrix ($PDM_{2\text{-}3}$)

Project Title: The Project for the Improvement of Regional Roads Governance **Project Period:** September, 2019 – March, 2024 (4.7 years[*4]) **Version No. 2-3**

Target Groups: Engineers/administrative staff in the Centre for Regional Infrastructure Facilitation (CRIF), DGH and the local governments in the pilot areas **Date:** 14th September, 2023

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions	*Achievements*	*Remarks*
Overall Goal Regional roads in the pilot areas are maintained in a sustainable way, and the implementation approaches of the Project are disseminated to the regional roads outside the pilot areas.	1. The lengths (km) of road inspections and repairs in the pilot areas are respectively increased. 2. The number of local governments formulating the annual road maintenance plan and/or adopting the practical engineering method of the Project exceeds six (6) areas outside the pilot areas.	1. Database record developed by the Project 2. Checklist of the annual road maintenance plan and of the practical engineering method		Refer to Project Monitoring Sheet (PMS) Summary.	–
Project Purpose Regional road maintenance projects are properly promoted in the pilot areas under the initiative of CRIF.	1. The self-assessment of all the regional road maintenance projects[*1] exceeds 80% on average in the pilot areas with the completion rate[*2] of more than 90% for the maintenance projects[*3] indicated in the annual road maintenance plan. 2. The satisfaction ratings of the local governments in the pilot areas on the consultations provided by CRIF exceed 70% on average.	1. Annual reports prepared by the local governments in the pilot areas 2. Questionnaire survey to the local governments in the pilot areas	Budgetary and human resources necessary for regional road maintenance are continuously allocated by the local governments in the pilot areas and supported by the Central Government.	To be confirmed at the beginning of 2024.	–
Outputs 1. The operational capability of CRIF is improved.	1-1 The self-ratings of CRIF on their operational capabilities exceed 80% on average. 1-2 The operations based on the SOP for regional road administration are executed by CRIF.	1-1 Questionnaire survey to CRIF 1-2 Performance checklist based on the SOP	The staff of CRIF and the local governments in the pilot areas who are capacitated by the Project continue working for the positions related to the Project.	Refer to PMS Summary.	–
2. The process for formulating the regional road maintenance plans is strengthened in the pilot areas.	2-1 The annual road maintenance plan formulated by the local governments in the pilot areas contains necessary items based on the checklist. 2-2 Database is properly operated and managed by the local governments in the pilot areas.	2-1 Checklist for formulating the annual road maintenance plan 2-2 Project Monitoring Sheet		Refer to PMS Summary.	–
3. The practical engineering method of regional road maintenance is developed through the pilot projects.	3-1 The self-ratings of engineers and technicians working at the local governments in the pilot areas on their practical engineering method of regional road maintenance exceed 75% on average. 3-2 Practical engineering methods for regional road maintenance are tested and carried out through the pilot projects.	3-1 Questionnaire survey to the engineers and technicians at the local governments 3-2 Documents prepared in the Activity 3-4		Refer to PMS Summary.	–

*[1]: The reginal road maintenance projects include all the components, *i.e.*, originally planned projects as well as contingency and additional ones.

*[2]: The Project defines the completed maintenance projects as a fulfillment of three (3) criteria, *i.e.*, (a) preliminary inspection for annual maintenance plan, (b) annual maintenance plan based on the preliminary inspection, and (c) implementation based on the annual maintenance plan.

*[3]: The maintenance projects here represent the ***specific ones*** originally planned from the beginning of 2019, *i.e.*, excluding the contingency and additional maintenance projects.

*[4]: Although the project period was originally established for three (3) years, JICA Expert Team (JET) members have not been dispatched from April 2020 to November 2021 for one year and eight months because of the worldwide prevalence of COVID-19. Thus, it would be required to extend the same period for one year and eight months to mainly carry out the pilot projects which were entirely cancelled in 2020 and 2021.

Activities

1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CRIF.
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.
1-3 Convene the regular meetings on regional road maintenance with CRIF and local governments in the pilot areas.
1-4 Develop the database framework of regional roads across the country.
1-5 Arrange the development policy direction of regional roads across the country.
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CRIF.
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.

2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.
2-3 Conduct road inspections in the pilot areas.
2-4 Develop the database of regional road maintenance in the pilot areas.
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CRIF.
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CRIF.
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CRIF.

3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.
3-2 Assist the local governments in the pilot areas to execute pilot projects.
3-3 Supervise the pilot projects in collaboration with CRIF.
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.

Inputs

Japanese side

1. Experts
   - Team Leader / Road Maintenance 1
   - Deputy Team Leader / Road Maintenance 2
   - PMS / Road Database
   - Road Maintenance Plan
   - Road Design
   - Road Inspection
   - IRI Measurement System
   - Construction Supervision
   - PMS / Road Management System 1
   - Organization Management / Project Monitoring
   - Training Plan / Gender
   - PMS / Road Management System 2 / Project Coordinator

2. Training of counterpart personnel in Japan and/or the Third Countries

3. Provision of equipment
   - Road Inspection Equipment
   - Road Maintenance Equipment
   - PC and Software for Road Management System in the pilot areas
   - Others

4. Local expenses for the project activities as necessary

Indonesian side

1. Personnel
   - Project Director
   - Project Manager
   - Counterpart personnel

2. Provision of the project office and facilities necessary for the project implementation

3. Expenses for the pilot projects executed by the local governments in the pilot areas

4. Administrative and operational expenses necessary for the project implementation
   - Electricity, water, communication, etc.
   - Local traveling costs and daily subsistence allowance for counterpart personnel in Indonesia
   - Others

1. Budget disbursement for regional road maintenance is not severely delayed in the local governments of the pilot areas.
2. Natural disasters, such as an earthquake, flood, etc., do not profoundly affect the project activities.
3. The demarcation of regional road maintenance activities between PRIM and the Project is retained.

Pre-condition

Understanding and cooperation in regional road maintenance are obtained from the project stakeholders.

<Issues and Countermeasures>

Refer to PMS Summary.

PRIM: Provincial Road Improvement and Maintenance Program
SOP: Standard Operating Procedure
DAK: Special Allocation Fund

Plan of Operations (PO)

Version 6
Date 14 September, 2023

Project Title: The Project for the Improvement of Regional Roads Governance

Inputs	Year	1st Year												2nd Year												3rd Year												4th Year												5th Year												Remarks	Monitoring: Issue	Monitoring: Solution
	Month	I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV					
		9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																																																			
Team Leader / Road Maintenance 1	Plan	28		23				21			30			18			21			21			30		24				24			30			30																															
	Actual	28		21	16																							18			23							26				23		25			24	4																	
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21			24																															
	Actual	19		17																																						15			16																					
PMS / Road Database	Plan	30		21			21							27			21			30					21				30			18			21	30																													
	Actual	30	1	14	6		20																									27							30				7	17			16	11	3																	
Road Maintenance Plan	Plan			21			21						30						21				30						27			30			30																													
	Actual			20	1		20																															10				11	1	17				25																	
Road Design	Plan			18			18				30			30									30			30			18						21																													
	Actual			20			17																													28		30							23	12	13																	
Road Inspection	Plan			18			30				30									21			30									21																															
	Actual			19			17																											8													25	9		19																	
IRI Measurement System	Plan										9									9			9									9																															
	Actual																																	9							9							9																	
Construction Supervision	Plan										30			45									30			45						30																															
	Actual																																			30			22							23		15	8																	
PMS / Road Management System 1	Plan	19		15			21				21						20						24			18			24						18																													
	Actual	19	12	20																																												12																	
Organization Management / Project Monitoring	Plan	14			25		20			15				20		15			20			15			15		15		15			15			21																													
	Actual	14			25	17																						18		15											18	13			13	3																	
Training Plan / Gender	Plan			15						15												30												15																													
	Actual						15																									11					30						17																			
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18									20																													
	Actual	28		20																												13						19							18			12																	
Equipment																																																																		
Road Inspection Equipment	Plan																																																																
	Actual																																																																		
Road Maintenance Equipment	Plan																																																														
	Actual																																																																	
Road Management System	Plan																																																														
	Actual																																																																	
PC and Software for Road Management System in the pilot areas	Plan																																																														
	Actual																																																																
Others	Plan																																																													
	Actual																																																																
Training in Japan and/or Third Countries																																																														
Road Maintenance	Plan																																																													
	Actual																																																																

Activities	Year	1st Year												2nd Year												3rd Year												4th Year												5th Year												Responsible Organization: Japan	Responsible Organization: Indonesia	Achievements	Issue & Countermeasures
Sub-Activities																																																														
	Month	I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV					
		9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8				
Output 1: The operational capability of CFRI is improved.																																																													WG-1			
1-1 Review the roles/responsibilities, human resources, technical competency, etc. of CFRI.	Plan																																																											PMS / Road Database	CFRI	Ongoing	
	Actual																																																																
1-2 Confirm the current status and issues of regional road maintenance, including norm, standard, procedure, and criteria.	Plan																																																										PMS / Road Database	CFRI	Ongoing	
	Actual																																																															
1-3 Convene the regular meetings on regional road maintenance with CFRI and local governments in the pilot areas.	Plan			△			△				△					△						△					△					△					△																														PMS / Road Database	CFRI IRE	Ongoing	
	Actual			▲			▲				▲		▲																																																			
1-4 Develop the database framework of regional roads across the country.	Plan																																																												PMS / Road Database	CFRI IRE	Ongoing	
	Actual																																																													
1-5 Arrange the development policy direction of regional roads across the country.	Plan																																																											PMS / Road Database	CFRI	N/A	
	Actual																																																												
1-6 Prepare the proposal of budget allocation plan for regional road maintenance.	Plan																																																										PMS / Road Database	CFRI	N/A	
	Actual																																																											
1-7 Develop the SOP for regional road administration, including DAK, based on the results of the pilot projects in cooperation with CFRI.	Plan																																																										PMS / Road Database	CFRI	N/A	
	Actual																																																											
1-8 Convene the region-wide seminars for the other local governments outside the pilot areas.	Plan																																																									PMS / Road Database	CFRI	N/A	
	Actual																																																											
Output 2: The process for formulating the regional road maintenance plans is strengthened in the pilot areas.																																																										WG-2			
2-1 Select the pilot areas and review the roles/responsibilities, human resources, technical competency, etc. of the local governments in the pilot areas.	Plan																																																										PMS / Road Management System 1	CFRI, Local gov'ts of the pilot areas (LGPA)	Ongoing/Pilot areas were selected in Feb. 2020.	
	Actual																																																											
2-2 Confirm the current status and issues of regional road maintenance in the pilot areas.	Plan																																																									PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																																											
2-3 Conduct road inspections in the pilot areas.	Plan																																																									PMS / Road Management System 1	CFRI LGPA	Ongoing	
	Actual																																																											
2-4 Develop the database of regional road maintenance in the pilot areas.	Plan																																																									PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																																											
2-5 Examine and establish the budget-making procedure of regional road maintenance in the pilot areas in collaboration with CFRI.	Plan																																																									PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																																											
2-6 Formulate and revise a medium-term road maintenance plan of the pilot areas in collaboration with CFRI.	Plan																																																									PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																																										
2-7 Prepare the budget plan of the pilot areas on the basis of the future demand of regional road maintenance.	Plan																																																								PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																																									
2-8 Formulate the annual road maintenance plan in the pilot areas in collaboration with CFRI.	Plan																																																							PMS / Road Management System 1	CFRI LGPA	N/A	
	Actual																																																									

Project Monitoring Sheet II (Version 6: 20th January, 2023)
2/2

Inputs	Year	1st Year												2nd Year												3rd Year												4th Year												5th Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV					
	Month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8			
Expert																																																																	
Team Leader / Road Maintenance 1	Plan	28		23				21				30		18			21			21			30		24					24			30				30																													
	Actual	28		21	16																							18			23						26				23		25				24	4																
Deputy Team Leader / Road Maintenance 2	Plan	21						21						21						21						21						21				24																													
	Actual	19		17																																																													
PMS / Road Database	Plan	30		21			21							27			21			30					21						30			18			21	30																													
	Actual	30	1	14	6		29																									27						30				7	17				18	11	3																
Road Maintenance Plan	Plan			21			21					30							21				30						27			30				30																													
	Actual			20	1		20																															10				11	1	17					25																
Road Design	Plan			18			18					30			30									30						30	18					21																													
	Actual			20			17																													28		30					23	12	13																				
Road Inspection	Plan			18			30					30							21			30													21																													
	Actual			19			17																											8			23				25	5		19																				
IRI Measurement System	Plan											9								9			9											9																													
	Actual																																	9							9																				
Construction Supervision	Plan											30		45									30			45						30							22						23		15	8																
	Actual																																			30																												
PMS / Road Management System 1	Plan	19		15			21					21					20						24			18				24					18																													
	Actual	19	12	20																																																										
Organization Management / Project Monitoring	Plan	14			25		20			15				20			15			20			15			15				15			15			21																													
	Actual	14			25	17																							18			15										18	13				13	3																
Training Plan / Gender	Plan			15								15											30											15																													
	Actual						15																											11							17																				
PMS / Road Management System 2 / Project Coordinator	Plan	28						18					18							18						18										20																													
	Actual	25		20																														13																													
Output 3: The practical engineering method of regional road maintenance is developed through the pilot projects.																																																														WG-3		
3-1 Conduct the detailed examinations and specification designs of the pilot projects for regional road maintenance.	Plan																																																										Road Design	CFRI LGPA	Ongoing	
	Actual																																																																
3-2 Assist the local governments in the pilot areas to execute pilot projects.	Plan																																																									Road Design	CFRI LGPA	Ongoing	
	Actual																																																																
3-3 Supervise the pilot projects in collaboration with CFRI.	Plan																																																									Road Design	CFRI LGPA	N/A	
	Actual																																																																
3-4 Analyze and document the results of the pilot projects, including safety and management aspects.	Plan																																																								Road Design	CFRI LGPA	N/A	
	Actual																																																															
3-5 Develop the regional road maintenance manual by reviewing the current road maintenance manuals.	Plan																																																								Road Design	CFRI LGPA	Ongoing	
	Actual																																																															
3-6 Identify the technical issues on human resources development in the local governments of the pilot areas.	Plan																																																								Road Design	CFRI LGPA	N/A	
	Actual																																																														
3-7 Share the approaches, experiences, lessons learned, etc. of the pilot projects with the other local governments outside the pilot areas.	Plan												△												△												△																								Road Design	CFRI LGPA	N/A	
	Actual																																																														
Duration / Phasing	Plan																																																												
	Actual																																																													

Monitoring Plan	Year	1st Year												1												3rd Year												4th Year												5th Year												Remarks	Issue	Solution
		I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV			I			II			III			IV					
Monitoring																																																													
Joint Coordinating Committee	Plan	△	Kickoff					△						△						△						△						△				△																													
	Actual	▲										▲					▲												▲				▲				▲																													
Set-up the Detailed Plan of Operations and Project Indicators	Plan							△																																																							
	Actual							▲																																																								
Submission of Monitoring Sheet	Plan	△						△						△						△						△					△																																	
	Actual	▲						▲											▲											▲											▲																								
Monitoring Workshop	Plan							△						△						△						△					△																																
	Actual				▲																																																										
Reports/Documents																																																														
Work Plan	Plan	△																																																											
	Actual	▲																																																												
Project Completion Report	Plan																																																											
	Actual																																																													
Public Relations																																																													
Preparation of PR materials	Plan																																																											
	Actual																																																												

To complete project activities within the solid line.
To continuously conduct project activities during the dotted line.
△ To conduct meetings/seminars, execute monitoring, and prepare reports.

MINUTES OF MEETING

OF

THE 1st MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 24th September, 2019

The first meeting of Joint Coordinating Committee was held in Meeting Room in CFRI, Heritage Building 4th Floor, South Jakarta, on 24th September 2019 under the chairmanship of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda, presented materials and attendance list are attached.

JICA and CFRI Team made presentations on the following subjects:

1.1. Outline of the Project with Work Plan

1.2. Selection of the Pilot Area

1.3. Technical Working Group (TWG)

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the contents of explanation for 1.1, 1.2 and 1.3 above.
2. JCC approved the contents of Work Plan and Monitoring Sheet Ver.1.
3. JCC approved the procedure and criteria for pilot site selection, and finally ten (10) candidates of pilot sites have been selected. CFRI enquired about the criteria for the final steps and requested to consider public transport facility (On selection criteria (step-2)), by adding types of terminal (terminal A, terminal B, or terminal C).
4. CFRI requested JICA Team to hold the explanation meeting of pilot project for ten (10) candidate cities for the final step to select the pilot sites. CFRI requested the venue for that meeting by inviting 2 (two) representatives of the 10 cities and 1 (one) representative from regional planning board (Bappenas). JICA Team agreed to consult this issue with JICA HQ and inform CFRI later.
5. CFRI requested to JICA Team some changes of quantity in Machinery, Equipment and Facilities to be delivered in this project:
   a) IRI Profiler, from 2 in quantity to 5 for local government, CFRI, DGH and IRE
   b) Mobile Inspection System, from 2 in quantity to 5 for local government, CFRI, DGH and IRE
   c) Road Database (PMS) for central government (CFRI), from 1 in quantity to 3 for CFRI, DGH and IRE

   These additions are needed because CFRI and other C/Ps members shall use them to study and understand about how the machinery and equipment work for the system in order to assist the local governments in carrying out their tasks or to provide other regions that need the equipment. JICA Team agreed to consult this issue with JICA HQ and inform CFRI later.
6. CFRI raised the concern that the project team also take into consideration the traffic and intersections in the cities, as well as several aspects such as minor improvement, install the traffic signs, and develop

the flyover or underpass. To address the CFRI concern, the project team responded that the points raised would be surely contribute to have better road network and they are to be discussed further in the TWG meeting, whether those might be incorporated into the system that the project team will formulate in the project. In case additional expertise is necessary to include the points raised, the project team will communicate and discuss with CFRI and JICA office.

7. JICA Team requested to assign the Working Group members from CFRI and other related departments. CFRI agreed to assign the members from CFRI, DGH and IRE. Mr. Fadil, from Sub-Directorate for Integrated Planning and Road Network system, suggested to also include the persons from Sub-Directorate for Metro and Big Cities under the DGH, Bappenas, Sub-Directorate for Integrated Planning and Road Network system, and Sub-Directorate of Data Analysis and System Development for Output-1. For Output-2, he suggested to include the Sub-directorate of Planning and Programming of Road Preservation, and Sub-directorate of Integrated Planning and Road Network System. Meanwhile, for Ouput-3, he proposed the team to incorporate with Sub-directorate of Monitoring and Evaluation of Road Preservation and DGH Branch Office.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

Jakarta, 24th September 2019

Mr. Tomoyuki Kawabata
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

Meeting of Joint Coordinating Committee

<The Project for the Improvement of Regional Roads Governance>

September24. 2019 14:00

Attendance List

No	Name / Nama	Department & Position / Departemen & Posisi	Signature / Tanda tangan
1	Kazuya Aoki	[redacted]	
2	Masafumi Tamauchi		
3	Bhoj Raj Pantha		
4	Yumichi Oshima		
5	Ryusuke KANEKO		
6	F. Gracia		
7	Pratiwi Nursusilowati		
8	Fadil A.N		
9	Astri N.S		
10	Anitya Darmaningtyas MP		
11	Ade Maulana		
12	Selviana S		
13	NOVI B		
14	AKRAM YONDA		
15	SATRIA		
16	Frandi Sahabat		
17	Sinta Nur Indah		
18	ASTRI N.S		
19	Eka Widya		
20	Hery.		

Meeting of Joint Coordinating Committee

<The Project for the Improvement of Regional Roads Governance>

September24. 2019 14:00

Attendance List

No	Name / Nama	Department & Position / Departemen & Posisi	Signature / Tanda tangan
21	Cade Kurnia	[redacted]	
22	Muh. Taufik		
23	CESAR ICHTIARSO		
24	Dewi Idhayani		
25	Chihiro Ishii		
26	Mei Lia Dwi S.		
27	Dedy G		
28	Riono Supriyanto		
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KEMENTERIAN PEKERJAAN UMUM DAN PERUMAHAN RAKYAT
SEKRETARIAT JENDERAL
PUSAT FASILITASI INFRASTRUKTUR DAERAH
Jalan Pattimura Nomor 20, Kebayoran Baru, Jakarta 12110, Telepon 021-7392681, Fax. 021-7392681

NOTA DINAS

Kepada Yth.	:	Bapak Kepala Pusat Fasilitasi Infrastruktur Daerah
Dari	:	Kepala Bidang Pelaksana Dana Alokasi Khusus Jalan dan Jembatan
Perihal	:	Risalah Rapat *The Second Meeting Of Joint Coordinating Committee Of The Project For The Improvement Of Regional Roads Governance* 15 Juli 2020
Hari/Tanggal	:	Selasa, 4 Agustus 2020

Sehubungan telah dilaksanakannya *The Second Meeting Of Joint Coordinating Committee Of The Project For The Improvement Of Regional Roads Governance* pada 15 Juli 2020 Berikut kami sampaikan risalah rapat (*Minutes Of Meeting*). Oleh karena itu, kami mohon perkenan tanda tangan Bapak atas risalah rapat tersebut.

Demikian disampaikan, dan mohon arahan Bapak lebih lanjut, atas perhatian dan perkenannya diucapkan terima kasih

Kepala Bidang
Penyelenggaraan Jalan dan Jembatan

Dedy Gunawan, ST., M.Sc.
NIP. 197501312005021002

MINUTES OF MEETING

OF

THE 2nd MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 15th July, 2020

The second meeting of Joint Coordinating Committee was held on 15th July 2020 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda presented materials and attendance list are attached.

JICA and CFRI Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring Sheet Ver.2 & Project Indicators
3. Project Schedule under Covid-19

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the Monitoring Sheet Ver.2.
2. JCC approved the Project Indicators which are described in the updated Project Design Matrix (PDM)
3. JCC confirmed the present project implementation style and tentative schedule under COVID-19.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

15th July 2020

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

THE 2nd MEETING OF JOINT COORDINATING COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	2nd Joint Coordination Committee Meeting	**Sheet**	6 pages
Location	Online (Zoom Meeting)	**Date**	15th July 2020

Participants:	▪ *C/P members from CFRI, DGH (BINAMARGA), BAPPENAS, Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert in Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details please refer to attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		**Outline of Discussion and Conclusions**
1.0	1.1	The JCC meeting was commenced by Mr. Dedy and expressed an apology from Mr. Riono that he cannot attend this meeting because he had suddenly scheduled another meeting with the Ministry of Finance.
	1.2	Mr. Dedy informed brief information about what would be discussed at this meeting such as progress report, the things that need to be done in the future and the obstacles encountered in the field under the covid-19 situation. He also invited Mr. Honzu, Senior Representative of JICA Indonesia Office, to give an opening speech.
	1.3	Mr. Honzu gave an Opening Speech for the JCC meeting, and he stated that he just arrived in Indonesia last week. He thanked to all attendees for their attendance in this meeting and given the brief explanation about this project. He also expected that even though most of the activities of this project will be affected by COVID-19, the members must still collaborate properly to achieve the expected outcome.
2.0		***Progress Report***
	2.1	Dr. Aoki, Team Leader of this project, presented the progress report by dividing the progresses into two time period; (1) from beginning until the end of March 2020 which will be inconsistent with the Monitoring Sheet Version 2, (2) from April 2020 until 15th July, 2020, the progress under COVID-19 situation. He informed that a new project counterpart, Directorate of Technical Affairs for Road and Bridge (Bintek), was added in this project.
	2.2	Dr. Aoki informed about the modification of the project implementation plan in the Japanese side version 2 that Mr. Tomiyama is newly assigned in JICA Team as an expert of IRI measurement system.
3.0		***Presentation -2: Project Monitoring Sheet Ver.2 & Project Indicators***
	3.1	Mr. Hirakawa presented the Project Monitoring Sheet version2 and project indicators. He explained current condition of modification in Project Design Matrix (PDM) version 1 and updated to PDM version 2. He informed that JICA Team will prepare the matrix and summary

Item		Text	Action
		how to monitor the system, the target values that must be achieved so that we could see the result every year.	
	3.2	The indicator 1 and indicator 2 of project purpose such as the completion status with the target >90% and self-assessment with the target >80% in both Sukabumi and Tebing Tinggi Cities have been explained. The indicator 1 and 2 of project purpose can be analysed for the strength and the weakness.	
	3.3	Mr. Hirakawa explained that the survey output for self-ratings of CFRI on their operational capabilities was 59.2% on average and the output for self-ratings of engineers and technicians at the pilot city government on their practical engineering method was 53.6% on average.	
4.0		***Presentation -3: Project Schedule under Covid-19***	
	4.1	Dr. Aoki explained the project activities from April to July 15, 2020 under COVID-19 that the tasks are being continued to achieve the target by remote work and he stated that even during COVID-19 pandemic some meetings had been held such as the 2nd TWG Meeting on June 2020 and others meetings with CFRI and MPWH Data Center.	
	4.2	The main project activities by remote work have been continued. He also stated that the project period extension due to the COVID-19 shall be discussed later, and assignment schedule of JICA Team have not been rescheduled yet. The 1st training in Japan planned in September 2020 will be postponed.	
5.0		***Discussions***	
	5.1	Mr. Dedy informed to all attendees that the Sub Directorate of Regional Road in Bina Marga as a new unit division in Ministry of Public Works and Housing who will handle the technical guidance for the local government of this project.	
	5.2	Mr. Dedy summarized the average result of questionnaire that only reaches 50% and still lack to achieve the target. He requested to Bina Marga to cooperate with CFRI to conduct the technical guidance and training to the local government. An official letter regarding this request will be submitted to the Sub Directorate of Regional Road in Bina Marga. He hoped the target value of this project not only applied in bSukabumi and Tebing Tinggi cities, but also can be applied to all cities in Indonesia.	
	5.3	Mr. Dedy asked to JICA Team to discuss about building of deterioration forecasting model that can predict the road conditions to estimate required road maintenance to formulate medium-term budget plan that will be included in the DAK in the next 5 years.	
	5.4	Mr. Dedy informed that the current situation of transportation between Jakarta and Pilot sites. Suklabumi City can still be visited by the car transportation, but when visiting the Tebing Tinggi City by airplane, it is required to comply with some administration issue and health protocol.	
	5.5	Representative of Sukabumi City stated that currently they are awaiting the arrival of JICA Team and has prepared the requested data by JICA Team,. Also Sukabumi City informed that they are conducting the road maintenance work as regular works.	
	5.6	Representative of Sukabumi City explained that the CFRI staff and Local Team of JICA may visit to Sukabumi City, and informed current condition in Sukabumi City is safe zone of COVID-19. However, the visitor still must comply with the health protocol or local policy.	

Item		Text	Action
	5.7	Mrs. Susan as the Head of Bina Marga in Tebing Tinggi City explained the condition Tebing Tinggi City under COVID-19 that Tebing Tinggi City are awaiting the arrival of JICA Team to conduct the survey, and she insisted to still comply with the health protocol and local policy during the site survey.	
	5.8	Mrs. Susan suggested to JICA Team and CFRI to choose the other site as the pilot site of this project, if possible. Also, she requested to Mr. Dedy about the possibility of Tebing Tinggi City to be given the additional budget for this project, due to the limited budget under COVID-19 condition.	
	5.9	Mr. Dedy responded that fund and budget for DAK for this year is decreasing. Thus, the local government are requested to prepare some technical data to apply for DAK funds.	
	5.10	Dr. Aoki understood the situation and happy to both cities for the response and actions. He stated the current condition that the Japanese experts cannot come to Indonesia and cannot predict also the arrival to Indonesia. However, the Japanese experts can assist by the remote work and the local team in Indonesia also can assist CFRI and both Sukabumi and Tebing Tinggi City.	
	5.11	Dr. Aoki understood the comment from Mr. Dedy about deterioration forecasting model for the road maintenance plan. Mr. Aoki proposed some option to install the deterioration model in CRMS such as CFRI will develop the common model to apply for all cities or cities government will produce the model by themselves, will install the complicated model that requires a lot of data and will install the simple model that easy to use with the actual situation. Dr. Aoki also emphasized the trade-off between system complexity and CRMS functions	
	5.12	Mr. Dedy emphasized that as long as the CRMS can predict the budget requirement in the next 5 years any method to predict deterioration will be fine and he entrust the way to the JICA Team.	
	5.13	Dr. Pantha said that technically the JICA Team can develop the deterioration model, but each city will have technical issues and he suggested to hold further meeting to discuss about this issue. Mr. Dedy agreed to arrange that meeting.	
	5.14	Mr. Cesar from BAPPENAS asked when the system development of this project is completed. Mr. Dedy responded the system development (first version) will be completed at the end of 2020.	
	5.15	Mr. Sutedjo from BAPPENAS supported and agreed on the deterioration model that model will requires a lot of data and variable, also the time series are required to develop this model. He also added for the development of this model needed more consideration if JICA Team will develop it.	
	5.16	Mr. Dedy reconfirmed to Bina Marga regarding the numbering of road segments still does not have a regular pattern and he asked help of Bina Marga to resolve this issue because this number will be as basis in the CRMS development as well.	
	5.17	Mr. Fathur from Bina Marga responded that Bina Marga Team has discussed that issues with Mr. Marsudi. Mr. Marsudi answered those issues will be needed a lot method to create the pattern of numbering so that there is no large gap between the regional and national roads. He worried between the regional and national roads that will there is a deviation because the differences of measurement class of IRI. He also proposed to JICA Team to discuss with Bina Marga about the class of IRI for measurement.	

Item		Text	Action
	5.18	Mr. Dedy responded that IRI measuring in the regional road mostly using the class 3 or 4 of IRI. He explained this project will use a new method which uses the action camera and after that will be verified. Also, IRI measurement system will be calibrated to check the sustainability with using the actual measurement.	
	5.19	Dr. Aoki clarfied that will use IRI measurement between class 2 and 3 in this project. Because class 2 is measuring the roughness of pavement directly by laser technology and class 3 can estimate the roughness by using smartphone. In this project, we will use the acceleration data that can estimate the roughness directly and later processed using data processing system which will also make the IRI with less dependent of vehicle driving speed. JICA Team also will conduct the test to calibrate the data with the actual measurement.	
	5.20	Mr. Dedy expected the Bina Marga is to be able to use the system in the field to measure IRI and train to the local government after the covid-19 is getting better.	
	5.21	Mr. Simon from Bina Marga asked whether there are any modules of CRMS related to the connectivity for the road widening, underpass, flyover, etc. where the roads in the city of metro require the mid-term planning.	
	5.22	Mr. Dedy answered and explained that the goals of this project is to develop and manage the maintenance roads in the small town and if the Bina Marga wants to develop this system, they may improve to be applied to the roads in metro city. He suggested Bina Marga to extend the cooperation contract with JICA Team.	
	5.23	Dr. Aoki explained that this project will try to develop comprehensive system to cover all situation. Even though, the first target of this project is Sukabumi and Tebing Tinggi City, JICA Team will consider the common function to be customized based on the cities condition in Indonesia.	
	5.24	Mr. Dedy expected that local government will be not only as a user but also as the developer who can modify the system in the future.	
	5.25	Mr. Honzu, senior representative of JICA, explained that the Japanese experts are still waiting the decision from Headquarters related to the schedule of this project especially the training to be held in Japan and he suggested to conduct the online training that will be flexible to implement this project smoothly in the current situation.	
	5.26	Mr. Dedy responded that training is still important in this project, but if the JICA will conduct the training online first under the COVID-19 situation it is still acceptable then after the condition is getting better the offline training could continue including training in Japan.	
	5.27	Mr. Ikeda from JICA Bina Marga informed that he has some experienced of maintenance road of local government. He has some idea to improve this project and will discuss with JICA Team directly. Dr. Aoki will contact Ikeda san to discuss further for this project.	

Minutes of Explanation of Pilot Selection and Pilot Project Meeting	Japan International Cooperation Agency	Ministry of Public Works and Housing

Item		Text	Action
6.0		***Others***	
	6.1	Mr. Dedy asked the next schedule of TWG Meeting and Dr. Aoki responded him that hewill inform the detail for next schedule of this project later. Dr. Pantha proposed to local government if there are things to be conveyed and discussed, they can contact directly to JICA Team or can propose for technical meeting.	
7.0		***Closing Remark***	
	7.1	Mr. Dedy closed the meeting by thanking to all attendees. He waited for the next TWG and JCC Meeting.	

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 15th July 2020

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Dedy Gunawan	CFRI		
2	Taufik	CFRI		
3	Saddam Amin			
4	Fathurrahman	Bina Marga / Directorate General of Highways		
5	J Sutedjo	Bappenas / National Development Planning Agency		
6	Kazuya Aoki	JICA Team		
7	Ryusuke Kaneko	JICA Team		
8	Bhoj Raj Phanta	JICA Team		
9	Akram Yolanda	CFRI		
10	Masafumi Yamauchi	JICA Team		
11	Takaaki Hirakawa	JICA Team		
12	Juneichiro Ikeda	JICA Indonesia		
13	Takeo Sugimoto	JICA Team		
14	Eiji Noguchi	JICA Team		
15	Junichi Oshima	JICA Team		
16	Hiroshi Ueda	JICA Team		
17	Luzmi Malia Izza	JICA Team		
18	Wieby Wiguna W.	JICA Team		
19	Mei Lia	JICA Team		
20	Sinta	CFRI		

21	Shunji Hata	JICA Team		
22	Ishii	Reprepsentative of JICA		
23	Frandi	CFRI		
24	Simon	Dit. SSPJ, Bina Marga / Directorate General of Highways		
25	Pudji	Bappenas / National Development Planning Agency		
26	Cesar	Bappenas / National Development Planning Agency		
27	Yusuf Amir	CFRI		
28	Dewi Idhayani	Representative of JICA Indonesia		
29	Honzu	Representative of JICA		
30	Toni	Bappenas / National Development Planning Agency		
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DAFTAR HADIR RAPAT

Hari/Tanggal : RABU / 15 JULY 2020
Agenda : ICC MEETING
Tempat : BINA MARGA KOTA TEBING TINGGI

No.	Nama	Jabatan	No.Hp	Tanda Tangan
1.	RUSMIATY HARAHAP, ST	[redacted]		
2.	REZA AGHISTA, ST			
3.	Zaimah., ST.			
4.	SALMON F., ST			
5.	CHARLES., ST			
6	Adolf Bastian Silaban, ST.			
7	Zulkarnain, ST.			
8.	M. ARIF NUGRAHA, ST			

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMITEE MEETING (JCC)

Date & Time: Wednesday, 15th July 2020

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	ABDUL RAHMAN	[redacted]		
2	Lutfi Aziz			
3	ALVIAN SANI			
4	Rika Sulaeman			
5	Adi Chandra			
6	Tuti Astuti			
7	Irfan			
8	Dadang Dimyati			
9	Sudrajat			
10	Wawan Sawarni			
11	Cucu Juanda			
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MINUTES OF MEETING

OF

THE 3rd MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 20th January, 2021

The third meeting of Joint Coordinating Committee (JCC) was held on 20th January 2021 by online under the chairmanship of Mr. Dedy Gunawan, Head of Division for Road and Bridge Administration, on behalf of Mr. Riono Suprapto, Head of the Center of Facilitations for Regional Infrastructure. The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring
3. Progress of Development of CRMS, DPS-IRI and VIS

After discussion, the followings were confirmed and agreed by JCC:

1. JCC approved the Monitoring Sheet Ver.3.
2. JCC approved the modified Project Design Matrix (PDM).
3. JCC confirmed the schedule for the development of CRMS, VIS and DPS-IRI.

Mr. Dedy, Head of Division for Road and Bridge Administration, declared the meeting closed with appreciation for all attendees.

20th January 2021

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Riono Suprapto
Head of the Center of Facilitations for
Regional Infrastructure
Ministry of Public Works and Housing

THE 3rd MEETING OF JOINT COORDINATING COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	3rd Joint Coordination Committee Meeting	**Sheet**	6 pages
Location	Link Zoom Meeting	**Date**	20th January 2021

Participants:	▪ *C/P members from CFRI, DGH (BINAMARGA), BAPPENAS, Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert (Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		**Outline of Discussion and Conclusions**
1.0	1.1	The JCC meeting was commenced by Mr. Dedy and expressed an apology from Mr. Riono that he cannot attend this meeting because of his sudden another internal meeting.
	1.2	Mr. Dedy gave a welcome greeting to the meeting participants. He explained the purpose of the meeting, and informed that the JICA Expert Team (JET) would submit several progress reports of the Project. He informed that this Project has been running since 2019 and should have been completed in 2022, but due to the Covid-19 condition, there were some delays in project activities. Therefore, there is a possibility of the Project being extended until 2023. At the end of his welcome greeting, he invited Mr. Honzu, the Senior Representative of JICA Indonesia Office, to give an opening speech on behalf of JICA.
	1.3	Mr. Honzu mentioned that he was grateful for holding the 3rd JCC Meeting, and informed that due to the COVID-19 pandemic conditions there were some delays in the Project activities. He mentioned that today we will confirm the updated situation and the outcomes that have been achieved so far. He also hopes to discuss about rescheduling of the Project if needed in this meeting
2.0		***Progress Report***
	2.1	Dr. Aoki, the Team Leader of the Project, presented the progress report. He mentioned that as explained by Mr. Dedy the Project is experiencing some delays, so that the JET has requested to JICA HQ to rearrange the Project period and extend for 1 year given that the Project activities will be resumed in April 2021. This issue will be discussed later when the COVID-19 situation calms down and timing of resuming of the Project activities will be decided.
	2.2	He provided additional information regarding the e-learning system. He presented the basic concepts of the e-learning system during this JICA Project and after termination of JICA Project for sustainability. He also mentioned that MPWH has developed the common platform of e-learning system named "E-Pelatihan". He further informed that JET and MPWH organized the first meeting on December 28, 2020 and agreed to use MPWH E-Pelatihan platform.
	2.3	
3.0		***Presentation -2: Project Monitoring***

		Mr. Hirakawa, who presented the Project Monitoring, explained briefly about the Project Design Matrix (PDM). In the presentation also, he proposed to modify the PDM because the JET has not been dispatched since April 2020. It would be required to extend the implementation period for one year in order to carry out the pilot projects twice as originally planned, however could not implemented yet due to the entire cancellation of the first year activities in 2020.
	3.1	He informed that JET has proposed to JICA HQ to provide the online lectures for basic courses and JET members will prepare the materials of online lectures.
4.0		***Presentation -3: Progress of Development of CRMS, DPS-IRI and VIS***
	4.1	Dr. Pantha explained the current status of system development for 3 systems, such as City Road Management System (CRMS), Visual Inspection System (VIS) and Data Processing System for IRI (DPS-IRI).
	4.2	He explained the current progress of CRMS which is being developed based on the design platform agreed in the meeting held on 10th June, 2020. As the current progress of CRMS development, he presented some basic features of some modules has almost completed and development of some modules is yet to start. The trial version is possibly be released around May 2021.
	4.3	Mr. Kaneko explained the current status of VIS development. He informed that the initial development of basic function of VIS have been Completed (ver.1), such as map view, list view, the process of creating a visual inspection, etc. The next step is the creating of interfaces along the workflow and the development of features that link with CRMS such as data import and export.
	4.4	For the current progress of DPS-IRI development, Mr. Sugimoto presented that initial development of major function of DPS-IRI have been completed (ver.1), such as import video data, convert field data (positioning, acceleration) into GIS data, edit GIS data, calculate IRI value, etc. For the next step, it is planned to carry out adjustment of IRI calculation by using practical field measurement data.
	4.5	Mr. Sugimoto reported that the test survey for data verification have been done in Japan to collect the practical field measurement data to adjust and improve IRI analysis. The driving speed during the IRI driving test were10 km/h, 20 km/h and 30 km/h. The results from these speeds will then be compared. The data of the test measurement is currently under processing.
	4.6	Mr. Sugimoto further informed that JET will carry out the similar test measurement in Indonesia, which has different environments and conditions from Japan and make readjustments of DPS-IRI to suit with local conditions.
5.0		***Discussions***
	5.1	Mr. Dedy introduced Mr. Avicenna as the Head of Sub Directorate of Regional Roads of Highways
	5.2	Mr. Panca from Technology Development commented that that the DGH has already developed the IRMS for national road management. Why didn't this Project just apply the IRMS system?
	5.3	Mr. Dedy responded that the IRMS have been developed aiming to be used for National Road. On the other hand, CRMS aims to be used for city road management, and each city will run this system directly.
	5.4	Mr. Avicenna appreciated this cooperation project, and he hopes for an adjustment in the CRMS because the road construction between national and regional roads is different. He also hopes that it will be implemented quickly and the shortcomings can be updated.
	5.5	Mr. Dedy stated that MPWH and regional governments can predict the future demand for road

		maintenance budget to meet the level of road stability.
	5.6	Dr. Pantha also thanked to Mr. Avicenna for his appreciation and stated that JICA Team also will work together with the DGH for system integration.
	5.7	Mr. Toni from BAPPENAS also appreciated the CRMS and commented that it could be tested this year. If this CRMS is successful, he hopes that it can also be implemented in the district / Kabupaten. Then, Mr. Toni asked how is the coaching / training / transfer of knowledge to the regional governments for sustainable implementation. He expressed that BAPPENAS could access this CRMS for monitoring.
	5.8	Mr. Reza from Tebing Tinggi City and Mr. Alip from Sukabumi City commented that both cities are ready for further directions from the Project and the development of the CRMS.
	5.9	Mr. Dedy responded to Mr. Toni's question from BAPPENAS that the district program already exists, namely PKRMS. For the sustainability of this CRMS CFRI and the JICA Team will work together with the Polytechnics of MPWH and BPSDM (Human Resources Development Agency) to transfer knowledge / training to them first. Then, the CFRI will make a policy for program sustainability that for the DAK proposal, the CRMS program can be used.
	5.10	Mr. Dedy also informed that training / transfer knowledge will be used e-learning platform of BPSDM because training is possible and effective during the Covid-19 pandemic conditions by holding online training. He also explained that the Deterioration Model which uses variables from the IRMS to be modified or adjusted. For the classification of road damage classes can be divided into 4 categories, namely good, lightly damaged, heavily damaged and bad.
	5.11	Dr. Aoki informed that the JICA Team might come to Indonesia in April, but this is still tentative and may change depending on conditions and regulations in Japan and in Indonesia. He also thanked BPSDM for allowing their e-learning platform to be used for online training activities. Currently the JICA Team is studying the e-learning system owned by BPSDM. He hoped that JET can start the online training using this e-learning system soon, and all people are welcomed to discuss for the contents because the content of the training is not entirely technical.
	5.12	Mr. Honzu from the representative of JICA Indonesia Office commented that he will support the provision of e-learning system, and work with JICA HQ if necessary. Regarding the project schedule, JICA Indonesia Office will consider it positively if the extension is necessary to achieve the project goal.
	5.13	Mr. Dedy concerned for the IRI measurement about driving speed as 30-40km/hour. He asked to JICA Team to consider the accuracy of surveyed data in case of low speed of the vehicle because it is experienced that the IRI measurement accuracy would be less accurate if the speed was below 40 km/hour.
	5.14	Dr. Tomiyama introduced briefly his another test result in Japan and it stated that IRI data in low-speed running by survey vehicle has reliable accuracy.
	5.15	Mr. Taufik from Technology Development suggested that IRI measurement can be done at night to avoid traffic congestion and any obstacle in day times. He also asked about the provision in this Project for IRI survey.
	5.16	Mr. Tomiyama understood the suggestion from Mr. Taufik about survey in night, and added his comment that rain does not affect the calculation results of the accelerometer.
	5.17	Dr. Pantha answered that basically the JICA Team provided not only the software but also the hardware, such as an action camera for data collection.
	5.18	Mr. Dedy responded that regarding the policy on the use of this system, perhaps a policy or mandate would be made to use this system on the basis of DAK.

	5.19	Mr. Taufik asked about the responsibility of repairing in case of any damage of the system or the hardware.
	5.20	Mr. Dedy answered that we plan to connect the technicality with the budgeting system so that the local government will inevitably maintain and use this system.
	5.21	Mr. Reza from Tebing Tinggi City gave additional suggestions to be able to consider the problem of insufficient lighting if the IRI measurements were carried out at night, and asked the JICA Team for helping to provide standard parameters in the survey such as speed and level of light requirements.
	5.22	Mr. Toni from BAPPENAS commented that the technical matters in the system will be aligned with the cost for applying for DAK. He asked about the output of this sytem, whether in the future it could be combined with the existing system in Bina Marga (Highways Department) in order to collect all road stability data.
	5.23	Mr. Dedy answered that SiPDJD can be used to get data of stability for all roads. Meanwhile, the output of the CRMS is to help local governments with budgeting plan and prediction of future costs for road maintenance. The issue of system integration with Bina Marga (Highways Department) can be discussed later after this system is completed.
6.0	6.1	***Closing Remark*** Mr. Dedy closed and thanked to all attendees. He also appreciated for the suggestions that were delivered in the today's meeting, which shows that the meeting participants still have attention to the local roads.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Dedy Gunawan	CFRI		
2	Taufik	CFRI		
3	Saddam Amin			
4	Kazuya Aoki	JICA Team		
5	Ryousuke Kaneko	JICA Team		
6	Bhoj Raj Phanta	JICA Team		
7	Masafumi Yamauchi	JICA Team		
8	Takaaki Hirakawa	JICA Team		
9	Juneichiro Ikeda	JICA Indonesia		
10	Takeo Sugimoto	JICA Team		
11	Junichi Oshima	JICA Team		
12	Shunji Hata	JICA Team		
13	Ishii	Reprepsentative of JICA		
14	Naoko Ono	JICA Team		
15	Kazuya Tomiyama	JICA Team		
16	Luzmi Malia Izza	JICA Team		
17	Wieby Wiguna W.	JICA Team		
18	Mei Lia	JICA Team		
19	Reihan Oktavio	JICA Team		
20	Cesar	Bappenas / National Development Planning Agency		

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
21	Dewi Idhayani	Representative of JICA Indonesia		
22	Honzu	Representative of JICA		
23	Toni	Bappenas / National Development Planning Agency		
24	Andri Septian			
25	Budi Awan	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
26	Pratiwi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
27	Windy	Ministry of Public Work and Housing		
28	Tegar Rizkiadi	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
29	Soviani Undaristia			
30	Shofi Azkaria			
31	Taufik Sumardi	Technology Development / Highways Department		
32	Panca	Technology Development / Highways Department		
33	Avicennia	Head of Sub Directorate of Regional Roads of Highways Department		
34	Nida Ashma			
35	Karni Natalia			
36	Handhi	Directorate of Transportation		
37	Dini Audrie	CFRI		
38	Nazib Faizal	Head of Center of Data and Information / Ministry of Public Work and Housing		
39				
40				

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Wednesday, 20th January 2021

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Rosa Aglinta	[redacted]	[redacted]	
2	Jammah S.G. Hsb			
3	SALmon F. L.			
4	Adolf B. Silaban			
5	Zulkarnain			
6	M. ARIF NUGRAHA			
7	Charles			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Wednesday, 20th January 2021

Attendance List

No	Name	Position / Institution	Phone / E-mail	Signature
1				
2	Lutpi Alip	[redacted]	[redacted]	
3	HADI PURNOMO			
4	Alvian Sari			
5	Ali Chandra			
6	Rika Sulaeman			
7	Gisca Puspita Sari			
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Japan International Cooperation Agency

JICA Indonesia
Sentral Senayan II, 14th Floor
Jl. Asia Afrika No. 8, Jakarta 10270, INDONESIA
Tel: (62-21) 5795-2112 (hunting) Fax: (62-21) 5795-2116

Ref.No: 028/PRJ/04/2022

Jakarta, April 12th 2022

To:
Mr. Krisno Yuwono ST., MT.
Head of Center for Regional Infrastructure Facilitation
Ministry of Public Works and Housing

Subject: Response to the Request for the Covering Letter for the Extension Period of the Project for the Improvement of Regional Road Governance

Dear Sir,

We would like to express our sincere appreciation to your support on our activities in Indonesia, especially on the project for the Improvement of Regional Road Governance

With reference from your letter no.HL 0105-Sf/73 dated on 25 February 2022 regarding the request to send the cover letter to the Secretary General for the extension period of the captioned project, currently, JICA Headquarter is in the process of finishing the draft of Minutes of Meeting for Record of Discussion modification to extend the Project period. After the draft is complete, we will send a letter to the Secretary General containing all detailed explanation needed concerning the extension of the Project shortly.

By this letter, we hereby submit to you as well, the Minutes of Meeting (MoM) 4th Joint Coordinating Committee which has been signed from our side. Thank you for your kind assistance and cooperation.

Yours Sincerely,

HONZU Shigeo
Senior Representative
JICA Indonesia Office

CC: Secretary General of Ministry of Public Works and Housing

Attachment : Signed Minutes of Meeting of 4th Joint Coordinating Committee

MINISTRY OF PUBLIC WORKS AND HOUSING
SECRETARIAT GENERAL
CENTER FOR REGIONAL INFRASTRUCTURE FACILITATION
Jalan Pattimura Nomor 20 – Kebayoran Baru - Jakarta 12110 Telepon 021-7246248 Faksimili 021-7246248

No : HL 0105-Sf/73 Jakarta, 25 February 2022

Encl :

Re : Request for the covering letter for the extension period of the project for improvement of regional road governance

To :
Mr. Shigeo Honzu
Senior Representative
JICA Indonesia Office

Dear Mr.Honzu,

Regarding the extension of the Project for Improvement of Regional Road Governance that will be expired in May 2022 and also referring to the Minutes of Meeting (MoM) 4th Joint Coordinating Comitee on February 15th 2022, The JICA Indonesia Office will issue the letter to the Secretary General of MPWH concerning the detail information of the project along with the revised Record of Discussion (RoD)

We would like to request the JICA Indonesia Office to issue the mentioned letter above so that we can continue to work together in this project towards fruitful outcomes.

Thank you for your kind attention, cooperation and your respond at your earliest convenience.

Sincerely Yours,

Krisno Yuwono,ST.,MT.
Head of Center for Regional Infrastructure Facilitation

CC:
1. Secretary General of MPWH (as a report);
2. Director General for Highways, MPWH

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MINUTES OF MEETING

OF

THE 4th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 15th February, 2022

The 4th meeting of the Joint Coordinating Committee (JCC) was held on 15th February 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of Center for Regional Infrastructure Facilitation (CRIF). The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
2. Project Monitoring
3. Progress of System Development of CRMS, DPS-IRI and VIS
4. Extension of the Project Period
5. Activity Plan for the First Half of 2022

After discussions, JCC approved and confirmed the following points:

[Approved]

1. Monitoring Sheet Ver.4
2. Necessity to extend the Project Period for Activities in Indonesia until March 2024

[Confirmed]

3. Project Progress under the Covid Pandemic Situation
4. Schedule for the Development of CRMS, VIS and DPS-IRI
5. Necessity of the Discussion about the Server Arrangement for the Systems at TWG Meeting
6. Activity Plan for the First Half of 2022

Mr. Krisno Yuwono, Head of CRIF, declared the meeting closed with his appreciation for all attendees.

15th February 2022

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of Center for Regional
Infrastructure Facilitation
Ministry of Public Works and Housing

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THE 4th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	4th Joint Coordination Committee Meeting	**Sheet**	4 pages
Location	Link Zoom Meeting	**Date**	15th February 2022
Participants:	▪ *C/P members from* CRIF, *DGH (BINAMARGA), Centre of Data and Information Technology, International Cooperation Bureau (MPWH), Sukabumi City, Tebing Tinggi City* ▪ *JICA Indonesia Office* ▪ *JICA Long-term Expert (Directorate General of Highways (BINAMARGA)* ▪ *JICA Team* *For details, please refer to the attached Attendance List*		
Meeting Materials	▪ *Handouts of Presentation (attached)*		
Recorded by:	JICA Team		

Item		Outline of Discussion and Conclusions
1.0	1.1	Mr. Taufik declared to commence the 4th JCC meeting, and Mr. Krisno Yuwono was introduced as the new Head of Center for Regional Infrastructure Facilitation (CRIF) and the chairman of JCC.
	1.2	Mr. Krisno gave an opening speech and explained the purpose of the 4th JCC Meeting, one of which was to discuss the extension of the project period.
	1.3	Mr. Honzu, Senior Representative of JICA Indonesia Office, gave an opening speech to express the best wishes to the JCC meeting.
2.0		***Progress Report***
	2.1	Dr. Aoki presented the progress report of activities of this project, and reported that the Monitoring Sheet Version 4 was prepared and submitted.
3.0		***Presentation -2: Project Monitoring***
	3.1	Mr. Hirakawa presented the results of Project Monitoring. In the presentation, he proposed to modify the project period because the JICA Expert Team (JET) has not been dispatched since April 2020. Thus, it would be required to extend the period to conduct road maintenance cycles in two seasons.
	3.2	He informed that as the JET members could not visit Indonesia, JET and its counterpart had tried to carry out parts of the project activities, such as arrangements of meetings and online lectures. When JET visited Sukabumi City in December 2021, JET collected the data about the completion status and self-assessment of road maintenance work. Although the completion rate of road maintenance projects is retained with a high percentage, the self-assessment composed of quality and project management is still a low percentage (60%). As the target value is 80%, it is crucial for the Project to effectively carry out the pilot projects for the improvement of the quality and

		project management for road maintenance.
	3.3	Mr. Hirakawa assumed that the lengths (km) of road inspections and repairs in Sukabumi were reduced from FY 2019 to 2020 due to the budget allocation for COVID-19 measures (i.e., budget diversion from road maintenance budget to COVID measures). However, it is assumed that the lengths of inspections and repairs would be restored if the budget is allocated for road maintenance as in the past.
4.0		***Presentation -3: Progress of Development of CRMS, DPS-IRI and VIS***
	4.1	Dr. Pantha explained the current status of system development for 3 systems, such as City Road Management System (CRMS), Visual Inspection System (VIS) and Data Processing System for IRI (DPS-IRI).
	4.2	He explained the current progress of CRMS that basic features of most of the modules were almost completed as version 1, and few modules such as integration, reporting and documents, are partially developed. However, JET is still necessary to verify output of the modules with the real data collected from the actual field.
	4.3	Dr. Pantha also explained the current status of VIS development that most of them are completely developed as version 1.
	4.4	As for the current progress of DPS-IRI development, Dr. Pantha presented that most of the modules have already been developed as version 1. For the improvement of the IRI calculation module, JET is planning to conduct the test survey in 2 pilot cities (Sukabumi and Tebing Tinggi) for final adjustment under actual conditions and to fix the measurement method in actual situations.
5.0		***Subjects of Discussion: Extension of the Project Period***
	5.1	Dr. Aoki presented a proposal for the extension of the project period. While the initial project period is from September 2019 up to July 2022, JET proposed that the project period will be extended to March 2024 in order to implement the road maintenance cycle in two dry seasons in Indonesia and conduct training for technical transfer to achieve the goals of the project.
6.0		***Subjects of Discussion: Activity plan for the first half of 2022***
	6.1	Dr. Aoki explained the plan of activities that will be conducted in the first half of 2022. For the Output 1, JET will collect data using the DPS-IRI, VIS first, and that data will be exported to the CRMS for verification of system outputs. And the output format and budget allocation procedures will be discussed among JET, CRIF and Pilot cities.
	6.2	For the Output 2, JET plans to visit both pilot cities to conduct the demonstration of the new systems, and test operation using the DPS-IRI and VIS. Also, the budget making procedure will be discussed in the pilot cities.
	6.3	Lastly, for the Output 3, JET will survey and discuss the selection method of the location for this year's pilot project. Regarding the introduction of the equipment and materials for the pilot projects, JET is considering using those produced in Indonesia due to the difficulties of importing from overseas under the situation of COVID-19.
	6.4	He also informed that online training will resume in February. JET has already prepared the training materials to be delivered during the training.
7.0		***Discussions***
	7.1	Mr. Dimas from PUSDATIN (Centre of Data and Information Technology) of MPWH, asked again about how to handle the IRI measurement at bumps, which he asked at a previous TWG

		meeting. In addition, he asked about the necessity for local governments to set up their on-premises servers, while PUPR uses cloud servers.
	7.2	Dr. Pantha answered that the bumps would affect IRI analysis, then the DPS-IRI has a function that can eliminate the factors (noise factors), such as the speed bump, stops at intersections, train crossing or others, for the IRI calculation. Prof. Tomiyama also agreed with this statement.
	7.3	Regarding the server, Dr. Pantha explained that it may be desirable to set up a server considering operational costs and continuity of the system utilisation. The disadvantage of using a cloud server is that the local governments have to pay a usage fee of the service and that should not lead to abandonment of the system.
	7.4	Mr. Dimas informed that MPWH once provided a server to the local government, but the server was not well managed. He said that the maintenance of a cloud server is easier, and the maintenance cost is cheaper. In terms of security and capacity of data, cloud services seem to have greater merits. Pak Dimas is willing to make a calculation in case of using cloud servers if needed.
	7.5	Mr. Krisno responded that even though the local government's web server is managed by a different agency/institution, there should be no problem. The issue of server maintenance should be considered, and a commitment from the local governments for sustainable maintenance should be required. However, this matter cannot be decided in this meeting, then further review and survey will be required.
	7.6	Dr. Aoki agreed with Mr. Krisno that another meeting to discuss the details for the server should be arranged.
	7.7	Ms. Grace from the Bureau of Budget Planning and Foreign Cooperation of MPWH, reminded the procedure of project extension and modification of Record of Discussion (RD). She suggested that CRIF report to the General Secretariat with MoM that mentioned the project extension and the previous Record of Discussions (RD).
	7.8	Ms. Pratiwi from the Bureau of Budget Planning and Foreign Cooperation of MPWH, reminded that if there is something that has already been handed over to the local governments, the information must be updated according to the updated RD.
	7.9	Mr. Honzu explained the procedures that the result of today's JCC meeting will be reported to JICA HeadQuarters (HQs), and after the decision by HQs, the revised RD which includes the extension of project period shall be signed by both parties. If necessary, the JICA Indonesia Office will issue the letter to the Director General and the Secretary General.
	7.10	Ms. Ishii, JICA Indonesia Office, supplemented the procedure as follows; After reporting the result of today's meeting to the HQs, the HQs will prepare the Minutes of Meeting (MoM) to modify the RD, and MPWH (PUPR) will confirm the contents of MoM. If the contents of the MoM are agreed, the MoM will be signed by both sides, and it is the procedure for the modification of RD.
8.0		***Conclusions***
	8.1	Mr. Krisno concluded the meeting, as below: 1. Even during the Covid-19 pandemic, project activities are still going well. 2. For the extension of the project period to be processed soon, CRIF will request to JICA Indonesia Office to issue a letter to the Secretariat General and CRIF will make an explanation to the Secretary General.

9.0		***Closing Remark***
	9.1	Mr. Krisno Yuwono declared the meeting closed with his appreciation to all attendees.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno Yuwono	Head of CFRI		
2	Sari Satria	CFRI		
3	Taufik	CFRI		
4	Saddam Amin	JICA Assistant		
5	Kazuya Aoki	JICA Team		
6	Ryousuke Kaneko	JICA Team		
7	Bhoj Raj Phanta	JICA Team		
8	Masafumi Yamauchi	JICA Team		
9	Takaaki Hirakawa	JICA Team		
10	Juneichiro Ikeda	JICA Indonesia		
11	Takeo Sugimoto	JICA Team		
12	Shunji Hata	JICA Team		
13	Ishii	Reprepsentative of JICA		
14	Kazuya Tomiyama	JICA Team		
15	Luzmi Malia Izza	JICA Team		
16	Mei Lia	JICA Team		
17	Dewi Idhayani	Representative of JICA Indonesia		
18	Honzu	Representative of JICA		
19	Pratiwi Nursusilowati	Bureau of Overseas Cooperation / Ministry of Public Work and Housing		
20	Dini Audrie	CFRI		

21	Rahayu Santoso Putri			
22	Akhbar			

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

MEETING OF

JOINT COORDINATION COMMITTEE MEETING (JCC)

Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	ALVIAN SANI	[redacted]		
2	ADI CHANDRA			
3	LIA WILIYANI			
4	Rika Sulaeman			
5	Sisca Puspita S			
6	Ajeng Dwi L			
7	M. Ibrahim Idris			
8	TINA. MARYANI			
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PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 15th Febuary 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Roza Aghoska	[redacted]		
2	Rizky Muffly			
3	Salmon Frarsh			
4	Gerrard Simait			
5	Charles Manggolon			
6	Aria Leo B.			
7	Zulkarnain			
8	Adolf B. Silaban			
9	M. Arif Nugraha			
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MINUTES OF MEETING

OF

THE 5th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 22nd June, 2022

The 5th meeting of Joint Coordinating Committee (JCC) was held on 22nd June 2022 by online under the chairmanship of Mr. Krisno Yuwono, Head of Center for Regional Infrastructure Facilitation (CRIF). The meeting agenda, presented materials and attendance list are attached.

CRIF made presentations on the change of CP members.

After discussions, JCC approved the change of CP members as the following table:

Before	Amended Version
• Head of the Center of Facilitation for Regional Infrastructure • Director of Road Network Development, DGH • Head of Division for Road and Bridge Provision, Center of Facilitation for Regional Infrastructure • Head of Division Land and Road Transportation, Bappenas • Deputy Director of Planning Integration and Network System, DGH • Deputy Director of Data Analysis and System Development, DGH • Head of Division, Programming and Evaluation, Institute of Road Engineering • Others (Two pilot cities)	• Head of Center for Regional Infrastructure Facilitation • Director for Road and Bridge Management System and Strategy, Directorate General of Highways • Head of Division of Specific Allocation Funds for Roads and Bridges, Center for Regional Infrastructure Facilitation • Head of Division Land and Road Transportation, Bappenas • Head of Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways • Head of Road and Bridge Data and Information System Development Subdirectorate, Directorate General of Highways • Director for Public Works Polytechnic • Head of Subnational Roads Subdirectorate, Directorate General of Highways • Head of Centre for Data and Information Technology • Others (Two pilot cities)

Mr. Krisno Yuwono, Head of CFRI, declared the meeting closed with his appreciations for all attendees.

22nd June 2022

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of the Center for Regional Infrastructure Facilitation
Ministry of Public Works and Housing

THE 5th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	5th Joint Coordination Committee Meeting	**Sheet**	2 pages
Location	Link Zoom Meeting	**Date**	22nd June 2022

Participants:	▪ *C/P members from CRIF, International Cooperation Bureau (MPWH), Public Works Polytechnic, BAPPENAS, DGH (BINAMARGA, Sukabumi City)* ▪ *JICA Indonesia Office* ▪ *JICA Team* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		Outline of Discussion and Conclusions
1.0	1.1	Mr. Taufik declared to commence the 5th JCC meeting.
	1.2	Mr. Krisno gave an opening speech and explained the purpose of the 5th JCC Meeting, one of which was to discuss about the change of CP members of Indonesia side.
	1.3	Mr. Honzu, Senior Representative of JICA Indonesia Office, gave an opening speech to express the best wishes to the JCC meeting.
		Presentation : Change of CP Members
2.0	2.1	On behalf of CRIF, Mr. Taufik, official of CRIF, made a presentation on the change of CP members. He proposed adding new CP members and change the official name of the department of CPs according to the newly published official documents and project progressed. As new members, 1) Director for Public Works Polytechnic, 2) Head of Subnational Roads Sub-Directorate, Directorate General of Highways and 3) Head of Centre for Data and Information Technology were proposed and approved by JCC.
3.0		***Discussion***
	3.1	Dr. Aoki thanked the new members from three departments, and requested to receive technical support and discussion on sustainable use of technologies to be introduced in the Project.
	3.2	Mr. Rikal Andani from Public Works Polytechnic asked about the e-learning system which is being developed in the Project.
	3.3	Dr. Pantha explained that the training contents is being prepared and the platform for the e-learning system will be prepared in the MPWH which can be used for technology transfer to nationwide regional offices. JICA Team would like to discuss about the procedure of development of e-learning system with Public Works Polytechnic as they are expertise in road and bridge inspections in Indonesia.

	3.4	Mr. Rikal Andani in Public Works Polytechnic asked the current status and progress of the systems to be developed and introduced in this project.
	3.5	Dr. Pantha explained that three systems are being developed, such as 1) DPS-IRI, 2) VIS and 3) CRMS. The first versions of them have been completed released in Sukabumi city for trial implementation. We are planning to carry out a trial operation in Tebing Tinggi city, and after that we will discuss the next version to calibrate and update based on the opinions of system users. During the project period, version upgrades are repeated and when the project is over, the completed system is transferred. The CRMS covers pavement management and other road facilities, however bridge management is not covered.
	3.6	Mr. Krisno suggested to hold an another meeting between Public Works Polytechnic and JICA Team to discuss the further detail of the project progress. Ms. Ishii, JICA Indonesia Office, confirmed the organization structure change and inviting new participant. She said that from now on we have to update the MoM for RD modification and JICA HQs will approve it in one or two weeks. We will try to accelerate the process, and we would like to ask for cooperation of PUPR.
4.0		***Closing Remark***
	4.1	Mr. Krisno Yuwono declared the meeting closed with his appreciations to all attendees.

PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE
MEETING OF
JOINT COORDINATION COMMITTEE MEETING (JCC)
Date & Time: Tuesday, 22nd June 2022

Attendance List

No.	Name	Position / Institution	Phone / E-mail	Signature
1	Krisno Yuwono	Head of CRIF		
2	Taufik	CRIF		
3	Kazuya Aoki	JICA Team		
4	Bhoj Raj Phanta	JICA Team		
5	Kazuya Tomiyama	JICA Team		
6	Luzmi Malia Izza	JICA Team		
7	Rikal Andani	Public Works Polytechnic		
8	Adi Chandra	Bina Marga DPUTR Sukabumi		
9	Mana Tanaka	JICA Team		
10	Maudy Artanti			
11	Grace	International Cooperation Bureau (MPWH)		
12	Alvynia V	International Cooperation Bureau (MPWH)		
13	Pratiwi Nursusilowati	International Cooperation Bureau (MPWH)		
14	Annisa Rindiana F			
15	Fakhrunisa			
16	Ishii	Representative of JICA		
17	Shigeo Honzu	Representative of JICA		
18	Dewi Idhayani	Representative of JICA		
19	Dika	Bappenas		
20	Ade Maulana	Integration System of Road and Bridge Network Subdirectorate, Directorate General of Highways (DGH		

MINUTES OF MEETING

OF

THE 6th MEETING OF JOINT COORDINATING COMMITTEE OF THE PROJECT FOR THE IMPROVEMENT OF REGIONAL ROADS GOVERNANCE

HELD ON 20th January, 2023

The 6th meeting of the Joint Coordinating Committee (JCC) was held on 20th January 2023 under the chairmanship of Mr. Krisno Yuwono, Head of Center of Regional Infrastructure Facilitations (CRIF). The meeting agenda, presented materials and attendance list are attached.

JICA Expert Team made presentations on the following subjects:

1. Progress Report
   1.1. Progress of Activities
   1.2. Progress of System Development (CRMS/DPS-IRI/VIS)
   1.3. Report of the Pilot Project in 2022
   1.4. Project Monitoring
2. Report of 1st Training in Japan in 2022
3. Activity plan for the first half of 2023

After discussions, JCC approved and confirmed the following points:

[Approved]

1. Progress of activities and Project Monitoring described in the draft of Monitoring Sheet Ver.5.

[Confirmed]

1. Activity plan for the first half of 2023
2. Start the discussion for inclusion of the systems developed in the Project in Ministerial regulation with DGH
3. Necessary of further cooperation in establishing the introduced technology in the Project, such as CRMS, DPS-IRI and VIS, and its expansion to other cities
4. Necessary of additional verification of pothole patching using Cold Mix Asphalt material, Aqua Patch, in the second pilot project in 2023

Mr. Krisno Yuwono, Head of CFRI, declared the meeting closed with his appreciation for all attendees.

20th January 2023

Mr. Shigeo Honzu
Senior Representative
Indonesia Office
Japan International Cooperation Agency

Mr. Krisno Yuwono
Head of the Center of Regional
Infrastructure Facilitations
Ministry of Public Works and Housing

THE 6th MEETING OF JOINT COORDINATION COMMITTEE

Japan International Cooperation Agency

Ministry of Public Works and Housing

Project Title	Project for The Improvement of Regional Roads Governance	**Division**	Indonesia
Subject	6th Joint Coordination Committee Meeting	**Sheet**	4 pages
Location	Meeting room in CRIF / Link Zoom Meeting	**Date**	20th January 2023

Participants:	▪ *C/P members from CRIF, Public Works Polytechnic, DGH(BINA MARGA), Sukabumi City and Tebing Tinggi City* ▪ *JICA Headquarters* ▪ *JICA Indonesia Office* ▪ *JICA Expert Team (JET)* *For details, please refer to the attached Attendance List*
Meeting Materials	▪ *Handouts of Presentation (attached)*
Recorded by:	JICA Team

Item		**Outline of Discussion and Conclusions**
1.0	1.1	Mr. Krisno gave an opening speech and informed the issues and plans needed to be discussed in the 6th JCC Meeting.
	1.2	Mr. Kawahara from JICA HQ gave a speech for the project. He said that the systems of CRMS, DPS-IRI, and VIS are being developed and will be used properly in the pilot cities in due time. He also expected to know what the trainees learned from the training in Japan in November 2022. Finally, he said that JICA always supports all parties who are involved in this project.
	1.3	Mr. Nakajima from JICA Indonesia Office, gave a brief introductory speech that the project is going very well. He mentioned that the JICA Indonesia Office wants to support expanding the project outcome to other cities in Indonesia.
2.0		***Presentation:***
	2.1	***Progress of Activities*** Dr. Aoki briefly reported the progress of the project activities. He also informed that the CRMS systems have been installed in the PUSDATIN server. JET had also conducted the OJT in two pilot cities, and the training in Japan has been conducted regarding the Road Maintenance Policy and Infrastructure Asset Management in Japan.
	2.2	***Progress of System Development (CRMS/DPS-IRI/VIS)*** Dr. Pantha presented the progress of system development which includes CRMS, DPS-IRI and VIS. JET will develop the e-learning contents that comprise all things regarding the developed systems. E-learning contents will be uploaded in MPWH Online Training Platform. Dr. Pantha reported that the systems have been tested for the penetration test and security check in November 2022 and the vulnerability tests were conducted three times between January 14 and 20 and all tests are successful through PUSDATIN inhouse test and third party conducted by German based security company.

	2.3	Dr. Pantha showed the interface system in CRMS and briefly explained several functions in the interface. He reported the current progress of VIS. Among three apps of VIS, the data synchronization (with CRMS database) of main app (Pavement Visual Inspection) has been already completed whereas data synchronizations from Road Facility and Field Verification apps are partially developed.
	2.4	The development of DPS-IRI had been completed already. However, due to interruption of selling Garmin Camera in Indonesia, adjustment should be made to incorporate GoPro Camera for the system as it is more easily available in local market in Indonesia.
	2.5	MPWH already has the platform of human resources e-learning directory, the JET will upload the video contents and training materials to the said platform. Dr. Pantha informed that the JET will conduct the intensive training that is scheduled to be implemented in May 2023.
	2.6	***Report of the Pilot Project in 2022*** Mr. Noguchi presented the initial results of pilot project activities in 2022. In 2023, the second pilot project will be conducted for the rehabilitation work. Mr. Noguchi also explained the work procedures for pothole patching in general and using the Aqua Patch. In addition, the construction method for crack sealing using the MD Seal was also described.
	2.7	Mr. Noguchi presented the result of Aqua Patch Cold Mix Material after one month that gave better quality, workability, and environmentally friendlier than the local product. Smoother surface results in a more comfortable drive. However, The price for Aqua Patch is much more expensive than the JMTM-31 product. It should be reflected in the life cycle cost for maintenance if it is proven that the durability of the aqua patch is better than that of local products.
	2.8	Mr. Noguchi informed that it is mandatory to clean the crack area before applying the sealant material (MD Seal). In addition, the MD seal does not provide good enough adhesion on concrete pavement. Both possibilities are causing the peeling off material that occurred in Tebing Tinggi.
	2.9	***Project Monitoring*** Mr. Hirakawa presented the project design matrix, including the Project Purpose and all three Outputs, i.e., 1) the operational capability of CRIF is improved, 2) the process for formulating the regional road maintenance plans is strengthened in the pilot areas, and 3) the practical engineering methods of regional road maintenance are developed through the pilot projects.
	2.10	He reported that according to annual assessments the skills/knowledge of C/P have been improved every year. Regarding the Project Purpose, for instance, satisfaction ratings of the pilot city governments on the consultations by CRIF increased from 62% to 65% (target value 70% by the end of the project). Overall, the indicators on spider charts and other figures tend to increase gradually. It could be concluded that the Project has favorably moved forward.
	2.11	He raised the concerned that DAK for the two target cities will not be allocated in 2023, so they shall consider securing the budget for the road maintenance through other budget sources, such as governor provincial aid, city government budget, etc. In addition to this remark, he pointed out that the Indonesian side needs to expand the project concepts outside the 2 pilot cities.
	2.12	He recommended that at least two key personnel shall be assigned in each city. Also, the Bina Marga section in two pilot cities shall have the opportunities to share the knowledge and skills among the Bina Marga section as countermeasures for the sudden personnel transfer.
	2.13	***Report of 1st Training in Japan in 2022*** Mr. Taufik from CRIF, trainees of training in Japan, presented the result of twelve-days training. He explained that with the land of Indonesia that is larger than Japan, the total length of roads in Indonesia is less than in Japan. What is known is that city road governance and asset management were initiated in Japan in 2013 due to a road accident in a tunnel that collapsed and hit road users. In the aftermath, the Japanese government began to focus on handling prevention rather than development.

	2.14	Mr. Taufik presented the lessons learned from the training in Japan. For reporting road damage, the Japanese government involves the public to report road hazards encountered and can be reported through the application. Actually, reporting of road damage by the public has been implemented in several regions in Indonesia, but indeed the facilities in Indonesia are not as adequate as the Japanese government.
	2.15	Mr. Taufik stated that CRIF plans to encourage local governments to focus more on road damage prevention activities rather than road repairs. Moreover, advising local governments to involve public participation in reporting road damage. Also, CRIF will optimize the existing system to its full potential.
		Activity plan for the first half of 2023
	2.16	Dr. Aoki explained the activities plan for the first half of 2023. He emphasized preparing the hierarchical training (3 layers) and support plan for ongoing training and trial implementation.
	2.17	Dr. Aoki explained the plan of intensive training for all process of road maintenance work. The first training will focus more on road inspection and the second training will emphasize on planning methods. Schedule of training will be decided based on the discussion in the WG meeting.
	2.18	Dr. Aoki informed that the training contents will be developed by outsourcing to a video production company. The video will be uploaded to the platform of the e-learning system in coordination with the human resource department in MPWH.
3.0		***Discussion***
	3.1	Mr. Krisno mentioned the issue of Ministerial Decree of the introduced systems, and he requested JET to consider the system integration between CRMS and PKRMS in the same platform. He also responded regarding the e-learning platform necessities to invite the Human Resources Development Agency who has the responsibility for the e-learning system in the next meeting.
	3.2	Mr. Krisno informed that the Polytechnic of PU requested to send the project related materials to them so that they can learn how to use the system. He added that the information regarding the materials provided by JICA in 2022 had all been used up. He requested JET to ensure budgeting funds for road maintenance during this project.
	3.3	Mr. Krisno requested JET to discuss the topic for next training in Japan.
	3.4	Dr. Aoki responded regarding the integration between CRMS and PKRMS. JET needed to discuss this matter with the related agency. Also, regarding the issue of inclusion of CRMS, DPS-IRI and VIS in the Ministerial Decree, JET would like to join the necessary meeting and provide the technical information.
	3.5	Dr. Aoki agreed to share the system and technical documents specifications to the Polytechnic of PU for their references.
	3.6	Regarding the request for additional material such as Aqua Patch, Dr. Aoki stated that he was also very happy to know that the results were good in Sukabumi and Tebing Tinggi. He mentioned that it is important in this Project to consider the sustainable procurement and implementation with new materials after the termination of the Project. This matter shall be discussed when the work plan of the second pilot project will be compiled.
	3.7	Dr. Pantha responded to the server capacity planning issue. In the previous meeting, Dr. Pantha explained that the server capacity is required for the dissemination to two cities in Indonesia. If the system will be used by many cities, then the required server capacity will also increase accordingly.

	3.8	Mr. Rikal from Public Works Polytechnic stated that the purpose of the Public Works Polytechnic to join this project is that the Public Works Polytechnic could become a training center. Therefore, he asked to be involved in training for carrying out road inspections or works. He also stated that the Public Works Polytechnic is ready to become the trainers for the continuation of this system.
	3.9	Dr. Pantha responded that a system of CRMS has been installed to the server and Mr. Rikal is welcome to get familiar with the system. Dr. Aoki invited the Public Works Polytechnic to join the intensive training in Sukabumi and Tebing Tinggi cities.
	3.10	Mr. Arif from Tebing Tinggi expected that the visit to the pilot site this year would adjust to the schedule of activities in Tebing Tinggi City. Tebing Tinggi City will start the overlay works in an estimated time of August 2023.
	3.11	Mr. Adi from Sukabumi informed that the estimated time to work on the overlay is in March 2023 after the local budget (APBD) is being approved.
	3.12	Mr. Krisno suggested to both cities to submit their schedule of road maintenance works immediately.
4.0		***Closing Remark***
	4.1	Mr. Krisno Yuwono declared the meeting closed with his appreciation to all attendees.

ABSENSI RAPAT

ACARA : Project for the Improvement of Regional Roads Governance Meeting of JCC
HARI/TANGGAL : Jumat, 20 Januari 2023
TEMPAT : Ruang Rapat PFID, KemenPUPR
PEMIMPIN RAPAT : Krisno Yuwono, ST, MT (Kepala PFID)

NO	NAMA	JABATAN/INSTANSI	NO. TELEPON/HP	ALAMAT EMAIL	TANDA TANGAN
1.	Kazuya Aoki	JICA Team	[redacted]	[redacted]	
2.	MASAFUMI YAMAUCHI	JICA Team			
3.	Shunji Hata	JICA Team			
4.	Tsuyoshi Nokajima	JICA Indonesia Office			
5.	Krisno Y	PFID			
6.	Bhoj Raj PANTHA	JICA Team			
7.	SATRIA	KABID BID JALAN			
8.	Muhamad Taufik	PFID Bid Jalan			
9.	Brigitta Yolada P.	PFID Staff Jalan			
10.	AKRAM YONDA P	PFID Staff			
11.	Dewi Idhayani	JICA Indonesia			

NO	NAMA	JABATAN/INSTANSI	NO. TELEPON/HP	ALAMAT EMAIL	TANDA TANGAN
12.	Toru Tsuchihashi	of Bina Marga JICA Long Term Expert	[redacted]	[redacted]	
13.	Saddam Amin	Assistant			
14.	Mana Tanaka	JICA Expert			
15.	Takaaki HIRAKAWA	〃 (Monitoring)			
16.	Mei Lia Dwi Saputri	JICA Team			
17.	Faraj	〃			
18.	Luzmi Malia Izza	JICA Team			
19.	Oktav	JICA Team			
20.	Dyah N.S	PFID			
21.	Yusuf	PFID			
22.	Dzihan U.I	PFID			
23.	Robby	PFID			

NO	NAMA	JABATAN/INSTANSI	NO. TELEPON/HP	ALAMAT EMAIL	TANDA TANGAN
24.	Frandi Sahabat	Staff / PPID	[redacted]	[redacted]	

Standard Operating Procedure (SOP)
for Regional Road Administration

January 2024

Japan International Cooperation Agency (JICA)

CONTENTS

1. Introduction
1.1 Objectives
1.2 Organogram
1.3 Responsibilities

2. SOP for Regional Road Administration by CRIF
2.1 Implementation of Road Inspection
2.2 Development and Updating of Database
2.3 Preparation of Medium-term and Annual Road Maintenance Plan

Appendix 1: Performance Checklist based on the SOP

1. Introduction

1.1 Objectives

The JICA Project has prepared this document on the Standard Operating Procedure (SOP) to have the Ministry of Public Works and Housing (MPWH) refer *it* in their official documents. Thus, it is expected that the official documents on SOP will be developed and updated by the Indonesian side for the future.

It is crucial for CRIF to maintain the reginal roads based on proper procedures, i.e., road inspection, updating of database, preparation of road maintenance plan, etc. This is because limited budget shall be allocated for the road maintenance projects with the priorities indicated in the Medium-term and Annual Road Maintenance Plan. In order to achieve this goal, CRIF defines its objectives in the following ways.

- To implement appropriate road inspection by using VIS (mobile) as well as DPS-IRI for IRI survey.
- To develop and update the database of road conditions under the responsibility of CRIF.
- To prepare the Medium-term and Annual Road Maintenance Plan with the effective use of the CRMS.
- To enable CRIF officers to prioritize road maintenance projects from an objective perspective with reference to the above procedures.

1.2 Organogram

CRIF has one (1) post of Center Head, four (4) posts of Section Head, and nine (9) posts of Sub-section Head. The organogram of CRIF is as shown below.

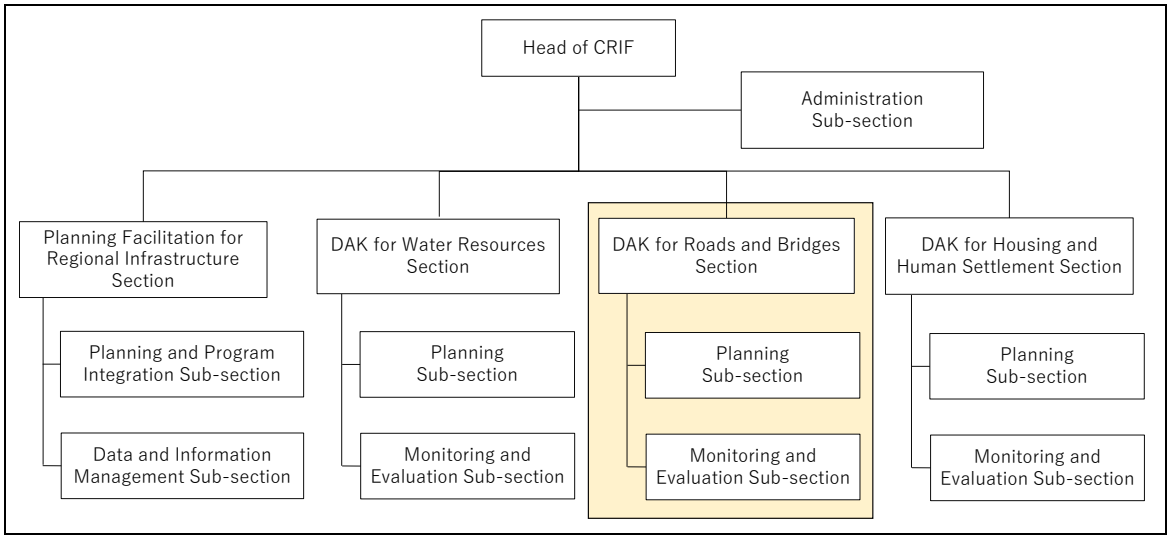


Figure 1-1: Organogram of the CRIF

1.3 Responsibilities

(1) CRIF is a center under the Secretariat General of the MPWH. The legal basis for CRIF is the Ministerial Regulation No. 13 (Year 2020) regarding the organization and workflow of the MPWH.

(2) The CRIF has the tasks to facilitate planning, coaching, monitoring, and evaluating the implementation of regional infrastructure (Article 731, Ministerial Regulation No. 13, 2020).

(3) There are several functions of CRIF as shown below:

- Preparation of technical policies, programs, and budgets for the implementation of regional infrastructure;
- Implementation on facilitation of planning and coaching for regional infrastructure;
- Implementation of monitoring, evaluation, and reporting of the implementation of regional infrastructure; and
- Implementation of central administrative and household affairs.

(4) CRIF consists of several Sections as follows:

- Section of Planning Facilitation for Regional Infrastructure;
- Section of Specific Allocation Funds for Roads and Bridges (Section for Roads and Bridges);
- Section of Specific Allocation Funds for Water Resources;
- Section of Specific Allocation Funds for Housing and Human Settlement; and
- Sub-section of Administration.

(5) Tasks and functions of the Division for Roads and Bridges

The Division carries out the preparation of technical policies, plans, and programs, the implementation of guidance and facilitation, as well as the monitoring, evaluation, and reporting on the implementation of regional road and bridge infrastructure (Article 736, Ministerial Regulation No, 13, 2020). The scopes of work are as follows:

- Specific Allocation Fund (DAK) on road and bridge management;
- Grant for provincial road improvement maintenance/regional road grant program management; and
- Technical Cooperation for the improvement of regional road governance with JICA.

2. SOP for Regional Road Administration by CRIF

The workflow of SOP for regional road administration by CRIF is indicated in the Figure 2-1 below. The SOP also includes the original operations of CRIF which are not covered with the JICA Project.

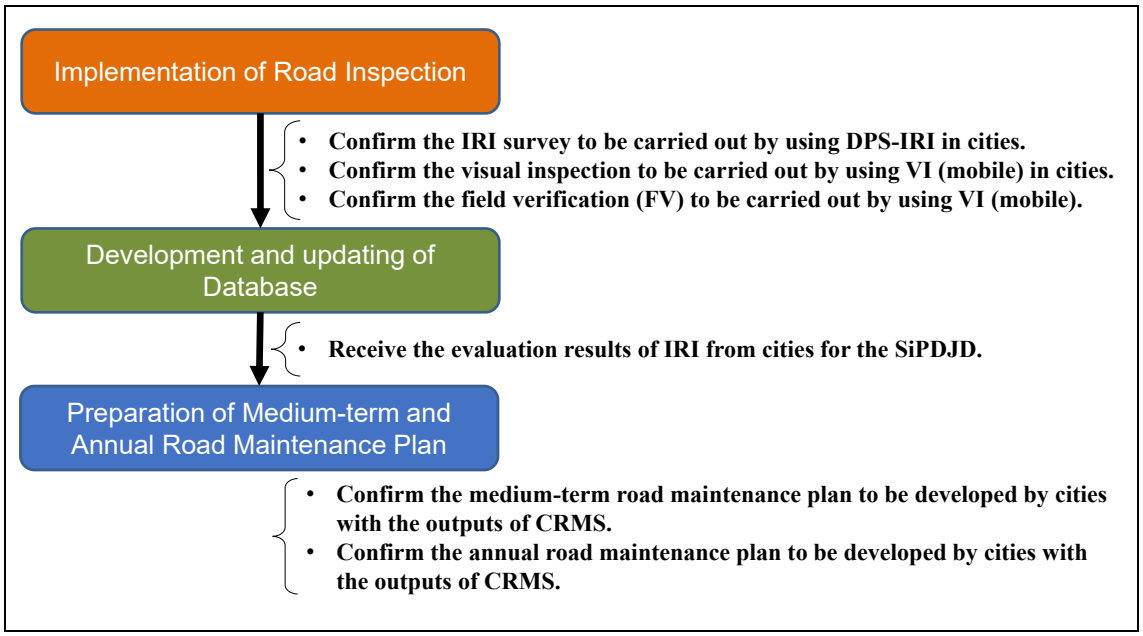


Figure 2-1: Workflow of SOP for Regional Road Administration by CRIF

The Project has developed and introduced the new system, *i.e.*, City Road Management System (CRMS), Data Processing System for IRI (DPS-IRI), and Visual Inspection System (VIS). By using the system, the persons in charge of road infrastructure authorities (local governments) carry out road inspection, database management, and formulation of road maintenance plan under the supervision of CRIF. In connection with the system, CRIF is responsible for supervising the portions with dotted circles as indicated in the Figure 2-2.

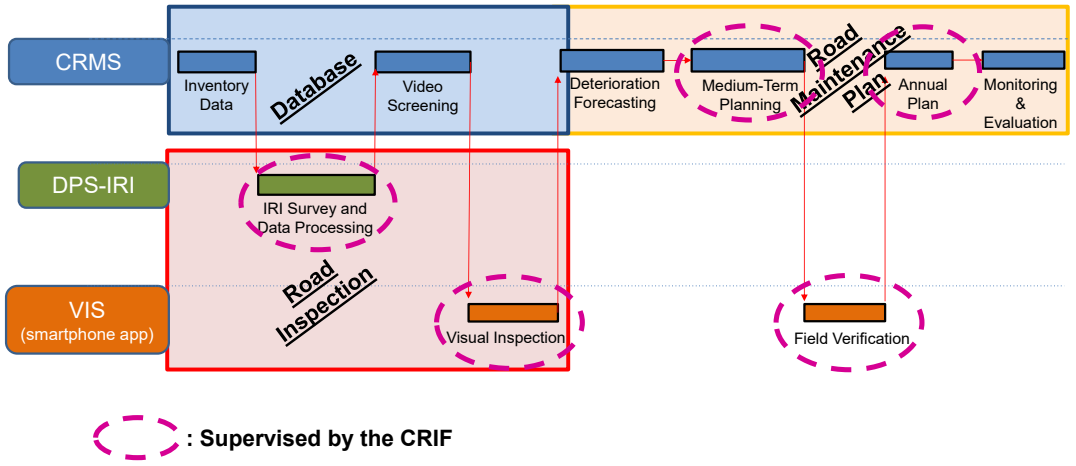


Figure 2-2: Relationship with the System and Road Maintenance Operations

2.1 Implementation of Road Inspection

(1) IRI Survey with the DPS-IRI

Based on road inventory data, IRI survey with the GoPro Camera and DPS-IRI is implemented for the road network. The Section for Roads and Bridges of CRIF (R&B Section) confirms whether or not the DPS-IRI is effectively used for IRI survey and data processing. Also, as road infrastructure authorities (local governments) calculate the percentage (%) of the actual lengths (km) of IRI survey for the length (km) of total road network, R&B Section (led by M&E Sub-section) shall monitor the progresses and results of the IRI survey and provide the advice for the local governments if necessary.

(2) Visual Inspection with VI (mobile)

Based on the outcomes of the video screening, visual inspection with the VIS is carried out by local governments in accordance with the road inspection plan. Additionally, as the local governments calculate the percentage (%) of the actual lengths (km) of visual inspection for the length (km) indicated in the road inspection plan, the R&B Section (led by Planning Sub-section) shall monitor the progresses and results of the visual inspection with the VIS conducted by local governments.

(3) Field Verification (FV) with VI (mobile)

According to the medium-term road maintenance plan (MTP), field verification (FV) with the VIS is conducted by local governments. Also, since the local governments calculate the percentage (%) of the actual lengths (km) of FV for the length (km) indicated in the MTP, the R&B Section (led by Planning Sub-section) shall monitor the progresses and results of the FV with the VIS and examine whether or not the Annual Road Maintenance Plan (AP) is formulated through the results of the FV.

2.2 Development and Updating of Database

(1) Evaluation Results of IRI for SiPDJD

Evaluation of road infrastructure with the IRI value is expected to be utilized by road infrastructure authorities (local governments) as a management guideline. The information and data of poor and dangerous road conditions shall be assessed by *balai*, reported to CRIF, and submitted in SiPDJD application for the assessment of DAK proposals.

The R&B Section (led by M&E Sub-section) shall check the evaluation results of IRI used for SiPDJD.

2.3 Preparation of Medium-term and Annual Road Maintenance Plan

(1) Medium-term Road Maintenance Plan (MTP) with the CRMS

In order to develop the medium-term road maintenance plan (MTP) as indicated in the Figure 2-3, local governments need to populate data of road inventory and current status into a database. They analyze the results extracted from the database and prepare the budget for three to five-year periods. Based on the budget, they develop the medium-term work programs, including the BOQ and work packaging. During the implementation of the work programs, they update the data to the database.

The R&B Section (led by Planning Sub-section) shall confirm the contents of the MTP.

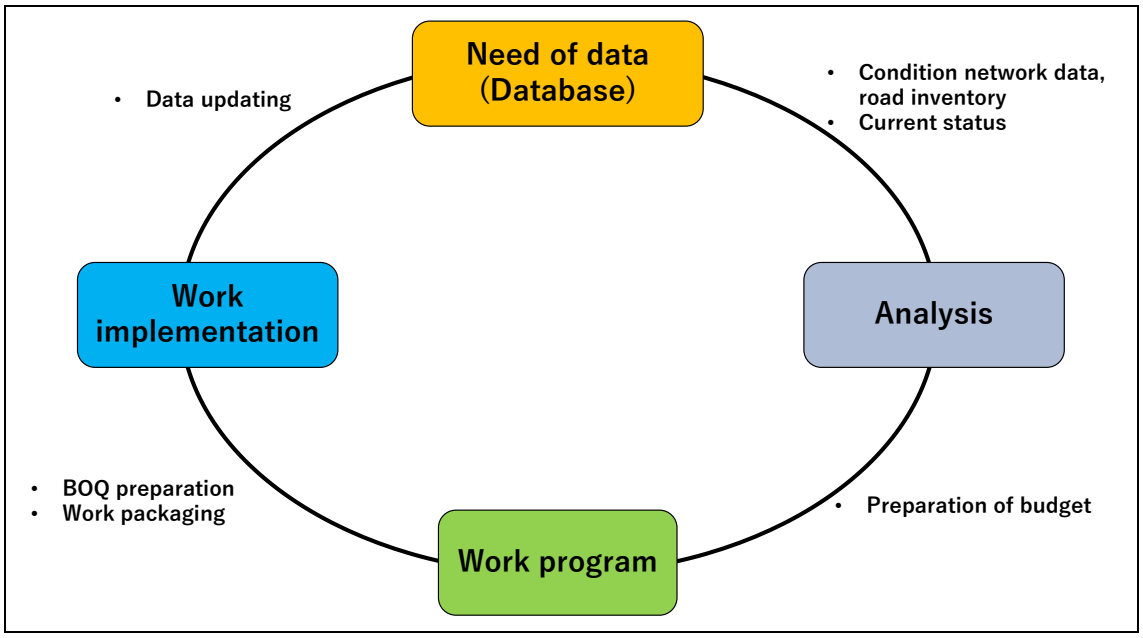


Figure 2-3: Process for developing the MTP

(2) Annual Road Maintenance Plan (AP) with the CRMS

Based on the road management cycle as shown in the Figure 2-4, the Annual Road Maintenance Plan (AP) is formulated. CRIF supervises (1) policy and standard established by local governments, (2) planning and budgeting prepared by local governments, and (3) road condition survey and road design executed by local governments. CRMS assists the operations of (2) and (3) for preparing the AP of local governments. According to the AP, local governments (owners) procure and construct/maintain road works for the road users (society) through the contractors and consultants (service providers).

The R&B Section (led by Planning Sub-section) shall confirm the contents of the AP.

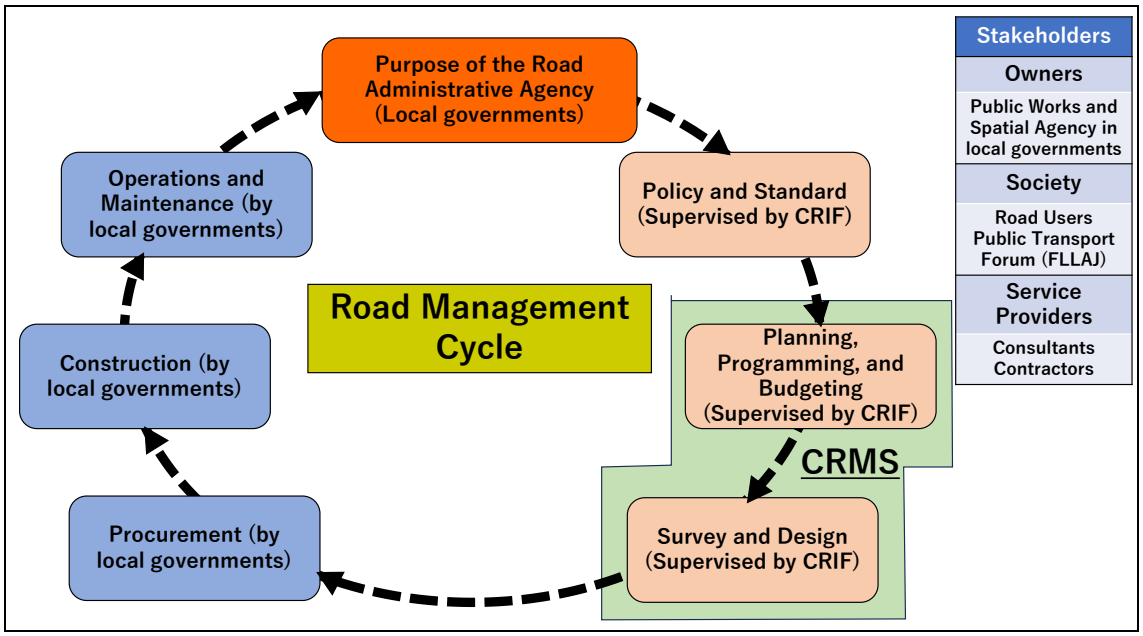


Figure 2-4: Preparation of the Annual Road Maintenance Plan with the CRMS

END

Appendix 1: Performance Checklist based on the SOP

Name of respondent:		Sub-section (Planning/M&E):		Date:
No.	**Flow of procedures**	**Planning sub-section**	**M&E sub-section**	**Tick when fulfilled**
Road Inspection				
1	Confirm the IRI survey to be carried out by using DPS-IRI in cities.	◎	○	□
2	Confirm the visual inspection to be carried out by using VI (mobile) in cities.	◎	○	□
3	Confirm the field verification (FV) to be carried out by using VI (mobile).	◎	○	□
4	Monitor the progress of road inspection based on the road inspection plan.	○	◎	□
Database				
5	Receive the evaluation results of IRI for the SiPDJD from cities.	◎	○	□
Annual Road Maintenance Plan				
6	Confirm the medium-term road maintenance plan to be developed by cities with the outputs of CRMS.	◎	○	□
7	Confirm the annual road maintenance plan to be developed by cities with the outputs of CRMS.	◎	○	□
8	Confirm the progress of financial operations and physical works in the annual road maintenance plan.	○	◎	□