

Country Name	Project for Capacity Development and Establishment of Road Maintenance Management System
Islamic Republic of Afghanistan	

I. Project Outline

Background	Long and devastating conflicts in Afghanistan left the country with damaged roads and bridges. After the agreement exchanged with the international communities in December 2001 at Bonn, Germany, Afghanistan started to rebuild the road infrastructures and road networks with the support of international donors. While the rehabilitation of road infrastructure was progressed, the road maintenance and management as well as the capacity development of human resources engaged in the field was left behind.										
Objectives of the Project	<p>Through the establishment of operational setup and organizational structure, capacity development of staff on planning, engineering and machinery works in Kabul region ⁽¹⁾, the project aimed to establish the prototype of road maintenance and management system (RMMS), thereby enabling the RMMS to work in the target area.</p> <ol style="list-style-type: none"> Overall Goal: Road maintenance and management system works in Kabul region. Project Purpose: Prototype of road maintenance and management system in Kabul region is completed. <p>Note: (1) Kabul region indicates the areas supervised by the Kabul Regional Office (KRO).</p>										
Activities of the Project	<ol style="list-style-type: none"> Project site: Kabul region (Loghar, Wardak, Ghazni, Bamyán and Kabul Provinces) *Since the organizational reform in 2014, KRO covers Loghar, Wardak and Ghazni and Kabul Provinces. Main activities: (1) Implementation of pilot projects of road construction/rehabilitation and establishment of the RMMS, (2) Capacity development on planning, implementation of engineering works and machinery works, (3) Information collection and sharing. Inputs (to carry out above activities) <table border="0"> <tr> <td>Japanese Side:</td> <td>Afghanistan Side:</td> </tr> <tr> <td>1) Experts: 9 persons (Short-term)</td> <td>1) Staff allocated: 11 persons</td> </tr> <tr> <td>2) Trainees received: 3 persons in Japan The third country: 13 persons in Malaysia</td> <td>2) Facilities: Project Office</td> </tr> <tr> <td>3) Local expenses to implement three pilot projects of road construction/rehabilitation</td> <td>3) Local expenses</td> </tr> </table>			Japanese Side:	Afghanistan Side:	1) Experts: 9 persons (Short-term)	1) Staff allocated: 11 persons	2) Trainees received: 3 persons in Japan The third country: 13 persons in Malaysia	2) Facilities: Project Office	3) Local expenses to implement three pilot projects of road construction/rehabilitation	3) Local expenses
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Project Period	March 2008 – January 2012 (Extended period: February 2011 to January 2012)	Project Cost	(ex-ante) 300 million yen, (actual) 541 million yen								
Implementing Agency	Ministry of Public Works (MPW) General Directorate of Road Operation and Maintenance (GDRM)*, Kabul Regional Office (KRO), Kabul Construction Machinery Centre (KCMC) * Department of Road Maintenance (DRM) was renamed as GDRM in 2015 at the organizational reform.										
Cooperation Agency in Japan	Ministry of Land, Infrastructure, Transport and TourismKatahira & Engineers International										

II. Result of the Evaluation

<Constraints on Evaluation>

• Due to the state of emergency caused by COVID-19, all information was obtained through questionnaires and follow up phone calls/emails to GDRM, KRO and KCMC. No site visits were conducted.

<Special Perspectives Considered in the Ex-Post Evaluation >

Target Year for Overall Goal:

• The target year for Overall Goal is stated as three years after the project completion, which is January 2015. However, the actual evaluation study was conducted in 2020. Therefore, effects over the year from 2015 to 2020, are analyzed and are considered for judgment.

1 Relevance

<Consistency with the Development Policy of Afghanistan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, this project was consistent with the development policy of Afghanistan proclaimed in 2006, namely, the Interim Afghanistan National Development Strategy (I-ANDS) as a Five-Year National Development Strategy, which sets the goal in the field of road infrastructure that by the end of 2008, GOA constructs and maintains the major loop roads as well as connecting roads with the neighboring countries and establishes the financially sustainable Road Maintenance and Management System (RMMS) by March 2008.

<Consistency with the Development Needs of Afghanistan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, this project was consistent with Afghanistan's development needs to establish the prototype of RMMS in Kabul region as described in "Background" above.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The government of Japan set its assistant policy toward Afghanistan with special focus on the three pillars, peace building, security and rehabilitation. The reconstruction of major roads and secondary roads were included in the rehabilitation assistance as part of priority areas¹.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

¹ Source: Ministry of Foreign Affairs, "ODA Country Data Book in 2008"

<Status of Achievement of the Project Purpose at the time of Project Completion>

By the end of the project completion, the project achieved its purpose: "Prototype of road maintenance and management system in Kabul region is completed." MPW prepared a maintenance plan for 2010 based on the actual performance in 2009 as planned (Indicator 1). It was retroactively estimated from budgetary record that road management maintenance (RMM) works was completed for 57.2% of the total road length under KRO, achieving the target as 39.3% (Indicator 2).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

After the completion of the project, the effects of project have continued. MPW continued implementing the RMM works for four provinces under KRO, that are Loghar, Wardak, Ghazni and Kabul Provinces. In some roads in the Provinces of Loghar, Wardak and Ghazni, KRO could only implement the RMM works for routine and emergency maintenance (but not periodic maintenance)² due to security and budgetary reasons. KRO could not and will not implement any RMM works for remaining 8.5% of the roads, all due to security and budgetary reasons. In compliance with the recommendations at the Terminal Evaluation Study, the inventory survey has been completed for the road approximately 1,900 km under KRO in Kabul region according to the interview with MPW staff. Another issue was the electric supply. According to the Director of Plan and Engineering of GDRM, KCMC is able to secure the sufficient supply of electricity by the city power sources in order to provide services of road maintenance.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

It is observed that the Overall Goal, i.e. "Road maintenance and management system works in Kabul region." has been partially achieved. No data is available for Indicator 1, "By 2015, RMM will be implemented at the 80% (2,022km) of road under the KRO." However, considering the fact that RMM works have continued since project completion and that RMM works have been completed for 91.5% of total length by the time of ex-post evaluation in 2020, it is retroactively estimated that RMM works might have been completed for the road length of 1,608 km by 2015 (calculation based on a simple annual average), achieving the 87.6% of the target (80%) in 2015.

<Other Impacts at the time of Ex-post Evaluation>

It was identified through the study that the project has influenced MPW to efficiently promote the private sector for construction and maintenance, of which MPW had never experienced. MPW has contracts with private companies to implement the road periodic maintenance works in different provinces which promote the private sector as well. MPW has a plan to further contract-out the periodic maintenance in the unsafe areas due to security reasons. According to the Plan and Engineering Department of GDRM, the repairing cost of the road infrastructure has been reduced as a result of the decreased level of damages with the RMM works.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) Prototype of road maintenance and management system in Kabul region is completed.	Indicator 1: By the end of second year of the Project, RMM plan including a budgeting plan for the next year for the road under KRO will be made.	<u>Status of the Achievement: achieved (continued)</u> (Project Completion) • By the end of second year of the Project (2009), MPW prepared a RMM plan for 2010 based on the actual performance in 2009. (Ex-post Evaluation) • According to the Plan and Engineering Department of GDRM, the RMM plan including a budgeting plan has been continuously prepared based on the actual performance of previous year for the road under KRO.
	Indicator 2: By the end of the Project, at the 39.3% (994km) of road under KRO, RMM works will be implemented by Force-account and Contracted-out schemes.	<u>Status of the Achievement: achieved (continued)</u> (Project Completion) • Based on the maintenance plan in 2010, actual expense/plan ratio and the budget for 2011, the terminal evaluation team and the project team had assumed that at 57.2% of the road under KRO, the RMM works were implemented by the end of the project (January 2012). (Ex-post Evaluation) • According to the Plan and the Engineering Department of GDRM, after completion of the project, MPW continued implementing the RMM works up to 91.5% of total length for the roads under KRO which is consisted of four provinces (Loghar, Wardak, Ghazni and Kabul). In some roads in three of these provinces except Kabul, KRO, in recent years, has not been able to implement the RMM works except for an emergency maintenance due to security reasons and budgetary constraints. Thus, the remaining part of roads (8.5%) were not maintained and will not be done in the future, either if the security of roads remains unstable.

² RMM works includes routine maintenance, an emergency maintenance and periodic maintenance. Routine maintenance is conducted on a regular basis, such as cleaning of road verges and shoulders and cutting useless plants(hay) from road sides, cleaning of side ditches and culverts from silt and mud, road patching works, and repairing of holes of road in order to provide safety and functionality of daily vehicle traffic and avoid premature destruction of roads. Emergency maintenance activates whose needs cannot be estimated with any certainty in advance. These activities include emergency works to repair landslides due to natural disasters and washouts that result in the road being cut or made impassable. It also includes temporary restoration of badly failed pavement sections of road and construction of causeways at river crossing. Periodic maintenance (including maintenance of road routing activities) is conducted in relatively long intervals for the purpose of maintaining the structural integrity of the road and requires special equipment and skilled personnel. The major activities are classified into the works types of preventive, resurfacing, overlay works. Re-sealing and pavement reconstruction are mainly done in response to significant damage on the road.

<p>(Overall Goal) Road maintenance and management system works in Kabul region.</p>	<p>Indicator 1: By 2015, RMM will be implemented at the 80% (2,022km) of road under the KRO.</p>	<p><u>(Ex-post Evaluation) partially achieved</u></p> <ul style="list-style-type: none"> Actual data as of the target year (2015) as well as the data up to the year 2019 are not available. However, it is confirmed through interviews with KRO, RMM works were completed by the time of ex-post evaluation for the road length of 2,100km, which represents 91.5% of total length of road under KRO. Considering that MPW continued implementing RMM works under KRO since the project completion, it can be estimated that RMM works might have been implemented for the length of 98.4km per year if the progress of RMM works was made evenly in each year. Under this assumption, it is possible to estimate that by 2015, RMM works might have completed for the road length of 1,608.2km (70.1%), achieving the 87.6% of the target (80%) for 2015. <p style="text-align: center;">Progress of implementation of RMM works by KRO.</p> <table border="1" data-bbox="483 398 1520 813"> <thead> <tr> <th></th> <th>Planned</th> <th>Actual</th> <th>Planned</th> <th colspan="3">Actual</th> </tr> <tr> <th></th> <th>Project Completion January 2012</th> <th>Project Completion January 2012</th> <th>Target Year 2015</th> <th>Target Year 2015</th> <th>2016 - 2019</th> <th>Ex-post Evaluation 2020</th> </tr> </thead> <tbody> <tr> <td>Road length with RMM works</td> <td>994km</td> <td>1,313km⁽¹⁾</td> <td>2,022km</td> <td>na</td> <td>na</td> <td>2,100km</td> </tr> <tr> <td>Completion ratio of RMM works (%)⁽¹⁾</td> <td>39.3%</td> <td>57.2%</td> <td>80%</td> <td>na</td> <td>na</td> <td>91.5%</td> </tr> <tr> <td rowspan="2">Retroactively computed based on the actual road length with RMM works by 2020</td> <td colspan="2">Road length with RMM works</td> <td colspan="2">(1,608km)</td> <td colspan="2">-</td> </tr> <tr> <td colspan="2">Completion ratio of RMM works (%) vs target (2015)</td> <td colspan="2">(87.6%)</td> <td colspan="2">-</td> </tr> </tbody> </table> <p>Note: (1) Total length of road under KRO is approx. 2,528km for the target values (as stated in the Project Completion Report) and approx. 2,295km for the actual values in January 2012 (1,313km/57.2%=2,295km). The same 2,295km was used as the denominator to calculate the percentage as of the ex-post evaluation.</p>		Planned	Actual	Planned	Actual				Project Completion January 2012	Project Completion January 2012	Target Year 2015	Target Year 2015	2016 - 2019	Ex-post Evaluation 2020	Road length with RMM works	994km	1,313km ⁽¹⁾	2,022km	na	na	2,100km	Completion ratio of RMM works (%) ⁽¹⁾	39.3%	57.2%	80%	na	na	91.5%	Retroactively computed based on the actual road length with RMM works by 2020	Road length with RMM works		(1,608km)		-		Completion ratio of RMM works (%) vs target (2015)		(87.6%)		-	
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Source: Terminal Evaluation Report, Project Completion Report, Questionnaire surveys and Interviews with GDRM and KRO

3 Efficiency

The project period exceeded the plan and the project cost significantly exceeded the plan (ratio against plan: 128% and 180%, respectively). There was an interruption of project activities during presidential election in 2009 for about 8 months and in March 2010. A set of equipment brought to Afghanistan by Japanese experts to conduct training at KCMC did not clear the customs in due time. As a result, training schedule had to be changed. In order to cover the extended period, the project cost exceeded the plan. The Outputs of the project were produced as planned.

Therefore, efficiency of the project is low.

4 Sustainability

<Policy Aspect>

The “Afghanistan National Peace and Development Framework (ANPDF) (2017-2020)” outlines the core strategies of the development policy of the country. “National Infrastructure Program (NIP) (2017-2021)” which assists in achieving the ANPDF’s vision, focuses on the efficient planning, delivery and operation of infrastructure at the national and sector level, which will improve performance and deliver improved efficiency, productivity and competitiveness. These priority infrastructure investments combined with human capital development and enhanced regional connectivity, provide the essential building blocks for Afghanistan’s future economic growth, employment and social development. In terms of road sector regarding road maintenance and operation, “Transport Strategy of MPW (2019-2023)” is the main and concrete policy which is in-line with ANPDF and NIP. This strategy pursues an overall road asset management establishing an appropriate management structure, and one of the sub-strategies is to establish a sustainable and effective road development system, which will withstand all the challenges of road sector, with high working standards; and to create viable and an efficient road maintenance system to keep the roads open year-round and allow people and goods to move safely and efficiently within Afghanistan.

<Institutional/Organizational Aspect>

GDRM assumes the overall responsibilities for the road operation and maintenance of all national and regional roads in Afghanistan as well as for supervising the provincial offices of MPW. It contains four departments, that are the Planning and Engineering Department, Reconstruction Department, Administrative Affairs Coordination Department and Provincial Department. RMM works are mainly supervised by the Planning and Engineering Department. According to the Planning and Engineering Department, the organizational reform is under consideration in MPW and it is expected that there will be 133 more technical and administrative staff allocated to GDRM. KRO is the main body to implement the RMM works for Kabul region.³ According to the interviews with GDRM, the current manpower at KRO is not sufficient to provide the proper RMM works, that is to complete the road routing for remaining length of roads as well as to carry out the routine maintenance works. On the other hand, KCMC, in charge of maintenance of construction machineries for road operation and maintenance, has sufficient number of staff to provide the proper maintenance works for machineries. It is anticipated that the organizational reform which would establish the ideal organizational structure and specify the required skills necessary for each department of the organization will resolve the current issues, such as the staff shortage in order to manage and undertake basic roles and responsibilities of RMM works.

<Technical Aspect>

The staff of GDRM, KRO and KCMC have the skills to fulfill their works for RMM in their offices. Knowledge and capacity of technical staff of GDRM was enhanced through trainings on pavement surface evaluation and rating. However, there is one concern that in recent years, no further trainings and capacity development in RMM have been done. Manuals developed by the project were well prepared and

³ Since the latest organizational reform in 2014, KRO covers Kabul, Logar, Wardak and Ghazni province.

standardized, but have not been utilized well since there is no proper equipment available in order to implement the RMM on regular basis. Thus, it may not serve well for staff of MPW to refer to the manual in routine works. The capacity development in RMM works is further needed, especially in terms of GIS-based RMM because it will help MPW to make a reliable and accurate decision regarding the prioritization of road maintenance and management as the factors like traffic counts, pavement conditions, maintenance costs and alternative roadways are taken into account in the GIS-based RMM system. In addition, the GIS-based RMM is expected to support the road maintenance in optimum conditions with limited budget, thus it is also expected to help MPW in proper maintenance planning.

<Financial Aspect>

The budget for operation and maintenance of road infrastructure is provided by Ministry of Finance (MOF) based on the previous year's plan and performance. Though the budget amount is slightly increasing, MPW is still not able to secure the sufficient budget to properly implement the road maintenance and to complete the road routing for the remaining length of roads. MPW currently has a plan to create a Road Funding Unit (RFU) under MOF to secure all revenues from road taxes and fees in RFU as well as from such donors who want to invest in road sector to provide funds through RFU.

MPW's Budget for operation and maintenance of road infrastructure

Currency Unit: Million Afghani

Source	Project Completion 2012	2017	2018	2019	At the time of ex-post evaluation 2020
Government Budget	750	1,000	1,000	1,350	1,200
Inclusive: Government Budget to KRO	95	98	97	100	200

Source: MPW

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional/organizational, technical and financial aspects. Therefore, the sustainability of the effects through the project is fair.

5 Summary of the Evaluation

By the project completion, the project achieved the Project Purpose, "Prototype of road maintenance and management system in Kabul region is completed." The effects of the project have continued after the project completion, and the Overall Goal, "Road maintenance and management system works in Kabul region." has been partially achieved. As for the sustainability, some problems have been observed in terms of the institutional/organizational, technical and financial aspects. As for the efficiency, both of the project cost and the project period exceeded the plan.

Considering all of the above points, this project is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

Recommendations to the implementing agency:

- 1) To enhance the efficiency and effectiveness of operation and maintenance of road, MPW should consider strengthening of organizational capacity of central and provincial offices of GDRM and KRO in terms of staff allocation and training system. It was identified by the study that manpower of those offices is not sufficient and no training opportunities are available for newly recruited technical staff.
- 2) MPW should secure enough maintenance budget through establishment of RFU with support of MOF in order to continue RMM works periodically.

Lessons Learned for JICA:

- 1) The project successfully enhanced the technical capacity of each staff engaged in RMM works. However, it was identified by the study that there is no effective mechanism to sustain and to further enhance such individual capacity within the organization of MPW. JICA should take into accounts of this experience for future JICA's technical cooperation projects. In order to effectively conduct capacity development in the project, it is essential not only to enhance the technical capacity of each staff who has basic knowledge and experience of the field in charge, but also to strengthen the organizational capacity of the related counterpart agencies as a whole. In practical terms, it is necessary to identify the issues and challenges of the organization as a whole through the organizational analysis by starting with the data collection survey and provide the necessary assistance, such as by developing the ideal organizational structure and specifying the required skills and update/related job description necessary for each department in the organization accordingly.
- 2) Despite the fact that this project was relevant and achieved high effectiveness and impact, the uncontrollable incidents, such as political events and restricted administrative procedures, had made the project period to be extended, forcing the efficiency of the project to be assessed as "low". The Planning Team should take into account of possible effects caused by the various issues derived from the country's specific situation, especially in case of the country where the political situation is unstable, since the extension of the Project during implementation affects the evaluation result of Efficiency at the time of Project completion and Ex-post evaluation.

Photos



Asphalt improving works as part of Periodic maintenance at the Road site



Routine maintenance work is ongoing at road site