

Country Name	the Project for Improvement of Workshops for Road Maintenance Equipment
Kyrgyz Republic	

I. Project Outline

Background	Kyrgyz has relied on road transportation for most of logistics and travel. The national road network in the country has played a role as a means of transportation for the people and as a means of intra-regional transportation between Central Asia and Southwest Asia. Due to the shortage of maintenance equipment for the road maintenance machineries and equipment, the Ministry of Transport and Communications (MOTC) carried out only small-scale maintenance, and outsourced medium-scale and large-scale maintenance requiring disassembly of the entire equipment to private maintenance companies. However, since private maintenance companies had many tasks other than MOTC's equipment maintenance, it sometimes took long time for them to handle the maintenance of MOTC's road maintenance equipment. As a result, 22.1% of MOTC's equipment was still under maintenance, which hindered the country's road maintenance management.					
Objectives of the Project	To improve the maintenance of road maintenance equipment of MOTC through procurement of equipment for maintenance of road maintenance machinery, thereby contributing to the efficient operation and maintenance of the roads under MOTC.					
Contents of the Project	<ol style="list-style-type: none"> 1. Project Site: Six workshops of the Local Level Roads Management Units (DEUs) (renamed from DEPs) in the Regions of Chuy, Naryn, Issyk-Kul, Talas, Jalal-Abad, Osh 2. Japanese side: Procurement: Chassis repair equipment and tools, engine repair equipment and tools, electric & battery repair equipment and tools, tire & brake repair equipment and tools, welding & fabrication equipment and tools, cleaning equipment, machining equipment and tools, and lubrication equipment. 3. Kyrgyz side: Renovation of target workshops, transportation of equipment for lubrication trucks, purchase materials necessary for operation, etc. 					
Project Period	E/N Date	March 30, 2017	Completion Date (ex-ante)	September 2017	Completion Date (actual)	November 1, 2018 (Commencement of operation)
	G/A Date	March 31, 2017				
Project Cost	E/N Grant Limit / G/A Grant Limit: 441 million yen			Actual: 438 million yen,		
Executing Agency	Ministry of Transport and Communications					
Contracted Agencies	Main Contractor: TEC International Inc. Main Consultant: Katahira Engineers International					

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- In the ex-ante evaluation, the target year was set as 2020 (three years after the project completion) for verification of the quantitative effects of the project. However, as the project was completed in 2018, the target year was changed to 2021 in the ex-post evaluation, and the achievement in the same year was referred to for verification of the effects.

1 Relevance/Coherence
<p>[Relevance]</p> <p><Consistency with the Development Policy of Kyrgyz at the Time of Ex-Ante Evaluation ></p> <p>As the "Medium-term Development Plan" (2013-2017) identified the road sector as one of the priority areas and set the development strategy to ensure access to the surrounding regions and domestic markets, the project was consistent with the development policy of Kyrgyz at the time of ex-ante evaluation.</p> <p><Consistency with the Development Needs of Kyrgyz at the Time of Ex-Ante Evaluation ></p> <p>67 percent of the road maintenance equipment of MOTC was procured in the former Soviet era. When they were broken down, some could not be repaired easily and MOTC needed outsource repair works to private companies. Thus, the project was consistent with the development needs of Kyrgyz at the time of ex-ante evaluation.</p> <p><Appropriateness of Project Design/Approach></p> <p>The project design/approach was appropriate. No problem attributed to the project design/approach was confirmed.</p> <p><Evaluation Result></p> <p>In light of the above, the relevance of the project is ③ (④ : very high, ③ : high, ② : moderately low, ① : low. *To be the same afterwards.).</p>
<p>[Coherence]</p> <p><Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation></p> <p>One of the priority areas was the transport infrastructure maintenance and regional disparity reduction in the "Country Assistance Policy for Kyrgyz Republic" (2012). The project was consistent with the Japan's ODA policy to Kyrgyz at the time of ex-post evaluation.</p> <p><Collaboration/Coordination with other JICA's interventions></p> <p>The collaboration/coordination between the proceeding projects of JICA which aimed to improve the equipment for road maintenance¹ was planned at the time of ex-ante evaluation and was implemented, the positive effect was confirmed at the time of ex-post evaluation. The</p>

¹ "Project for the Improvement of the Equipment for Road Maintenance in Naryn" (2006-2007), "Project for Improvement of the Equipment for Road Maintenance in Issyk-Kul and Chui Oblasts" (2010-2011), and "Project for Improvement of the Equipment for Road Maintenance in Osh, Jalal-Abad and Talas Oblasts" (2014-2015).

equipment procured by the project were to be used for the maintenance and repair of the equipment which had been procured by these preceding projects, and as mentioned later, the road maintenance has become more efficient.

<Cooperation with other institutions/Coordination with international framework>

Any the cooperation/coordination with other institutions or donors was not clearly planned at the time of ex-ante evaluation.

<Evaluation Result>

In light of the above, the coherence of the project is ③.

[Evaluation Result of Relevance/Coherence]

In the light above, the relevance/coherence of the project is ③.

2 Effectiveness/Impact

<Effectiveness>

The project objectives were achieved beyond the plan. All sets of the procured workshop equipment for the workshops of the target six DEUs have functioned well without any breakdown in all the six regions, and the non-working ratio of the road maintenance equipment has decreased to 13.1% by 2021. Specifically, only 163 out of 1,246 equipment were not functioning in 2021.

As qualitative effects, first, the procured workshop equipment have made maintenance of the road maintenance equipment timely and appropriate and therefore contributed to longer utilization of these road maintenance equipment. For example, the engines of the road maintenance vehicles have been able to be washed in the washing machines at the workshop in due course, which has resulted in longer utilization of the vehicles. Second, the medium-scale maintenance² of the road maintenance equipment has been conducted three times more than before with the procured equipment, according to the division for mechanics and material and technical supply of the State Enterprise “KyrgyzAvtoJoldoru.” For instance, DEU in Jalal-Abad used to have only the welding equipment but it has been able to conduct the medium-scale maintenance more than before by utilizing the equipment procured by the project. Third, the equipment maintenance time has been shortened. Before the project, DEUs had to wait for one to several weeks until their equipment was repaired by the private repair companies, but with the own equipment, on average, only several days are needed for repair. For example, it used to take the whole day to wash an engine, but now it takes only 1.5 hours with the special equipment for the engine removal and the washing machine. And, it used to take three to four days to repair graders, loaders, etc., but now it takes only several hours because they can be repaired in the field with the welding machine and the air compressor installed in the mobile workshop machine.

<Impact>

As an expected impact, the road maintenance work has become more efficient. For example, before the project, it took two to three months to complete the pavement of 1 km of road, but the time has been shortened to about one month, because the road pavement equipment has been better maintained and repaired quickly as necessary. Also, the time of the pothole repair has been reduced, because the necessary equipment has been installed at each workshop for the maintenance and repair of the relevant road maintenance equipment. The equipment has been properly utilized thus there has been no need to outsource the maintenance to private companies. This led to more efficient utilization of the relevant road maintenance equipment.

As unexpected impacts, synergy effects with the other partners’ support have been created. Many international financial institutions (Asian Development Bank, World Bank, Export Import Bank of China, Islamic Development Bank, East African Development Bank) have been financing the reconstruction of the main public roads in Kyrgyzstan. The repair equipment procured by the project has been used in these reconstruction works of these main roads.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is ④.

Quantitative Effects

Indicators	Baseline 2014	Target 2020 3 years after Completion	Actual 2019 1 year after Completion	Actual 2020 2 years after Completion	Actual 2021 3 years after Completion	Source
Non-working ratio of MOTC’s road maintenance equipment (%)	20.2	13.5	13.1	13.1	13.1	MOTC

Calculation method for the baseline data and the target figure:

- Baseline (2014): $20.2\% = (367-85)/(1,658-263) = 282/1,395$. At the time of the preparatory survey, the non-working ratio of road maintenance equipment was 22.1% (367 units under maintenance / 1,658 units owned by MOTC). In the baseline year (2014), it was estimated that 263 units would be disposed of by the target year (2019), of which 85 units were under maintenance. Therefore, taking into account the equipment to be discarded by the target year, the non-working ratio in 2014 was calculated to be 20.2% [(367-85 units)/(1,658-263 units)].
- Target (2020): $13.5\% = 188$ not functioning equipment / 1,395 equipment expected to be existing.
- Actual (2021): $13.1\% = 163$ not functioning equipment / 1,246 actually exiting equipment.

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 99%), the project period slightly exceeded the plan (ratio against the plan: 106%). The excess was due to slight delays in the tender and equipment installation. Outputs were produced as planned. In the light above, the efficiency of the project is ③.

4 Sustainability

< Institutional/Organizational Aspect>

MOTC has been reorganized since 2021. The State Enterprise “KyrgyzAvtoJoldoru” has been established, and all of the Regional Offices (ROs), Main Roads Management Units (UADs) and DEUs have been transferred to this enterprise, as well as their equipment and workshops. It has functioned as the contractor for road works, and the Road Management Department (RMD) of MOTC has been a client for road works. The enterprise has been a self-financing organization, recognizing the necessity of proper maintenance of the equipment to get the contract for road works. It has recently installed GPS (global positioning system) sensors on 300 pieces of the road maintenance equipment to

² The medium-scale maintenance includes replacement of brake linings, electrical repairs, replacement of engine oil and greases, etc. Replacement of parts can be performed only by disassembling a piece of equipment.

thoroughly control them and make them utilized equally for all DEUs. Almost all of the target DEUs has assigned the staff to handle the procured equipment as planned, in charge of chassis repair equipment and tools, engine repair equipment and tools, electric & battery repair equipment and tools, welding & fabrication equipment and tools, machining equipment and tools, and lubrication equipment (10 staff at DEU958, 10 at DEU8, 10 at DEU35, 5 at DEU9, 10 at DEU52 and 10 at DEU21.). The road works with the equipment including those provided by the preceding JICA grant aid projects have been supervised by GPS and the field visits of the enterprise staff.

<Technical Aspect>

The staff of the target DEUs have sustained sufficient technical skills, as they were trained by the project. The trained workshop staff have transferred their knowledge to newly recruited staff when their needs arose, as well as to the operators of the road maintenance machines. The State Enterprise has planned to establish the training system in future.

<Financial Aspect>

Financial data was not available in the ex-post evaluation. According to the State Enterprise, the target DEUs have annually secured and allocated the budget for oil, fuel and repair of the equipment from the relevant ROs. However, it was confirmed in the ex-post evaluation that no budget has been utilized so far because not much time has passed and thus there has been no necessity of equipment repair.

<Environmental and Social Aspect>

No issue on environmental and social aspects related to the repair of the road maintenance equipment has been observed and it has not been necessary to take any countermeasures.

<Current Status of Operation and Maintenance>

As mentioned above, all sets of the procured workshop equipment have functioned well without any breakdown in all the six regions. It was confirmed through the site visit that the workshop equipment in all the target DEUs have been stored properly and managed by the assigned staff in charge of the equipment. Spare parts have not been in need so far. When the need arises, the necessary budget would be allocated by State Enterprise.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the financial aspects of the implementing agency. Therefore, the sustainability of the project effects is ③.

5 Summary of the Evaluation

The project achieved the project objectives beyond the plan. The procured workshop equipment has functioned well, and the non-working ratio of the road maintenance equipment has decreased more than planned. Also, the road maintenance equipment has been used longer than before, and the equipment maintenance time has been shortened. As a result, the road maintenance work has become more efficient. With regard to efficiency, the project period slightly exceeded the plan.

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

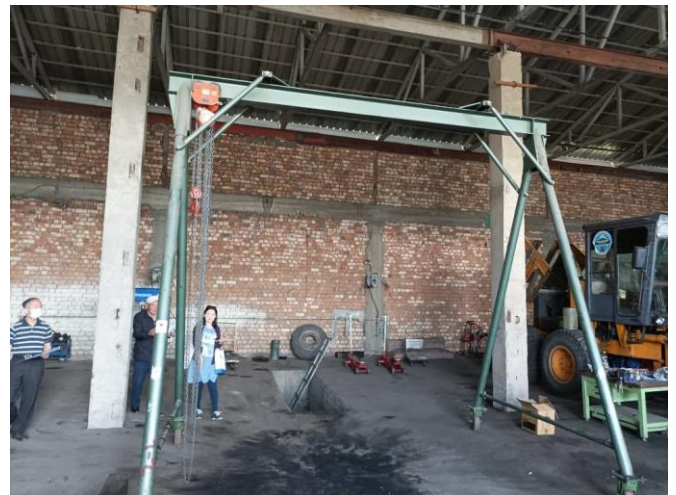
III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

- The procured workshop equipment has been utilized by the target DEUs but they have not been necessarily accessible to all other DEUs in the same region. It is recommended to the State Enterprise to map DEUs in the region to objectively understand the accessibility of the equipment and to let ROs regularly collect information on the equipment repair needs from DEUs and then coordinate the usage of the workshop for repair.
- It is recommended to the State Enterprise to develop the internal regulatory framework on the system for annual training sessions on maintenances of the workshops equipment for the workshop staff and related staff.
- It is recommended to the State Enterprise, through ROs, to develop mid-term and short-term plans for workshop equipment maintenance and repair/replacement with relevant cost estimation.



Procured equipment (Tire repair machine) at workshop in Talas



Procured equipment (Crane) at workshop in Issyk-Kul