

Country Name	The Project for Improvement of Road Maintenance
Republic of Tajikistan	

I. Project Outline

Background	In Tajikistan, Ministry of Transport (MOT) was responsible for operation and maintenance of international, republican, and local roads of about 14,000 km. Most of the road network in Tajikistan was constructed during the Soviet era. After independence in 1991, not enough budget was allocated for the maintenance of the road network. Moreover, insufficient technical skills in road maintenance, and additionally an internal conflict after the independence, led to a loss in the road assets. The worsening road conditions were hindering smooth trade with neighboring countries and passenger and freight transportation. (Figures at the time of ex-ante evaluation.)				
Objectives of the Project	The project aimed to improve implementation capacity for road maintenance in Tajikistan through improvement of road inspection skills and road repairing skills ¹ of the target State Enterprises of Highway Management (SEHMs ²), thereby improving the pavement condition of the roads in Tajikistan.				
	<ol style="list-style-type: none"> Overall Goal: Pavement condition of the roads in Tajikistan is improved. Project Purpose: Implementation capacity for road maintenance is improved. 				
Activities of the Project	<ol style="list-style-type: none"> Project Site: International and republican roads in Gissar and Kurgan-Tyube (original target area) and in Sughd and Kulyab (additional target area)³ Main Activities: (i) Revision of the existing road inspection guidelines, training to and road inspection by the original target State Enterprises of Transport Management (SETMs)/SEHMs (or the original target group (TG)) and further revision of the guidelines, certification of master trainers (MTs), training to the additional target SETMs/SEHMs (or the additional TG) by the MTs on basic elements of road inspection; and (ii) Revision of the existing road repairing guidelines, training to the original TG, technical advice and instruction to the first pilot road repairing works (RRW#1) in the selected original target SEHMs and further revision of the guidelines, planning and implementation of the second pilot RRW (RRW#2) by the selected original target SEHMs reflecting the results of the road inspection, training to the appointed laboratory technicians from each original target SETM on day to day quality control test at the asphalt plant, assistance to the original TG to conduct training for the additional TG on basic elements of road repairing using the pilot RRW#2 in 2016, certification of trainers for specific techniques for road repairing from the original TG. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Japanese Side <ol style="list-style-type: none"> Experts: 7 persons. Equipment: Equipment for roughness survey to the original and additional target SETMs and quality control test equipment for asphalt plants to the original target SETMs. Local cost: Salary of local project staff, expense for seminars, etc. </td> <td style="width: 50%; vertical-align: top;"> Tajikistan Side <ol style="list-style-type: none"> Staff allocated: 8 persons. Building and facilities: Office space and facilities for the JICA expert team at the premises of MOT and Kurgan-Tyube SETM. Local cost: Expenses for pilot road repairing works and allowances for the participants of the training. </td> </tr> </table> 			Japanese Side <ol style="list-style-type: none"> Experts: 7 persons. Equipment: Equipment for roughness survey to the original and additional target SETMs and quality control test equipment for asphalt plants to the original target SETMs. Local cost: Salary of local project staff, expense for seminars, etc. 	Tajikistan Side <ol style="list-style-type: none"> Staff allocated: 8 persons. Building and facilities: Office space and facilities for the JICA expert team at the premises of MOT and Kurgan-Tyube SETM. Local cost: Expenses for pilot road repairing works and allowances for the participants of the training.
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Project Period	October 2013 to November 2016 (Extension: June-November 2016)	Project Cost	(ex-ante) 246 million yen, (actual) 319 million yen		
Implementing Agency	Main Department for Road Construction and Maintenance (RCM) of Ministry of Transport (MOT), Gissar State Enterprise of Transport Management (SETM) and Kurgan-Tyube SETM (original TG), Sughd SETM and Kulyab SETM (additional TG)				
Cooperation Agency in Japan	CTI Engineering International Co., Ltd.				

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to Covid-19, in-person interviews and site visit to Sughd SETM out of 4 target SETMs (Kurgan-Tyube, Gissar, Sughd and Kulyab SETMs) could not be conducted. Therefore, information was collected through questionnaire survey and interview by telephone to them as well as supplementary interview (in person, through email and telephone) to MOT.

<Special Perspective Considered in the Ex-Post Evaluation>

- Achievement status of the Project Purpose Indicators 1, 2, and 3 was verified based on the JICA experts' assessment of the results of road inspection

¹ In the project, road maintenance, inspection and repairing respectively meant pavement maintenance, inspection and repairing.

² While MOT was responsible for overall road maintenance with key roles in formulation of the road maintenance plan, budget control and procurement management, State Enterprises of Transport Management (SETMs) and SEHMs under their umbrella were the implementation bodies of road maintenance. SETM managed road maintenance plan and budget control for all SEHMs under their umbrella.

³ The original target area consisted of the international and republican roads managed by the original target group (TG) (Gissar and Kurgan-Tyube SETMs, to which road maintenance equipment was provided through the JICA's grant aid (G/A) project "Project for Improvement of Equipment for Road Maintenance in Khatlon Region and Districts of Republican Subordination in the Republic of Tajikistan" (2013-2014), and all 22 SEHMs under their umbrella). The target area was expanded in 2016 based on the recommendation of the terminal evaluation, considering the request of the Government of Tajikistan (GOT) to include the additional TG (i.e. Sughd and Kulyab SETMs, to which provision of road maintenance equipment was being considered by the Government of Japan based on the request of the GOT, and six SEHMs under their umbrella) to train them on basic elements of road inspection and repairing. The expansion was expected to contribute to technical sustainability in terms of dissemination of the transferred techniques.

and repair conducted by the original TG. Since it was impossible to verify continuation status of those indicators in the same manner in the ex-post evaluation, qualitative information was collected. As for Indicator 4, utilization status of the approved guidelines by the TGs was confirmed.

- The Overall Goal Indicator 1 consists of two Sub-Indicators: (1-1) length of road repairing with hot-mix asphalt by the original TG and (1-2) length of road repairing with hot-mix asphalt by the additional TG. In the ex-post evaluation, achievement status of Sub-Indicators 1-1 and 1-2 was assessed separately because degree of improvement of road condition of the repaired roads under Sub-Indicators 1-1 and 1-2 is assessed separately under Indicators 2. In other words, the same weight was given to achievement status of Sub-Indicator 1-1, Sub-Indicator 1-2, Indicator 2 in making evaluation judgement.
- The indicator 3 was determined as “not applicable” for the evaluation judgement because additional SETMs did not conduct repairing of roads by hot mix asphalt due to unnecessary (necessary roads were repaired by donors). Hence, the measurement of the change of IRI is not applicable.
- The TGs for the Overall Goal are not specifically mentioned in the logical framework: however, they were assumed to be the same as the Project Purpose (i.e. the original and the additional TGs), which are the TGs for the Overall Goal indicators and the Proposed Goal in 2021 for pavement repair mentioned in the Post-Project Strategy approved by the final Joint Coordinating Committee of the project.

1 Relevance

<Consistency with the Development Policy of Tajikistan at the time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with the National Development Strategy (hereinafter referred to as NDS) for the period to 2015, which highlighted the importance of development of infrastructure to support economic growth.

<Consistency with the Development Needs of Tajikistan at the time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with the needs of Tajikistan for improvement of road maintenance as described in “Background”.

<Consistency with Japan’s ODA Policy at the time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with the Country Assistance Policy for the Republic of Tajikistan (2012), in which development of economic infrastructure is listed as one of the priority areas for supporting sustainable socio-economic development.

<Evaluation Result>

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

2 Effectiveness/Impact

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

The Project Purpose had been achieved by the time of project completion. In 2015 and 2016, 95% of the results of roughness survey (or International Roughness Index (IRI) measurement) at the original target SEHMs, using the road inspection guidelines revised through the project, was assessed accurate by the JICA experts, which exceeded the target ratio of at least 90% (Indicator 1). In 2015 and 2016, 88% and 94% of the results of visual inspection by the original target SEHMs, using the revised road inspection guidelines, was assessed accurate by the JICA experts respectively, which exceeded the target ratio of at least 80% (Indicator 2). Using the road repairing guidelines revised through the project, the pilot RRW#2 were conducted in 2016 by 21 out of 22 original target SEHMs, which exceeded the target ratio of 75% and, according to the assessment by the JICA experts, 100% of the results of the pilot RRW#2 was satisfactory and met the requirements specified in the road repairing plans, which also exceeded the target ratio of at least 80% (Indicator 3). The revised road inspection and repairing guidelines were approved by MOT in October 2016 (Indicator 4).

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

The project effects have partially continued. The revised guidelines have been distributed to all target SETMs/SEHMs. Using the revised guidelines, visual inspection has been conducted in all four target SETMs as part of their annual maintenance plans. Roughness survey, however, has not been incorporated in their annual maintenance plans mainly because it is not mandated by an MOT’s Order: it has been partially continued in one of the additional target SETMs⁴, but not continued in the other three target SETMs due to shortage of budget for fuel cost for a survey vehicle (in two original target SETMs) and an external factor (in the other additional target SETM)⁵. Road repairing with hot-mix asphalt has been conducted by the original TG, using the revised guidelines. It has not been implemented by the additional TG yet due to an external factor, but it is practically no problem (for details, please see <Status of Achievement for Overall Goal>). Laboratories of the asphalt plants in the original target SETMs have continued day-to-day quality control tests, applying the skills and knowledge acquired through the project. Accuracy level of the results of the roughness survey at the original target SEHMs is not available as the survey has not been continued. Regarding the visual inspection, the original target SETMs confirmed that accuracy level has been maintained through regular explanatory sessions by the MTs certified by the project. They also confirmed that the road repairing has been planned based on the results of the inspection and implemented according to the revised guidelines, and the results of the repair works have been satisfactory and met the requirements specified in the plans as the Chief Engineers certified as trainers by the project have conducted explanatory sessions on requirements of time, cost, quality and safety before the repair works. Considering the above, the revised guidelines have been continuously utilized by the target SETMs/SEHMs at least partially. According to MOT, it will issue an Order to all SETMs to implement the roughness survey and road repairing with the hot-mix asphalt according to the revised guidelines so that they would be included in the SETMs’ annual maintenance plans from Fiscal Year (FY) 2021 (January-December). In addition, RCM of MOT would enhance supervision and monitoring by asking the SETMs to include implementation status of the revised guidelines in the existing semi-annual reports submitted to MOT. Therefore, the project effects are expected to fully continue from FY2021.

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

The Overall Goal was achieved in the target year (2019) because Indicator 1 was achieved by the original TG but not achieved by the

⁴ Kulyab SETM conducted the roughness survey in 2017 and 2018, but not in 2019 because they were busy. The SETM plans to conduct it in 2020 (or early 2021 depending on the COVID-19 situation).

⁵ Originally, Sughd SETM planned to start the roughness survey in 2018, using a pick-up to be provided under a Japanese G/A project (“Project for Improvement of Equipment for Road Maintenance in Sughd Region and the Eastern Part of Khatlon Region” (2016-2019)); however, delivery of the equipment under the G/A project was delayed till late 2018 and the pick-up has not been allocated to SETM, but to an SEHM under its umbrella. It is noted that Sughd SETM plans to start the roughness survey from 2020 with a vehicle provided by an Asian Development Bank (ADB)’s project.

additional TG (practically no problem) while the other two indicators were partially achieved and not applicable respectively. By the end of 2019, the original TG implemented 39.7 km of length of road repairing with the hot mix asphalt according to the revised guidelines, which exceeded the target length of 30km (Indicator 1-1). The additional TG did not start road repairing with hot mix asphalt by 2019 but it was practically no problem for the following reasons: (i) There was no need for the additional SETMs to conduct repair with the hot-mix asphalt in the period subject to the evaluation (i.e. 2018 and 2019)⁶ as the roads in need (about 256km in total) were rehabilitated with hot-mix asphalt by other donors, provincial governments, etc., which largely exceeded the target length of 15km: (ii) It can be reasonably inferred that the additional TG has sustained the basic capacity to implement it on its own, if necessary, based on the information obtained in the technical sustainability: and (iii) The additional SETMs confirmed they will start road repairing with hot-mix asphalt in 2020 (or early 2021 depending on the situation of COVID-19) according to the revised guidelines (Indicator 1-2). The average Road Repairing Index (RRI)⁷ of the repaired roads in the original target area could not be calculated due to discontinuation of the roughness survey; however, both original target SETMs stated that pavement condition was much improved based on the results of visual inspection and the measurement of roughness using a conventional manual method.(Indicator 2). As the additional TG did not implement road repairing with hot-mix asphalt due to unnecessary, Indicator 3 (i.e. degree of reduction of the average IRI of the road repaired by the additional TG) is not applicable. (For reference, according to MOT, the pavement conditions of the roads rehabilitated by others has improved a lot based on the results of visual inspection and measurement of the roughness using the conventional manual method.)

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

Various other positive impacts have been observed. In the target SETMs, road repairing with cold asphalt has been also planned and implemented based on the results of the visual inspection using the revised guidelines. The results of the roughness survey conducted by Kulyab SETM have been reflected in 35km of the road repairing with hot-mix asphalt by the provincial government. Sughd SETM supervised construction of 183.3 km of international and republican roads with hot mix asphalt, referring to the revised guidelines. There have been synergetic effects with a JICA G/A project⁸. For example, the provided equipment has been utilized by the original TG, applying the skills and knowledge transferred and the guidelines revised through this project. The asphalt plants constructed in the original target SETMs can produce quality hot-mix asphalt because day-to-day quality control tests are conducted by the laboratory staff trained by the project. Further, the revised guidelines have been also disseminated to the SETMs/SEHMs outside the TGs and, during the dissemination stage, training was given by the MTs and the trainers trained and certified by the project. These SETMs/SEHMs have conducted the visual inspection as well as the roughness survey and have implemented 1.85 km of road repairing with hot-mix asphalt according to the revised guidelines. Meanwhile, negative impacts were not observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results												
(Project Purpose) Implementation of road maintenance is improved.	1. At least 90% of the results of roughness survey at original target 22 SEHMs, using the revised guidelines is assessed accurate by the JICA experts.	<p>Status of the Achievement: achieved (not verifiable) (Project Completion)</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2015</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td>No of SEHMs participated in the roughness survey</td> <td>22</td> <td>22</td> <td>21*</td> </tr> <tr> <td>% of results of the survey which were assessed accurate</td> <td>72%</td> <td>95%</td> <td>95%</td> </tr> </tbody> </table> <p>*In one SEHM in Kurgan-Tyube SETM, no measurement was done due to road closure by the military order. (Ex-post evaluation) -Data is not available because the roughness survey has been discontinued due to shortage of budget for fuel cost for the vehicle for the survey.</p>		2014	2015	2016	No of SEHMs participated in the roughness survey	22	22	21*	% of results of the survey which were assessed accurate	72%	95%	95%
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2. At least 80% of visual inspection results by original target 22 SEHMs, using the revised guidelines is assessed accurate by the JICA experts.	<p>Status of the Achievement: achieved (continued) (Project Completion)</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2015</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td>No of SEHMs participated in the visual inspection</td> <td>22</td> <td>22</td> <td>21*</td> </tr> <tr> <td>% of results of the inspection which were assessed accurate</td> <td>79%</td> <td>88%</td> <td>94%</td> </tr> </tbody> </table> <p>*In one SEHM in Kurgan-Tyube SETM, no measurement was done due to road closure by the military order. (Ex-post Evaluation) - Accuracy level of the visual inspection results has been maintained through regular explanatory sessions by the MTs certified by the project.</p>		2014	2015	2016	No of SEHMs participated in the visual inspection	22	22	21*	% of results of the inspection which were assessed accurate	79%	88%	94%	
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% of results of the inspection which were assessed accurate	79%	88%	94%											
3. At least 80% of results of the RRW#2 by three fourths of original target SEHMs, planned based on the results of the road inspection and implemented according to the revised guidelines, meet requirements of time, cost, quality, and safety specified	<p>Status of the Achievement: achieved (continued) (Project Completion)</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2015</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td>No of SEHMs participated in RRW</td> <td>3 (3 hosts*)</td> <td>3 (3 hosts) +9 observers</td> <td>21 (3 hosts and 18 guests*)</td> </tr> <tr> <td>Average % of results of RRW#2 which were assessed satisfactory and met the requirements in the plans</td> <td>N/A</td> <td>89%</td> <td>100%</td> </tr> </tbody> </table> <p>*Host SEHMs are the designated SEHMs under which jurisdiction RRW are conducted and guest SHEMs are to</p>		2014	2015	2016	No of SEHMs participated in RRW	3 (3 hosts*)	3 (3 hosts) +9 observers	21 (3 hosts and 18 guests*)	Average % of results of RRW#2 which were assessed satisfactory and met the requirements in the plans	N/A	89%	100%	
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⁶ According to the post-project strategy, road repairing with hot-mix asphalt by the additional TG was not planned in 2017 because the equipment to use hot-mix asphalt, provision of which was being considered by the GOJ as mentioned in footnote 3, was assumed to be available for them in the first quarter of 2018.

⁷ RRI is the combined index of the IRI data collected through the roughness survey and the results of visual inspection, which is calculated using the "Form 1" of the revised road repairing guidelines.

⁸ "Project for Improvement of Equipment for Road Maintenance in Khatlon Region and Districts of Republican Subordination in the Republic of Tajikistan" (2013-2014) mentioned in footnote 3.

	in the plans.	whom a part of the supervision delegation is handed over for RRW. (Ex-post Evaluation) -Results of the road repair works, planned based on the results of the road inspection and implemented according to the revised guidelines, have been satisfactory and met the requirements in the plans as the trainers certified by the project have conducted explanatory sessions before the repair works.																									
	4. Road inspection and repairing guidelines for SETM/SEHM revised through the project are approved by MOT.	Status of the Achievement: achieved (partially continued) (Project Completion) - The revised guidelines were approved by the Head of RCM of MOT on 31 October 2016. (Ex-post Evaluation) -The revised road inspection guidelines have been used by all four target SETMs for the visual inspection but were used by only one target SETM for the roughness survey in 2017 and 2018. -The revised road repairing guidelines have been continuously used by the original target SETMs.																									
(Overall Goal) Pavement condition of the roads in Tajikistan is improved.	1. By the end of 2019, at least 30 km and 15 km of lengths of road repairing is implemented by hot-mix asphalt by the original TG and additional TG respectively at international, republican and local roads according to the road repairing guidelines.	1-1 Original TG (Ex-post Evaluation) achieved. <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="5">Unit: km</th> </tr> <tr> <th>SETM</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Gissar</td> <td>6.5</td> <td>8.9</td> <td>22.1</td> <td>37.8</td> </tr> <tr> <td>Kurgan-Tyube</td> <td>0.6</td> <td>0.8</td> <td>0.5</td> <td>1.9</td> </tr> <tr> <td>Total</td> <td>7.1</td> <td>9.7</td> <td>22,6</td> <td>39.7</td> </tr> </tbody> </table>	Unit: km					SETM	2017	2018	2019	Total	Gissar	6.5	8.9	22.1	37.8	Kurgan-Tyube	0.6	0.8	0.5	1.9	Total	7.1	9.7	22,6	39.7
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2. The average RRI of the roads repaired under 1 above in the original target area has a reduction of at least 60% compared to the same before repairing.	1-2 Additional TG (Ex-post Evaluation) not achieved (practically no problem; not included in the evaluation judgement) -Road repairing with hot-mix asphalt was not started by the additional TG yet as the roads in need were rehabilitated by other donors, etc. (The additional target SETMs plan to start it in 2020 or early 2021 depending on the COVID-19 situation.) <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="4">Unit: km</th> </tr> <tr> <th>SETM</th> <th>2018</th> <th>2019</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Sughd</td> <td>0 (112.1*)</td> <td>0 (99.3*)</td> <td>0 (211.4*)</td> </tr> <tr> <td>Kulyab</td> <td>0</td> <td>0 (44.5*)</td> <td>0 (44.5*)</td> </tr> <tr> <td>Total</td> <td>0 (112.1*)</td> <td>0 (143.8*)</td> <td>0 (255.9*)</td> </tr> </tbody> </table> *Length of road repairing with hot-mix asphalt by other donors, provincial governments, etc.	Unit: km				SETM	2018	2019	Total	Sughd	0 (112.1*)	0 (99.3*)	0 (211.4*)	Kulyab	0	0 (44.5*)	0 (44.5*)	Total	0 (112.1*)	0 (143.8*)	0 (255.9*)						
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3. The average IRI of the roads repaired under 1 above in the additional target area has a reduction of at least 50% compared to the same before repairing.	(Ex-post Evaluation) not applicable (not included in the evaluation judgement). -As the road repairing with hot-mix asphalt was not implemented in the additional target area due to unnecessary, Indicator 3 (i.e. degree of reduction of the average IRI of the repaired road) is not applicable.																										

Source: Project Completion Report; questionnaire and interview survey to RCM/MOT and four target SETMs.

3 Efficiency

The project cost and the project period exceeded the respective plans (ratio against the plan: 130% and 119% respectively). The project period exceeded the plan to complete technical transfer related road repairing, which was delayed partly due to suspension of the RRW#2 caused by a natural disaster. The Outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The NDS for the period to 2030 includes “All regions of the country are connected with paved roads and are accessible all the year-round” as one of the expected results. In addition, the guidelines revised through the project were officially approved by MOT in 2016. Furthermore, MOT is planning to issue an Order to all SETMs in 2020 to ensure utilization of the revised guidelines as stated in “Effectiveness/Impacts”.

<Institutional/Organizational Aspect>

Organizational structure to promote road inspection and repairing, using the guidelines revised and approved through the project, has remained unchanged. As of May 2020, there were five vacancies for 15 posts at RCM/MOT; however, RCM mentioned that the minimum number of staff was secured because the existing staff could manage to assume their responsibilities despite the heavy workload. Besides, MOT is considering increasing the number of staff of RCM by adding two people. MOT has started negotiations with the Ministry of Finance to allocate additional budget for new staff. Meanwhile, necessary number of staff was secured at the target SETMs/SEHMs because all or most of the posts were filled.

<Technical Aspect>

All target SETMs/SEHMs sustained technical capacity to conduct visual inspection and the original TG to conduct road repairing according to the revised guidelines through continuous practice as well as on-the-job training (OJT) and/or the regular explanatory sessions by the trainers certified by the project. Although the roughness survey and road repairing with hot-mix asphalt have not been practiced in some of the target SETMs, these SETMs stated that the necessary capacity has been sustained because the staff trained by the project, including the certified MTs and trainers, continued discussing and explaining the theoretical aspects to new staff. In addition, as mentioned in “Effectiveness/Impacts”, the revised guidelines have been disseminated and utilized by the other SETMs/SEHMs as well”, utilizing the certified MTs and trainers. MOT is considering organizing some refresher training for and cross visits among SETMs on the practical aspects of the roughness survey, especially on IT and software part, and road repairing with the hot-mix asphalt once the above-mentioned

Order is issued. All the equipment provided under the project has been maintained in good condition. Although the roughness survey equipment was utilized by only one target SETM in 2017 and 2018, it is expected to be utilized by all target SETMs from latter part of 2020 or early 2021 with issuance of the above mentioned Order.

<Financial Aspect>

Although the road inspection and repairing guidelines have not been fully implemented by the target SETMs, only the roughness survey by the original target SETMs has not been continued due to shortage of budget. Total budget for maintenance of the international and republican roads, secured by MOT, was increasing year by year in the last three years (60 million Tajikistan Somoni (TSJ) in 2017, 61 million TSJ in 2018, and 69 million TSJ in 2019). The target SETMs feel that the allocated budget is not sufficient to cover all the maintenance needs, but, within their limited budget, they have managed to implement the revised guidelines as necessity requires other than the above case. The additional target SETMs, which plan to start/resume the roughness survey and road repairing with the hot-mix asphalt from 2020, mentioned that they will allocate the necessary budget from their annual maintenance budget. MOT confirmed that, with issuance of the above mentioned Order in 2020, all the SETMs will be required to include utilization of the revised guidelines in their annual maintenance plans so that the necessary budget to apply the revised guidelines will be secured by them from FY 2021.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the financial aspect of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair

5 Summary of the Evaluation

The project achieved the Project Purpose of improving implementation capacity for road maintenance in Tajikistan and the effects of the project have partially continued mainly because the roughness survey has not been continued in three out of four target SETMs due to shortage of budget or unavailability of a survey vehicle until 2019. The Overall Goal of improving pavement condition of the roads in Tajikistan was achieved in the target year (2019). Regarding the sustainability, slight problem has been observed in terms of the financial aspect (i.e. the budget for the roughness survey has not been secured by the original target SETMs) but no problems have been observed in terms of the policy, institutional/organizational, and technical aspects. As for the efficiency, the project cost and period exceeded the respective plans. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- It is recommended that MOT ensures implementation of instructions specified in the Order it will issue to utilize the revised guidelines by strengthening monitoring of the actions taken by SETMs, and share progress with JICA, if necessary, involving JICA in conducting joint monitoring.

-It is recommended that, after the issuance of the above mentioned Order, MOT makes sure to organize refresher training to and cross visits among the SETMs on the practical aspects of the roughness survey, especially on IT and software part, and road repairing with the hot-mix asphalt.

Lessons Learned for JICA:

- At the stage of project planning, MOT and JICA should have agreed that new practices and skills would be sustainably used through issuance and enforcement of Orders/Instructions to use the guidelines to be revised through the project so that continuation of road maintenance based on the revised guidelines by SETMs could be ensured after the project completion.

- Though the project, MTs for road inspection and trainers for specific techniques for road repairing were trained and certified by the Expert Team, who were then given opportunities to train others with assistance from the Expert Team. This has been very effective to ensure maintenance and sustainably use of the necessary knowledge and skills of other staff as well as their transfer to other staff. At the project planning and implementation stages, it is important to keep a good practice of training and certification of trainers and MTs by JICA and the Expert Team to sustainably use transferred knowledge and skills after the project completion.



Roughness survey equipment provided to Kulyab SETM kept in a good condition



Repair by hot-mix asphalt using revised guidelines by SEHM Rudaki (SETM Gissar), Dushanbe-Ayni Road (Republican Road) 2017