FY2022 Simplified Ex-Post Evaluation Report of Japanese Grant Aid Project

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Duration of the Study: September 2022 – January 2024
Duration of the Field Study: 9 January 2023 – 2 February 2023

Country Name	**<Project Name> The Project for Improvement of Equipment for Road Maintenance in Sughd Region and the Eastern Part of Khatlon Region**
Republic of Tajikistan	

Location of the project site
(Source: Prepared by the External Evaluator based on the materials provided by JICA)

Wheel loader procured under this project
(Source: Photo taken by the External Evaluator)

I. Project Outline

Background	Tajikistan is a landlocked country and its road network was the main economic infrastructure for not only domestic distribution but also trade with neighbouring countries. However, the majority of the country's road network was constructed during the former Soviet era, and many of these roads were damaged and dilapidated due to the civil war after independence, resulting in inadequate functioning and increased travel and transport costs. In addition, road maintenance in the country was carried out directly by the country's six road administration offices, which were responsible for repair work (overlay) by paving, and restoration work when natural disasters such as landslides and avalanches blocked traffic, but there was a chronic shortage of the equipment required for implementation. The Soghd Region and the eastern part of Khatlon Region, the target areas of this project, were densely populated areas with approximately 3.5 million residents, and were the key areas for international and domestic logistics, including approximately 5,800 km of roads leading to neighbouring countries and domestic regions. The Soghd State Enterprise for Transport Management (hereinafter referred to as 'SETM') and the Kulyab SETM were responsible for road maintenance in these regions, but these SETMs also suffered from a significant shortage of equipment required for maintenance. As a result, only small-scale repairs such as pothole repairs could be carried out, and natural disasters such as landslides and avalanches caused prolonged traffic blockages, which greatly hampered the timely maintenance of roads.			
Objectives of the Project	To ensure proper maintenance of roads in Soghd Region and the eastern part of Khatlon Region by providing road maintenance equipment to the road maintenance offices in the regions, thereby contributing to efficient road logistics throughout Tajikistan and the surrounding regions			
Contents of the Project	1. Project Site: Soghd Region and the eastern part of Khatlon Region (population: approximately 3.5 million) 2. Japanese side (Facility) Asphalt plant (A/P) and crushing plant (C/P): 2 units each (Equipment) 21 types of road maintenance equipment, 215 units in total (Consulting services) Detailed design and procurement supervision. No soft component 3. Tajikistan side: (Details of implementation other than various procedures such as obtaining permits, tax exemptions, etc.): Securing land for A/P and C/P installation, removing existing structures on the site and clearing the land Implementation of works related to electricity distribution, water supply, drainage, etc. necessary for the operation of the A/P and C/P			
Implementation Schedule	E/N Date	3 March, 2016	Disbursement Date	
	G/A or L/A Date	25 April, 2016	Completion Date	17 May, 2019
Project Cost	E/N Grant Limit / G/A Grant Limit: 1,992 million yen, Actual Grant Amount: 1,772 million yen			
Executing Agency	Ministry of Transport, Soghd SETM, Kulyab SETM			
Conditions (Loan only)				
Borrower (Loan only)				

Contracted Agencies	Main Contractor: FutureBud International Co., Ltd. Main Consultant: Katahira & Engineers International Agent: N/A

II. Result of the Evaluation

Summary

This project had an objective to ensure proper maintenance of the roads under the coverage areas of the Soghd Region and the eastern part of Khatlon Region by providing road maintenance equipment to the SETMs, which were responsible for the maintenance of trunk roads in their jurisdictions, thereby contributing to the efficiency of road logistics throughout Tajikistan and the surrounding regions. This project was in line with the direction of road infrastructure development in Tajikistan's National Development Strategy at the time of planning and the key objectives of the transport sector, as well as meeting the development needs of the project areas. In addition, although no concrete outcomes were observed in coordination with other donors, the project was consistent with Japan's development cooperation policy and synergies were observed through collaboration with JICA's related technical cooperation projects. Therefore, the overall relevance and coherence of the project are high. With regard to the project effects, the quantitative effects envisaged at the time of planning were generally achieved, and all the qualitative effects were also fully realised, and it can be said that smoother traffic flows in the target areas have been achieved. In addition, while no quantitative data were available, it was stated by the stakeholders that the use of road maintenance equipment reduced the length of time for transport and vehicle maintenance costs, and the project also contributed to the improvement in the efficiency of logistics in the target areas. It was confirmed that there were no negative environmental impacts, resettlement or land acquisition associated with the implementation of this project, and no negative impacts with regard to gender aspects, marginalised people, social systems, norms and people's well-being. Therefore, as a whole, the effectiveness and impacts of this project are high. With regard to project implementation, the efficiency of the project is judged to be moderately low, as while the project cost was within the plan, the project period was significantly longer than planned due to various factors during the equipment procurement and transport phases. With regard to sustainability, there are some concerns regarding the stable procurement of spare parts for the road maintenance equipment, and the prospects for improvement and resolution are low. Therefore, the sustainability of the effects generated by the project is moderately low.

In light of the above, this project is evaluated to be satisfactory.

Overall Rating[1]	**B**	**Relevance & Coherence**	③[2]	**Effectiveness & Impacts**	③	**Efficiency**	②	**Sustainability**	②

1 Relevance/Coherence

<Relevance>

・Consistency with the Development Policy of Tajikistan at the Time of Ex-Ante Evaluation

In 2007, Tajikistan launched the *National Development Strategy* (NDS, with a target year of 2015), which identified infrastructure, telecommunications, energy and industrial development as key priorities. In 2016, the strategy was updated into the *National Development Strategy of the Republic of Tajikistan for the period up to 2030* (NDS 2030), which also includes the construction of roads to improve inter-regional connectivity and raising road quality to international standards as priorities. As for the sector-level development plan, the *State Target Program for the Development of the Transport Complex of the Republic of Tajikistan until 2025*, which was formulated in 2011, identified the construction, rehabilitation and maintenance of trunk roads as key objectives.

Therefore, this project was in line with the direction of road infrastructure development in the National Development Strategy of the Government of Tajikistan and the key objectives of the transport sector at the time of planning.

・Consistency with the Development Needs of Tajikistan at the Time of Ex-Ante Evaluation

At the time of planning of this project, the Soghd SETM and the Kulyab SETM, which were responsible for the maintenance of roads in the target areas (Soghd and eastern Khatlon Regions), had obstacles to appropriate responses due to a significant shortage of equipment, meaning that only small-scale repairs such as pothole repairs could be carried out and that traffic blockages were prolonged following natural disasters such as landslides and avalanches. There were also issues of insufficient spare parts procurement and maintenance capacity for the existing equipment. As this project provided the necessary equipment for road maintenance in the project areas, it can be said that the project was consistent with the development needs at the time of planning.

[1] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

[2] ④: Very High ③: High, ②: Moderately low, ①: Low

・Appropriateness of Project Design/Approach

This project provided the equipment required for road maintenance in the target areas, and was targeted unbiasedly at all people living in the areas. In the similar projects in the past, issues such as delays in repairing equipment due to a lack of manuals in the language understood locally and a difficulty in obtaining asphalt were pointed out, but in this project, a Russian version of the road maintenance equipment manual was provided, and A/P and C/P were installed in the respective areas, reflecting the lessons learnt in the past.

Therefore, it can be said that the overall planning and approach of this project was appropriate.

<Coherence>

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

At the time of planning of this project, Japan's development cooperation policy for Tajikistan was the Country Assistance Policy for the Republic of Tajikistan (formulated in December 2012), which stated economic infrastructure development as a priority objective. Specifically, the policy stated that Japan would 'carry out transport development, focusing on the repair of dilapidated roads and the development of the road maintenance system, in order to contribute to the revitalisation and stabilisation of the local economy through improved logistics'. In addition, JICA had identified economic infrastructure development as one of the priority areas in the JICA Country Analytical Paper for the Republic of Tajikistan (formulated in December 2014).

Therefore, as the development of economic infrastructure was emphasised in Japan's assistance to Tajikistan, and in particular, the country assistance policy stated that transport development, mainly the development of the road maintenance system, would be carried out, the content of this project was highly consistent with these priorities.

・Internal Coherence

Prior to the implementation of this project, Japan had implemented the following cooperation projects for the road sector in Tajikistan.

- Grant Aid 'The Project for the Improvement of Dusty-Nizhniy Pyandzh Road (Phase I, Phase II)' (2006)
- Grant Aid 'The Project for Rehabilitation of Kurgan Tyube - Dusti Road (Phase I, Phase II)' (2008)
- Grant Aid 'The Project for Improvement of Equipment for Road Maintenance in Khatlon Region and Districts of Republican Subordination' (2012)
- Technical Cooperation 'The Project for Improvement of Road Maintenance' (2013 – 2016)

Among these projects, the Technical Cooperation 'The Project for Improvement of Road Maintenance' initially supported the improvement of road maintenance capacity of the State Enterprise for Highway Maintenance (hereinafter referred to as 'SEHM') in the target areas of the Grant Aid 'The Project for Improvement of Equipment for Road Maintenance in Khatlon Region and Districts of Republican Subordination', but with the implementation of this project, the project period was extended by six months and training was also provided to SEHMs in the areas covered by this project on the basic elements of road inspection and road repair using the equipment provided by this project.

In other words, it can be said that with the implementation of this project, this project was planned to be linked with the Technical Cooperation 'The Project for Improvement of Road Maintenance' and training for road development and equipment maintenance personnel was provided. This was an initiative to promote the effective use of the provided equipment through the utilisation of the project that was being carried out at that time, which led to the generation of expected outcomes in terms of smooth use of road maintenance equipment. Therefore, the internal coherence is judged to be sufficient.

・External Coherence

The Asian Development Bank (ADB), China, the Organisation of Petroleum Exporting Countries (OPEC), the United States of America and the Islamic Development Bank, etc. had provided support to the road sector in Tajikistan since the 2000s. In the 'Ayni - Panjakent Road Improvement Project' (2012-2015), which was implemented in the Soghd Region with support from ADB and OPEC, all the equipment provided in conjunction with road rehabilitation was provided to the SEHMs in Ayni and Panjakent. In addition, the road maintenance equipment utilised in previous projects supported by China was collectively managed by the Ministry of Transport and deployed to SEHMs across the country as required. It was confirmed that this project was planned based on the results of these supports. However, no specific linkages or synergies with other donor projects were identified.

With regard to consistency with the international framework, the project was designed to achieve Goal 9 of the Sustainable Development Goals (SDGs), "Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation" and Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable". It can be said that the project was for the proper maintenance of the necessary road infrastructure, and a certain degree of consistency can be observed.

Based on the above, it can be judged as a whole that no specific external coherence was identified although the project showed a certain degree of consistency with the international framework.

<Evaluation Result>

In light of the above, the relevance and coherence of the project are high[3].

2 Effectiveness/Impacts[4]

<Effectiveness>

(Quantitative Effects)

In this project, two indicators to measure the quantitative effects were set for each SETM in the target areas: the length of overlay implementation and the area of pothole repair.

[3] Relevance: ③, Coherence: ③

[4] When providing the sub-rating, Effectiveness and Impacts are to be considered together.

In the Soghd and Kulyab SETMs, which manage the target areas of this project, the length of overlay implementation and the pothole repair area have gradually increased since 2019, and in 2022 (three years after the completion of the project), the pothole repair area in Kulyab SETM's jurisdiction was slightly below the target, but other indicators were found to be above the targets. In particular, there was a significant year-on-year increase in the implementation of overlay and pothole repairs in 2022, when the impact of the COVID-19 eased.

As a whole, therefore, the quantitative indicators are judged to have been achieved.

Table 1: Quantitative Effects of This Project

Indicators		Baseline 2014 Baseline Year	Target 2022 3 Years after Completion	Actual 2019 Completion Year	Actual 2020 1 Year after Completion	Actual 2021 2 Years after Completion	Actual 2022 3 Years after Completion
Indicator 1 Length of pavement annually overlaid with hot-mix asphalt Note 1 (km)	Soghd SETM	8	13	5.5	7.0	9.6	14.2
	Kulyab SETM	7	8	7.0	8.0	9.0	10.0
Indicator 2 Pothole annually repaired with cold-mix asphalt Note 2 (m^2)	Soghd SETM	71,000	109,000	51,073	65,870	78,242	111,273
	Kulyab SETM	24,000	48,000	26,000	30,000	36,000	45,000

Note 1: High-temperature asphalt, used for extensive road paving, etc.

Note 2: Normal temperature asphalt, easy to transport, used for road repairs, etc.

Source: Data provided by the Executing Agency

(Qualitative Effects)

The following points were expected as the qualitative effects of this project.

- Strengthening of the system for securing traffic in the event of disasters, snow and avalanches
- Improvement in the strength and durability of pavement repairs
- Improvement in driving performance (riding comfort) by improving road surface roughness

In addition to these three points, attempts were also made through the SETMs in the target areas to understand the 'efficiency of snow removal, melting and anti-slip spraying operations in winter' and 'efficiency of repair work (time and cost)'. Through the ex-post evaluation, the following improvements were identified on these points.

- Road maintenance equipment made in the former Soviet Union had been used for many years in the target areas, but the provision of modern, high-powered equipment through this project has enabled rehabilitation activities after floods and avalanches to be carried out more quickly than before, leading to smoother road traffic.
- The installation of A/Ps and C/Ps has facilitated access to high-quality asphalt and improved road quality through repairs using the equipment provided. Before the project was implemented, asphalt was purchased from external suppliers, but this is no longer necessary.
- The unevenness of the road surface, such as potholes, has been improved and the riding comfort of vehicles has improved.
- Regarding the road maintenance work in winter (pothole and other repairs are carried out only from spring to autumn, with snowfall and freezing measures in winter), trucks provided under this project are used to spread sand and crushed used asphalt to prevent roads from freezing and slipping.
- Although no specific data were available, during the site survey, it was heard from all SEHMs visited that since they started using the equipment provided by the project, they have been able to work more efficiently and have reduced road maintenance operation costs and labour costs.

Based on the above, it can be said that all the qualitative effects envisaged at the time of planning, such as more efficient road repairs, improved driving comfort, faster recovery in the event of disasters, more efficient response to snow and freezing, and reduced road maintenance costs, have been sufficiently realised and the project has contributed to smoother traffic flow in the target areas.

<Impacts>

(1) Intended Impacts

In this project, it was assumed as an impact that road logistics would become more efficient through the implementation of this project. In the ex-post evaluation, an attempt was made to confirm the impact, in particular the changes in the length of time for transport and vehicle maintenance costs.

According to the Executing Agency, changes in the length of transport have not been measured, but it decreased in the target areas due to more extensive road surface rehabilitation using new road maintenance equipment, which resulted in smoother travels. In addition, from the users' perspective, hospitals and disease prevention centres that use the roads on a daily basis within the target areas reported that at various points there were not only pothole repairs but also overall improvements in the road surfaces, and that they felt that the conditions of access roads, particularly to areas away from urban areas, have improved over the past few years. On the other hand, some respondents commented that the conditions of roads were still poor in some areas away from the regional centres and that further improvements were desirable.

As for changes in vehicle maintenance costs, as indicated in the 'Effectiveness' section above, although no specific data were available, it is believed that these costs have been reduced by the improvement of road surface roughness.

It should be noted that, as shown in Table 2, the changes in vehicle tonnage transported between the target areas and the capital city of

Dushanbe and within each area show a steady growth as follows, indicating that the road network is underpinning it.

Table 2: Vehicle Tonnage Transported

(Unit: thousand tons)

	2018	2019	2020	2021	2022
Between Dushanbe and Kulyab and within the area covered by the Kulyab SETM	658	696	897	1,016	1,169
Between Dushanbe and Soghd and within the area covered by the Soghd SETM	5,883	6,154	6,385	6,726	7,450

Source: Data provided by the Executing Agency

Although the data were not fully available, it can be assumed from the above that the improved road surfaces have reduced the length of time for transport (travel time) and maintenance costs to a certain extent through reduced damage to vehicles, and has contributed significantly to freight transport within the regions and to and from Dushanbe. Therefore, the impacts envisaged at the time of planning are generally considered to have been generated.

(2) Other Positive and Negative Impacts

1) Impacts on the Environment

The guidelines for environmental and social considerations applied to this project were the JICA Guidelines for Environmental and Social Considerations (2010), with an environmental category of C. As the project was an equipment procurement project, it was assumed that undesirable effects on the environment would be minimal, but an Environmental Impact Assessment was required to be carried out on the Tajikistan side for the installation of the A/Ps and C/Ps.

It was confirmed that the Environmental Impact Assessment was carried out and the permit was obtained prior to the commencement of the project. In addition, according to the Executing Agency, no negative environmental impacts of the project implementation occurred during the project implementation or after its completion. No particular environmental pollution, etc. was found during the site survey of the ex-post evaluation.

2) Resettlement and Land Acquisition

In both Soghd and the eastern part of Khatlon Regions, it was confirmed that the installation of the A/Ps and C/Ps was on government-owned land and that neither land acquisition nor resettlement had occurred.

3) Gender Equality, Marginalised People, Social Systems and Norms, Human Well-being and Human Rights

Improved road conditions benefit all people equitably and have become the basis for stable socio-economic activities. There were no negative impacts on gender aspects by the implementation of this project and no people were prevented from equitable social participation. In addition, as mentioned above, interviews with the disease prevention centre also yielded a comment that health services are now delivered more smoothly, which also contributes to the improvement of people's wellbeing.

<Evaluation Result>

Therefore, the effectiveness and impacts of the project are high.

3 Efficiency

(1) Project Outputs

The outputs of this project are as described in 'I. Project Outline - Contents of the Project', which confirms that 215 units of equipment were procured as planned, and two A/Ps and C/Ps each were installed.

(2) Project Cost

The project cost on the Japanese side was 1,772 million yen, which was 89% of the planned amount of 1,992 million yen. According to the Project Completion Report, of the project cost on the Tajikistan side, the cost of A/P and C/P site preparation, land preparation and ancillary works was 30 million yen, 74% of the planned amount. The actual amount of banking commission fees (planned amount: 1.4 million yen) was not known, but it is not expected to be significantly over the planned amount. Therefore, the total project cost is considered to have been within 90% of the planned amount.

(3) Project Period

The project period was from April 2016 (signing of the Grant Agreement) to May 2019 (handover of plants and equipment), which was significantly longer than the planned period (190% of the plan). The delay was caused mainly by (1) time-consuming discussions between relevant parties regarding the country from which the road maintenance equipment was to be procured, (2) a mobile repair vehicle was damaged during transport and some equipment was stolen, (3) the procurement had to be redone as the equipment was procured from a country where the supplier was not authorised, (4) the supplier went bankrupt before the project was completed. Despite these various factors, not all of which cannot be said to have been force majeure. Therefore, the project is judged to have significantly exceeded the plan.

<Evaluation Result> Although the project cost was within the plan, the project period significantly exceeded the plan. Therefore, the efficiency of the project is moderately low.

4 Sustainability

・Policy and System

The development plans at the time of planning, the *National Development Strategy of the Republic of Tajikistan for the period up to 2030*

and the *State Target Program for the Development of the Transport Complex of the Republic of Tajikistan until 2025* remain valid national and sector development plans at the time of ex-post evaluation, and the importance of road development remains unchanged. There is also no change in the structure of the Ministry of Transport, which is responsible for road development and maintenance. Therefore, the sustainability in terms of policy and system is high.

・Institutional/Organisational Aspect

Road maintenance is carried out in Soghd Region by the Soghd SETM (14 SEHMs under its umbrella) and in the eastern part of Khatlon Region by the Kulyab SETM (10 SEHMs under its umbrella). The number of staff in each SETM is shown in Table 3.

Table 3: Number of Staff in Charge of Operation and Maintenance within the Areas Covered by the Soghd SETM and the Kulyab SETM

(Unit: persons)

Actual		Manager / Engineer	Operator / Mechanic	Worker / Assistant	Total
At the time of planning	Soghd SETM	64	266	371	701
	Kulyab SETM	54	110	309	473
At the time of completion	Soghd SETM	240	149	310	699
	Kulyab SETM	80	166	246	492
At the time of ex-post evaluation	Soghd SETM	242	149	310	701
	Kulyab SETM	80	166	260	506

Source: Data provided by JICA and the Executing Agency

The number of staff in each SETM at the time of ex-post evaluation had both increased slightly from the time of project completion, and the staff for the operation of the equipment provided was sufficient. Therefore, the sustainability of the institutional and organisational aspects is judged to be high.

・Technical Aspect

With regard to the road maintenance equipment, operational instructions were provided at the time of provision, and training on road repair using the plant and the equipment was conducted under the Technical Cooperation 'The Project for Improvement of Road Maintenance'. Through these instructions and the use of the operation and maintenance manuals provided, a certain amount of road repair and equipment maintenance has been carried out. On the other hand, regular training and revision of manuals to improve the skills of technicians has not been carried out, and some issues were observed, such as the fact that when the equipment malfunctions, spare parts are not replaced promptly and, depending on the extent of the malfunction, repair work is not carried out until technicians are dispatched from the capital. However, the local technicians can carry out basic equipment repairs and it can be said that they have a certain level of capacity to sustain the project effects generated in the project. Therefore, the sustainability of the project effects from a technical perspective is high.

・Financial Aspect

The maintenance budget of the each SETM has been gradually increasing as shown in Table 4. According to the Executing Agency, all SEHMs generally continue to have a very low level of budget in relation to the demand for repairs, but the budget for Soghd and Kulyab SETMs have been allocated to enable the targeted level of road repairs through the procurement of equipment under this project, and the financial sustainability of the project effects is generally ensured.

Table 4: Budget of Each SETM

[Soghd SETM]

(Unit: thousand Somoni)

	2020	2021	2022	2023
Road Maintenance	3,215	3,851	3,620	3,722
Rehabilitation	580	580	619	580
Contingency	636	498	499	450
Salary	7,571	6,057	8,508	10,541
Total	12,003	10,987	13,246	15,294

[Kulyab SETM]

(Unit: thousand Somoni)

	2020	2021	2022	2023
Road Maintenance	2,771	3,485	3,424	3,622
Rehabilitation	554	554	607	554
Contingency	714	420	425	360
Salary	5,233	4,186	6,090	7,647
Total	9,271	8,645	10,546	12,182

Source: Data provided by the Executing Agency

・Environmental and Social Aspect

As stated above, it was confirmed that no specific negative environmental impacts had occurred and the Executing Agency does not expect any specific negative impacts in the future. No particular environmental or social concerns were identified during the site survey in

the ex-post evaluation.

・Preventative Measures to Risks

Although the necessary budget has been allocated for road repairs using the road maintenance equipment procured under this project, the budget is not sufficient to meet the overall demand for repairs, and there is a risk that the continuation of this situation could prevent the procurement of the spare parts of the road maintenance equipment and the implementation of adequate inspection and repair according to the plan. At the time of ex-post evaluation, the Ministry of Transport is preparing to establish a 'Road Fund' to secure the road maintenance budget, and it is expected that the risk will be significantly reduced once the Fund is established.

・Current Status of Operation and Maintenance

Each SEHM keeps records of the operation and maintenance of the plants and equipment and of road repairs. The SETM receives reports from each SEHM, monitors them and reports regularly to the Ministry of Transport. Road repair plans using the A/P/, C/P and equipment are prepared and implemented by each SEHM, and the status of implementation, including the conditions of the equipment, is reported by each SEHM to the Ministry of Transport via the SETM.

The A/P and C/P were reported to be utilised between spring and autumn without any breakdowns[5], and no particular problems were found. On the other hand, with regard to the road maintenance equipment, some issues were reported, such as the high breakdown frequency of motor graders and the inability to carry out sufficient road repairs while they are being repaired. Another major challenge is that the procurement of spare parts for equipment repairs is accompanied by very significant difficulties. In many cases, including in neighbouring countries, spare parts for the Japanese road maintenance equipment procured under this project are difficult to obtain in the market and have to be ordered from Japan. This takes a lot of time and budget and has had a significant impact on road maintenance activities when the equipment breaks down during the road repair period (spring to autumn).

Therefore, there are some challenges in the operation and maintenance situation.

<Evaluation Result>

From the above, it can be said that there are some problems with the operation and maintenance status of the project and the prospects for improvement and resolution are low. Therefore, the sustainability of the project effects is moderately low.

III. Recommendations & Lessons Learned

・Recommendations to Executing Agency

The ex-post evaluation of this project revealed that the SEHMs in the target areas had problems in procuring spare parts for the road maintenance equipment. As it is necessary to keep the road maintenance equipment in good condition at all times in order to properly repair roads within the target areas, it is important for the Ministry of Transport as a whole to ensure that routes for obtaining frequently replaced spare parts are always available, that stocks of such parts are kept, and that a sufficient road maintenance budget is secured to enable spare parts procurement to be carried out quickly. The same issue was identified in the preceding similar project 'The Project for Improvement of Equipment for Road Maintenance in Khatlon Region and Districts of Republican Subordination', and repair needs are considered to be more apparent for the road maintenance equipment procured in that project. Therefore, it is important to utilise the achievements and experiences to establish at a national level a mechanism for the replacement of spare parts for the road maintenance equipment owned by the Ministry of Transport, so that the project effects will be sustained. In order to achieve this, it is also desirable to ensure the establishment of the Road Fund, which is currently being worked on at the Ministry of Transport.

・Recommendations to JICA

None

・Lessons Learned

<u>Strengthening the system for procurement and stockpiling of spare parts after the provision of road maintenance equipment</u>

In this project, road maintenance equipment necessary to facilitate proper repair and maintenance of the road network in the target areas was provided. It is essential to keep road maintenance equipment in good condition in order to carry out road maintenance in a timely manner. Most of the road maintenance equipment provided under this project was the ones made in Japan, but their spare parts are difficult to obtain in Tajikistan and neighbouring countries and often have to be ordered from Japan. It was found that this takes a lot of time and budget, and that if the equipment breaks down during the road repair period from spring to autumn, road maintenance activities would be severely affected. A similar challenge was pointed out not only in this project, but also in the preceding similar project 'The Project for Improvement of Equipment for Road Maintenance in Khatlon Region and Districts of Republican Subordination'.

The issue of spare parts procurement was recognised from the planning stage of this project, and it would have been important to support the planning of a procurement schedule and stockpiling of a certain number of spare parts. When planning a similar project in the future, in countries such as Tajikistan and neighbouring regions where Japanese-made road maintenance equipment is not widely distributed, it is desirable to support the strengthening of the system for procurement and stockpiling of spare parts after the provision of equipment, in order to increase the sustainability of the project effects.

IV. Non-Score Criteria

・Performance (Objective Perspective)

In the Technical Cooperation 'The Project for Improvement of Road Maintenance', which was being implemented at the time of the

[5] Due to climatic conditions such as snowfall and road icing, road repairs are not carried out in winter.

planning of this project, it was decided that improving the road repair capacity of the engineers in the Soghd and Kulyab SETMs was meaningful for the generation of the project effects, and the project was extended to provide technical instructions to improve their capacity. As a result, it has been confirmed that road repair work using the equipment and materials is being carried out properly in the target areas of this project, and it can be said that JICA was able to increase the effectiveness of the project through the flexible operations of the related project.

・Additionality
None.

Asphalt plant installed in this project
(Source: Photo taken by the External Evaluator)

Compressor being utilised on a bridge
(Source: Photo taken by the External Evaluator)

(end)