

Ex-Ante Evaluation

1. Name of the Project

Country: Kyrgyz Republic

Project: International Main Roads Improvement Project

Loan Agreement: October 26, 2015

Loan Amount: 11,915 million yen

Borrower: The Government of the Kyrgyz Republic

2. Background and Necessity of the Project

(1) Current State and Issues of the Road Sector in Kyrgyz Republic

The development and maintenance of transport infrastructure is critically vital for the economic activities of the Kyrgyz Republic, since the country is mountainous and landlocked. The country's transport infrastructure network, which has 34,000km of road length, serves not only for the smooth logistics within the country but also for those to and from the other Central Asian countries, China, South Asian countries, as well as Middle East. However, the transport infrastructure in the country, a large part of which was developed in the Soviet era, has become obsolete and deteriorated, and renewal and improvement in maintenance are urgent.

The Osh-Batken-Isfana road is the most important road in the South of the country, which connects to Bishkek-Osh Road in the East end and to the Tajikistan border in the West end. However, because of the situation mentioned above, the road needs renewal and improvement. Also, the Bishkek-Osh road is the only road which connects the capital of the country Bishkek and the second biggest city Osh. However, because of landslides and avalanches the road is blocked time to time. The deterioration of Osh-Batken-Isfana road and road block of Bishkek-Osh road affects domestic transportation and the trade with neighbor countries. Moreover, it becomes the disincentive of economic activities in the southern part where it has higher poverty degree than the northern part. Thus, the importance of the maintenance of the disaster prevention measures of the Bishkek-Osh road and Osh-Batken-Isfana road is high.

(2) Development Policies for the Road Sector in Kyrgyz Republic and the Priority of the Project

In the "National Sustainable Development Strategy of the Kyrgyz Republic (2013-2017)", the transport sector is set as one of the prioritized areas, and it focus on ensuring access of the domestic market and the surrounding countries. The rehabilitation of Osh-Batken-Isfana road, and disaster prevention measures in Bishkek-Osh road is positioned as one of the most urgent areas in the Strategy.

(3) Japan and JICA's Policy and Operations in the Road Sector

Japan's Country Assistance Policy for the Kyrgyz Republic identifies "maintenance of transport infrastructure and reduction of regional disparities" as a priority area. In the JICA Country Analysis Paper to Kyrgyz Republic, "development of transport infrastructure" was considered as priority issues. The objective of the Project is consistent with these policy and analysis. JICA has implemented ODA Loan, Grant Aid, and Technical Cooperation projects to support the development and maintenance of roads and related structures. In fact, JICA is one of the leading donors in the road sector in Kyrgyz, along with the Asian Development Bank.

(4) Other Donors' Activity

The Asian Development Bank and the World Bank have provided financial support for road development.

(5) Necessity of the Project

Designed to improve transportation capacity and road safety and taking countermeasures to reduce risk of slope-related disasters, this Project is consistent with the Kyrgyz government's development policy, as well as the country assistance policy of the Government of Japan. Therefore, the necessity to implement this Project is high.

3. Project Description

(1) Project Objective

The objective of the Project is to improve transportation capacity and road safety, by rehabilitating part of international main road "Osh-Batken-Isfana Road", and taking countermeasures to reduce risk of slope-related disasters at some sections on "Bishkek-Osh Road", thereby contributing to smoothing of logistics and to promoting economic growth in the Kyrgyz Republic.

(2) Project Site/Target Area: Osh Region and Jalal-Abad Region

(3) Project Components

1) Civil works:

- (i) "Osh-Batken-Isfana" Road Rehabilitation: 47 km (including bridge reconstruction)
- (ii) "Bishkek-Osh" Road Disaster Prevention: Tunnel construction (740 m length) and Rock falling prevention and Land slide prevention

2) Consulting services (detailed design, tender assistance, construction supervision, etc.)

(4) Project Cost

13,642 million yen (Loan Amount: 11,915 million yen)

(5) Project Implementation Schedule

From November 2016 to April 2023 (78 months in total). The project will complete

when all the facilities are put into service.

(April 2022).

(6) Project Implementation Structure

- 1) Borrower: The Government of the Kyrgyz Republic
- 2) Executing Agency: Ministry of Transport and Roads (MOTR)
- 3) Operation and Maintenance System

The “Road Maintenance Department” under MOTR will be in charge of operation and maintenance. As the MOTR and Road Maintenance Department have experience in road operation and maintenance as well as cooperation with technical assistance providers, they are unlikely to have any problems. The MOTR will allocate budget and staffing for Road Maintenance Department if necessary.

(7) Environmental and Social Consideration/Poverty Reduction/Social Development

1) Environmental and Social Consideration

- (i) Category: B
- (ii) Reason for Categorization: The Project does not apply to a large-scale project in the road sector as described in the “JICA Guidelines for Environmental and Social Considerations” (issued in April 2010), and it is not considered that any undesirable impact on the environment is serious.
- (iii) Environmental Permit: An Environmental Impact Assessment (EIA) report related to this project was approved by the State Agency of Environmental Protection and Forestry (SAEPF) in August 2014.
- (iv) Anti-Pollution Measures: During the construction, the contractors will take measures such as water sprinkling, primary treatment of wastewater, and use of low-noise, low-vibration machines to ensure that the air and water quality and noise levels will meet the effluent and environmental standards of Kyrgyz Republic. After the commencement of service, the air and water quality and noise levels are likely to meet the standards of the country.
- (v) Natural Environment: The target area does not located in a vulnerable area, such as national park, or its surrounding, and the expected influence on the local natural environment is minimum.
- (vi) Social Environment: The Project will not involve involuntary resettlement because the construction sites are located within the rights-of-way (ROW). Compensation will be provided for properties (trees) damaged due to the tentative bridge built within the ROW during the construction. The compensation will be paid in accordance with the procedures of Kyrgyz and the “JICA Guidelines for Environmental and Social Considerations” (issued in April 2010).
- (vii) Other/Monitoring: In the Project, the quality of air and water and the levels of noise and vibration will be monitored by the contractors during the

construction and by the Road Maintenance Departments after the commencement of service. The results will be reported to the MOTR.

- 2) Promotion of Poverty Reduction: The Project is designed to contribute to economic growth and poverty reduction in the southern region by improving roads in the region which is economically behind the northern region.
- 3) Promotion of Social Development: none
- (8) Collaboration with Other Donors: Among the OBI Road (with a length of 358 km), the sections which was not covered by this Project (with a total length of approximately 112 km) were improved by World Bank, the European Bank for Reconstruction and Development, and other development partners. As the second phase, this Project is planned to be implemented with cofinancing from the World Bank and the Islamic Development Bank.
- (9) Other Important Issues: Japanese technologies are expected to be introduced under the Project for such items as bridges, tunnels, and disaster prevention measures against landslide and slope protection.

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (operation and effect indicators)

Indicator	Baseline (Actual value in 2013)	Target (2024) [two years after project completion]
Traffic volumes on BO Road (vehicles/day)	2,300	3,800
Impassable time on BO Road (hours/year)	48	0
Vehicle accidents caused by falling rocks (Annual incidence/ Disaster scale (sediment volume)/ Damage persons)	1 out of 3.65 million cars	0
Traffic volumes on OBI Road (vehicles/day)	9,500	13,700
Vehicle speed on OBI Road (km/h)	50	80
Passable vehicle weight on OBI Road (tons)	30	60

(2) Qualitative Effects: improvements in road traffic safety; promotion of economic growth and poverty reduction; and knowledge and experiences acquired by the MOTR and Road maintenance Department in relation to disaster risk reduction

(3) Internal Rate of Return

Based on the conditions indicated below, the Economic Internal Rate of Return (EIRR) is calculated as follows. Since financial returns such as service fee are not expected in the Project, the Financial Internal Rate of Return (FIRR) is not

calculated.

- BO Road: 12.3% (based on the conditions below)

Cost: Project costs (excluding tax) and operation and maintenance cost

Benefit: Savings in travel costs, savings in travel time, better reliability of transport, reduction of accidents, better effect in regional economic activity

Project Life: 30 years

- OBI Road: 28.3% (based on the conditions below)

Cost: Project costs (excluding) and operation and maintenance cost

Benefit: Saving in travel costs, savings in travel time

Project Life: 25 years

5. External Factors and Risk Control

- The policy of the Government of Kyrgyz regarding the road sector does not change.
- The responsibilities, staffing, and budget of relevant departments do not change significantly due to organizational restructuring and other reasons.
- No large-scale natural disasters will hit the country/area.

6. Lessons Learned from Past Projects

(1) Results of Evaluation of Similar Past Projects

The ex-post evaluation of the “Bishkek-Osh Road Rehabilitation Projects (I) and (II)” for the Republic of Kyrgyz indicated that it is important for MOTR to improve the institutional capacity to maintain roads based on basic data. In particular, the ex-post evaluation suggested that the data management and planning mechanisms should be further enhanced.

(2) Lessons for the Project

Through “The Project for the Capacity Building of Road Maintenance (2008 to 2011)”, JICA assisted the capacity building of MOTR to enhance its institutional capacity for road maintenance based on basic data. Moreover, JICA supported capacity development to maintain bridges and tunnels through “The Project for the Capacity Development for Maintenance Management of Bridges and Tunnels (2013 to 2016)”. Still, attention should be paid to strengthen the data management and planning mechanisms for road maintenance, in accordance with the lessons learned from “the Bishkek-Osh Road Rehabilitation Projects (I) and (II)”.

7. Plans for Future Evaluation

(1) Indicators to be used

- 1) Traffic volumes on BO Road (vehicles/day)
- 2) Impassable time on BO Road (hours/year)

- 3) Vehicle accidents caused by falling rocks (Annual incidence/ Disaster scale (sediment volume)/ Damage persons)
 - 4) Traffic volumes on OBI Road (vehicles/day)
 - 5) Vehicle speed on OBI Road (km/h)
 - 6) Passable vehicle weight on OBI Road (tons)
 - 7) Economic internal rate of return (EIRR) (%)
- (2) Timing of the next evaluation
Two years after project completion.

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