Japanese ODA

Ex-ante Evaluation

1. Name of the Project

Country: The Republic of Paraguay
Project: Rural Roads Improvement Project
Loan Agreement: September 9, 2010
Loan Amount: 4,822 million yen
Borrower: The Republic of Paraguay

2. Background and Necessity of the Project

(1) Current Status and Issues of the Road Sector in Paraguay

Paraguay has approximately 60,000 km of roads,of which 87%,or 52,000 km are unpaved. Paved roads make up a mere 4,500 km or so, primarily on main roadways, and even when gravel pavement is included this is still no more than 8,000 km. Compared to its neighboring countries in terms of paved length per 1,000 people, Paraguay comes in at no more than a mere 0.8 km paved, which is remarkably low compared to the 3 km in Argentina and the 4 km in Uruguay.

The agricultural and livestock industry carries enormous weight in the economy of Paraguay (approximately 30% of GDP and roughly 80% of exports). Yet the unpaved roads are frequently cut off due to rain,which restricts transportation from the rural areas, which are the major production regions for agricultural and livestock products, to the urban areas, which are the major consumption regions, as well as the exports which constitute an important means for acquiring foreign currency. This in turn has a major impact on the regional economy. At the same time, local residents' access to social infrastructure (schools, hospitals, etc.) is also cut off due to rain, which poses a major obstacle to their livelihoods. What is more, most of the rural bridges in Paraguay are wooden bridges that were constructed almost 40 years ago. Accidents involving bridges collapsing from corrosion due to their wearing out are occurring, and urgent countermeasures are deemed to be necessary from the standpoint of safety.

Improving these rural roads, replacing aging bridges, and creating a road network by connecting these to main roadways could be described as pressing issues in terms of both Paraguay's economic development and improving the lives of its residents.

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

The Five Year Plan created in 2008 by the Ministry of Public Works and Communication forms the basis of Paraguay's road sector development policies. This Project has been positioned as an important project for the transportation sector from the perspective of economic development in Paraguay.

(3) Japan and JICA's Policy and Operations for Paraguay and Its Road Sector

Japan's priority areas for assistance to Paraguay are poverty reduction, sustainable economic development, and governance. Support for the road sector is extremely important from the standpoints of both poverty reduction and sustainable economic development.

JICA has a track record of support for the road sector in Paraguay via ODA loans through the Paraguayan La Colmena - Acahay Road Improvement Project (loan amount: 1.85 billion yen) in 1977, the Roads Improvement Project (loan amount: 9.7 billion yen) in 1990, and the Roads Improvement Project II (loan amount: 19.43 billion yen) in 1998. Moreover, JICA also instituted improvements to farm roads via gravel pavement through the Agricultural Sector Strengthening Project II (loan amount: 15.53 billion yen) in 1998. As for grant aid, JICA has a track record of support through the Itapúa Department Rural Roads Improvement Plan (grant amount: 1.65 billion yen) in 1994.

(4) Other Donor's Activity

The Inter-American Development Bank (IDB) has provided support to the road sector in Paraguay totaling approximately US$700 million through 18 projects since 1969. In addition, the World Bank has a track record of support totaling approximately US$300 million through 10 projects. This project is Phase II, which follows after Phase I (Note 1) implemented by the IDB. It is being cofinannced with the IDB (US$65.6 million) and the OPEC Fund for International Development (OFID) (US$29 million) totaling US$170 million.

(Note 1) Total project costs of US$78 million, IDB financing of US$67 million, total length of 730 km

(5) Necessity of the Project

The majority of the rural roads in Paraguay are unpaved roads, which get cut off due to rain. At the same time, the aging wooden bridges put collapse at risk. As such, cutting off the transport routes for the major industry of agricultural and livestock products poses a major impediment to Paraguay's regional economies, while also resulting in lost earnings opportunities for the local residents. Furthermore, for the local residents their access to social infrastructure (schools, hospitals, etc.) is substantially curtailed, resulting in a situation in which social safety nets are imperiled. It is highly relevant for JICA to provide support from the perspectives of ensuring access to the road network, which ties in with the promotion of industry, and ensuring social safety nets for the local residents.

3. Project Description

(1) Project Objectives

This project will: 1) pave rural road with stone, 2) replace aging wooden bridges, and 3) strengthen organizations for road operation and maintenance in the local municipalities and set in place a structure for operation and maintenance, in the eastern regions in Paraguay in the aim of creating a road network for the country. It will thereby contribute to both vitalizing the economy in Paraguay and setting in place a living environment for the local residents.

(2) Project Site/Target Area: Eastern region of Paraguay (the three departments of Misiones, Paraguarí, and Guairá) (the sections targeted for improvements will be determined after the selection study)

(3) Project Components

1) Pavement with stone of rural road: Approximately 350 km
2) Replacing aging wooden bridges: Approximately 1,000 m
3) Consulting service (detailed design, tender assistance, construction supervision, assistance for institutional strengthening for road maintenannce within the municipalities)

(4) Total Project Cost

5,692 million yen (loan amount: 4,822 million yen)

(5) Schedule

The planned implementation schedule is from September 2010 to December 2016 (76 months in total). The Project will be deemed complete when the facilities begin operating in January 2016.

(6) Project Implementation Structure

1) Borrower: The Republic of Paraguay
2) Executing Agency: Ministry of Public Works and Communications
3) Operation and Maintenance System: Ministry of Public Works and Communications and each municipality

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

1) Environmental and Social Consideration

a. Category: B

b. Reason for Categorization: This Project is categorized as “B” because it does not correspond to large-scale projects in the road sector as set forth in the JBIC Guidelines for Confirmation of Environmental and Social Considerations (established in April 2002),and it has been determined that its potential adverse environmental impact is not significant. In addition, it does not fall under sensitive characteristics or sensitive regions set forth in the Guidelines.

c. Environmental Permit: A decision on whether to acquire an EIA will be made after the sections targeted for improvements have been determined.

d. Anti-Pollution Measures: No particular negative impact on account of this Project was acknowledged.

e. Natural Environment: Since all of the Project targets are existing roads and bridges, undesirable environmental impact is expected to be small.

f. Social Environment: Since all of the Project targets are existing roads and bridges, it is assumed that it will not entail the acquisition of any new land, nor the involuntary resettlement. There could be cases in which regions where indigenous peoples reside are regarded as “indirectly affected zones.”

g. Other/Monitoring: This will be conducted by the construction contractors, construction supervision consultants, and the project team at the executing agency. The frequency with which monitoring will be performed will be once a month. The details for monitoring are stipulated by the Environmental Technical Specifications (ETAG).

2) Promotion of Poverty Reduction: The Project strives to reduce poverty by increasing the opportunities for those living in poverty in rural areas to earn income.

3) Promotion of Social Development (e.g. Gender Perspective, Measures for Infectious Diseases including HIV/AIDS, Participatory Development, Considerations for Persons with Disabilities, etc.): Access to social infrastructure (schools, hospitals,etc) will be improved.

(8) Collaboration with Other Donors: This Project is being cofinanced with IDB and OFID dividing the project.

(9) Other Important Issues: None in particular

4. Outcome Targets

(1) Operation and Effect Indicators

Indicator	Baseline (Actual values as of 2010)	Target (2018) [Two years after project completion]
Annual average daily traffic (vehicles/day)	Confirmed through the baseline study	Confirmed through the baseline study
Reduction of driving time (minutes)	Confirmed through the baseline study	10% improvement relative to the baseline
Reduction of driving costs (guaranies/year)	Confirmed through the baseline study	10% improvement relative to the baseline

(2) Internal Rate of Return:

Based on the conditions listed below, sections that will have an Economic Internal Rate of Return (EIRR) of 12% or greater are slated to be selected as sections targeted for improvements.

- Cost: Project cost (excluding tax and duty), operation & maintenance cost
- Benefits: Reduction of driving costs, reduction of time costs
- Project Life: 20 years

5. External Factories and Risk Control

None in particular

6. Lessons Learned from Past Projects

A number of lessons have been learned from the ex-post evaluations of similar projects in the road sector from the past, such as sufficiently incorporating the impact that rain has on the completion date into the schedule, as well as adequately bearing this in mind for the selection of sections targeted for improvements. Based on these lessons, efforts should be made for schedule management and to adequately determine the actual conditions in each rural area in this Project.

7. Plan for Future Evaluation

(1) Indicators to be Used

1) Annual average daily traffic (vehicles/day)
2) Reduction of driving time (minutes)
3) Reduction of driving costs (guaranies/year)
4) Economic Internal Rate of Return (EIRR) (%)

(2) Timing

Two years after the project completion

(End)