

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Bolivia Office: October 2011

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| Country | The Project for the Rehabilitation of Japan-Bolivia Friendship Bridge in the Republic of Bolivia |
| Bolivia | |

I. Project Outline

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|---------------------------|--|---------------------------------|
| Project Cost | E/N Grant Limit:351 million yen | Contract Amount:338 million yen |
| E/N Date | July, 2005 | |
| Completion Date | March, 2007 | |
| Implementing Agency | Administradora Boliviana de Carreteras (ABC) (~Nov.2006: called as Servicio Nacional de Caminos) | |
| Related Studies | Basic Design Study: April 2004-November 2004 | |
| Contract Agencies | Consultant(s) | Central Consultants Inc. |
| | Contractor(s) | Hazama Corporation |
| | Supplier(s) | N/A |
| Related Projects (if any) | Other donors' cooperations: BID, CAF, IIRSA(Initiative for Regional Integration of South American Infrastructure) | |
| Background | Preparation of road network was in delay due to Bolivia's topographical reason. Only 7 % (4,283km) out of national trunk road (approximately 60,000 km) was paved. This was the bottleneck against economic development. East-West Corridor, which includes the route of La Paz-Cochabamba-Santa Cruz, was given priority among four (4) axes as Export Corridor (East-West, West-South, North-South, South) by IIRSA(Initiative for Regional Integration of South American Infrastructure). Thus, East-West Corridor, which Japan-Bolivia Friendship Bridge is located, was significantly important in terms of road network and promotion of economic activities. Besides, the Bridge required the renovation to cope with its deterioration. It was established in 1964 and was partially renovated in 1988 and 2000. Moreover, the number of vehicles with heavy load capacity, which pass the Bridge, was increasing. | |
| Project Objectives | Outcome To promote regional economy through activated freight traffic and passenger transportation wayside of the road by renovating the Japan-Bolivia Friendship Bridge | |
| | Outputs Japanese Side - Renovation of Japan-Bolivia Friendship Bridge Bolivia Side - Provision of necessary site for construction, Implementation of traffic control | |

II. Result of the Evaluation

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| Summary of the Evaluation |
| <p>For activating freight traffic and passenger transportation wayside of the road, renovating the Japan-Bolivia Friendship Bridge was considered urgent at the time of ex-ante evaluation.</p> <p>This project has achieved the objective of promoting the regional economy through activated freight traffic and passenger transportation wayside of the road by renovating the Japan-Bolivia Friendship Bridge due to the increase in volume of transportation on the bridge. As for sustainability, there was no problem observed in the project due to the proper work of the executing agency which is responsible for operation and maintenance (O&M). For relevance, the project has been highly relevant with Bolivia's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency as well, both the project cost and project period were within the plan.</p> <p>In the light of above, this project is evaluated to be highly satisfactory.</p> |
| 1 Relevance |
| <p>This project has been highly relevant with the Bolivian development plan (road construction for economic activities prioritized in "Plan Bolivia"), development needs ("Transportation infrastructure improvement for economic activities"), as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.</p> |
| 2 Efficiency |
| <p>Both project cost and project period were within the plan (ratio against plan: 96%, 88%). Therefore, efficiency of the project is high.</p> |

3 Effectiveness/Impact

This project has largely achieved its objectives of promoting the regional economy through activated freight traffic and passenger transportation.

The volume of transportation expected was achieved at both target year and ex-post evaluation. The numbers of cars per day has been increased from 4,101 (Year 2004) to more than 6,309 (Year 2009) although the statistical data cannot be shown yet for the year of ex-post evaluation (Year 2011).

The increase of passenger vehicle and trailer is much more than target value (Status Quo” of 2004). Moreover, based on interviewing with the truck drivers that crossed the Japan-Bolivia Friendship Bridge, they (drivers) are satisfied with the renovated bridge because of more convenient transportation/better access.

In the light of above, its effectiveness/impact is high.



Increasing traffics on Friendship Bridge

Quantitative Effects

| Indicator | baseline value (2004) | target value (2009) | actual value (2009) | actual value (2010 or 2011) | |
|--|---------------------------|------------------------|------------------------|--------------------------------|------------|
| Current volume of transportation is kept: cars/day | | | | | |
| Passenger Vehicle | 2,583 | Status Quo | 5,129 | Status Quo | |
| Bus | Small | 176 | Status Quo | 114 | Status Quo |
| | Large | 118 | Status Quo | 140 | Status Quo |
| Truck | Small | 111 | Status Quo | Status Quo | Status Quo |
| | Medium | 248 | Status Quo | Status Quo | Status Quo |
| | Large | 406 | Status Quo | Status Quo | Status Quo |
| Trailer | One axis | 31 | Status Quo | 303 | Status Quo |
| | Two axes | 204 | Status Quo | 286 | Status Quo |
| | Three axes | 211 | Status Quo | 317 | Status Quo |
| Others | 16 | Status Quo | 19 | Status Quo | |
| Total | 4,101 | Status Quo | 6,309 | Status Quo | |
| Safety is promoted. | | | | | |
| Number of minor collision | N/A | Decreased | Decreased | Decreased | |

(Source: Interview results to truck drivers that crossed the bridge, ABC and Statistical information provided by the ABC)

Note: “Status quo” shows the level of traffic volume that is considered to be about the same as the baseline level.

4 Sustainability

The structure of executing agency is considered appropriate for continuity of project effectiveness although it has been partially changed from the implementation period due to its restructuring: Concentrated responsibility in refined number of staffs; Currently, the newly created Santa Cruz branch is fully in charge of the bridge maintenance from routine/inspection of commission work to private company to large scale maintenance. The executing agency has no problem in the technical aspect because it commissions O&M to private companies that are capable, and necessary inspections are conducted by ABC staff. Also in the financial aspect, because the O&M of the bridge are covered within ABC’s annual budget and additional fund to be allocated when necessary maintenance work is recognized, no major concern was to be found. In addition, the executing agency has no problem in the status of operation and maintenance because there are not any serious issues in O&M by the commissioned private companies under the management of regional branch’s handlings except cracks on pavement and bending of steel members of bridge observed by inspection. However, ABC has evaluated that these deteriorations would not affect overall structure of the bridge and the transportability. Therefore sustainability of this project is high.



Frequent Traffics of Trucks and Trailers on Friendship Bridge

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- As maintenance work (routine, periodic, emergency) can extend lifetime of bridge, contributing decrease in total maintenance cost in longer term, the executing agency is expected to carry out inspection constantly and repair work when necessary.