Japanese ODA Loan

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: India

Project: Dedicated Freight Corridor Construction Project (Phase 1) (II)

Loan Agreement: March 31, 2010

Loan Amount: 90,262 million Yen

Borrower: The President of India

2. Background and Necessity of the Project

(1) Current State and Issues of the Railway Sector in India

The volume of freight traffic in India is increasing at an annual rate of 15%, but existing carrying capacity of rail lines is nearing saturation limits. Particular concern is the freight transport route along the "Golden Quadrilateral", which connects Delhi, the country's capital and largest consumption-production base, Mumbai and Kolkata, the eastern and western gateway ports of India, and Chennai in the southeast. The volume of freight traffic along the Golden Quadrilateral already accounts for roughly 65% of total freight volume in India. On the other hand, container cargoe and the traffic volume of agricultural products and mining/industrial resources are expected to further increase in the future. For this reason, the country seeks to strengthen its transportation capacity through both increasing carrying capacity and introducing high-speed transport services.

(2) Development Policies for the Railway Sector in India and the Priority of the Project

In its 11th Five-Year Plan (April 2007-March 2012), the Government of India acknowledges the need to expand routes and introduce high-speed trains in order to facilitate mass freight transportation along trunk routes. In particular, the Plan emphasizes the early development of dedicated freight rail lines, and the upgrading of passenger/freight trains along the routes between Delhi and Mumbai, and between Ludhiana, Delhi and Kolkata.

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

The "Promotion of Economic Growth" is one of the prioritized areas in the Japan's Country Assistance Program for India by the Government of Japan. Accordingly, JICA has set the "Promotion of Sustainable Growth through the Development Assistance to the Infrastructure" as a prioritized area. The Project is categorized under the "Improvement of Transport Networks" program within the said priority area, therefore the assistance for the Project is consistent with Japan and JICA's policy. And as part of this, JICA intends to support the development of trunk railways, roads, and other infrastructure mainly in India's six major metropolitan areas, as well as in special economic zones, economic corridors, and other industrial clusters located along the Delhi-Mumbai industrial artery, with the aim of promoting regional economic development, efficient distribution, and foreign capital, and ultimately contributing to expanding investment in India. The project, therefore, fundamentally conforms to JICA's

assistance policy. Among Japanese ODA Loans that have been granted to India, 33 projects worth 586,333 million Yen have been directed to India's transport sector to date.

(4) Other Donors' Activity

The World Bank is expected to offer support to the eastern corridor of the dedicated freight corridor, and is currently in the process of forming a project for this. The Asian Development Bank (ADB) is implementing support to the rail transport sector mainly through supporting the organizational reforms of Indian Railways, etc.

(5) Necessity of the Project

Forecasts for freight transport demand expect to see a rapid increase in container traffic between Delhi and Mumbai, particularly between the international port on the western coast and major inland cities. Existing rail lines, however, have the capacity to cater for only around 50% of the passenger/freight traffic demand predicted for 2032, and in fact both lines are expected to reach their existing capacity sometime between 2010 and 2015. Therefore, JICA's assistance for the Project, which aims to increase freight transport capacity and realize efficient freight traffic by constructing dedicated freight rail lines and introducing high-speed, high-capacity electric locomotives, is highly necessary and relevant.

3. Project Description

(1) Project Objective(s)

The objective of the Project is to cope with the increase of freight transport demand in India by constructing new dedicated freight railway system, thereby promoting comprehensive regional economic development along the freight corridor, through improvement and modernization of inter-modal logistic system handling considerable freight traffic and poised for massive growth.

(2) Project Site/Target Area

States of Haryana, Rajasthan and Gujarat.

(3) Project Component(s)

The project will construct new freight lines, install automated signal and communication systems, and introduce locomotives capable of high-capacity, high-speed transportation over some 950 kilometers between Rewari in Haryana State and Vadodara in Gujarat State, which have been tagged as the priority development segment between Delhi and Mumbai. The Japanese ODA Loan will be used for the following aspects.

1) Construction work
2) Procurement of locomotives
3) Social development
4) Consulting services

(4) Estimated Project Cost (Loan Amount)

498,565 million Yen (Loan Amount: 90,262 million Yen)

(5) Schedule

Planned for implementation between September 2008 and June 2019 (total 130 months).

The project will be completed at the end of all procurement contracts (June 2019).

(6) Project Implementation Structure

1) Borrower: The President of India

2) Executing Agency: Indian Ministry of Railways (MOR), Dedicated Freight Corridor Corporation of India Limited (DFCCIL)

3) Operation and Maintenance System: DFCCIL (operation and maintenance of rails, signals, communications systems, etc.). Indian Railways (implementation of operation of freight transportation, including the maintenance of locomotives).

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

1) Environmental and Social Consideration

(i) Category: A

(ii) Reason for Categorization: This project falls under the category of a railroad sector project that is likely to have an adverse impact on the environment under the "Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Consideration" (Established in April 2002). This project is therefore classified as Category A

(iii) Environmental Permit: The Environment Impact Assessment (EIA) report for this project was prepared in August 2009, though it is not required for the Project in India's legal system.

(iv) Anti-Pollution Measures: During construction, pollution control measures considered during the details planning stage, including dust countermeasures, the appropriate storage of construction materials, the use of soundproofing materials, etc., are scheduled to be reflected in the detailed environmental management plan, and the executing contractors are to abide by this plan and ensure suitable countermeasures are in place. Considerations are to be given to noise reduction measures after opening, particularly in concentrated residential areas, such as the utilization of soundproofing walls, in line with the detailed plans and as required.

(v) Natural Environment: Since the project site runs mainly through agricultural and barren land, and the plans have been drawn up to avoid wildlife protection areas, it is considered likely to have the minimum adverse impact on the natural environment.

(vi) Social Environment: This project requires the acquisition of 4,430ha of land, and the relocation of 1,086 households. DFCCIL is hosting discussions with those affected by land acquisition and relocation, and based on a resettlement and rehabilitation plan approved by the MOR, will remunerate residents at the repurchase price, and provide the necessary support for recovery of livelihoods. Land acquisition and involuntary resettlement procedures are intended to be completed by March 2012.

(vii) Other/Monitoring: In this project, DFCCIL will monitor noise, vibration, soil, air quality, water quality, land acquisition, resident relocation, etc.

2) Promotion of Poverty Reduction:

None

3) Promotion of Social Development（e.g. Gender Perspective, Measure for Infectious Diseases Including HIV/AIDS, Participatory Development, Consideration for the Person with Disability etc.）:

This project involves large-scale construction, thus activities will be implemented to support the prevention of HIV infection among laborers.

(8) Collaboration with Other Donors:

None

(9) Other Important Issues:

None

4. Targeted Outcomes

(1) Performance indicators (Operation and Effect Indicator)

Indicator	Target (2021) [Expected value 2 years after project completion]
Operating rate (%)	93
Running distance (1000km)	196.5
Number of running trains (number of trains/day, both directions)	174
Volume of transportation (million tons-km/day)	264.2
Max. speed (km/h)	100
Reduction in transportation time (hours)	20.0

(2) Internal Rate of Return

Based on the conditions indicated below, the Economic Internal Rate of Return (EIRR) is 17.00%; Financial Internal Rate of Return (FIRR) is 6.42%.

[EIRR]

Cost: Project cost (excluding tax), operation and maintenance expenses

Benefit: Reduced cost of freight transportation resulting from meeting increasing demand

Project Life: 30 years

[FIRR]

Cost: Project cost, operation and maintenance expenses

Benefit: Revenue from freight charges

Project Life: 30 years

5. External Factors and Risk Control

Changes in freight transport demand

6. Lessons Learned from Past Projects

Experiences from similar projects implemented in the past indicate that land acquisition is vital to the smooth implementation of projects in the railway sector, and that adequate follow-up must be made during implementation of land acquisition and involuntary resettlement. As this project involves the acquisition of a considerable area of land, the executing agency will be requested to provide regular reports on the progress of involuntary resettlement.

7. Plan for Future Evaluation

(1) Indicators to be Used

1) Operating rate (%)
2) Running distance (1000km)
3) Number of running trains (trains/day, both directions)
4) Volume of transportation (million tons-km/day)
5) Maximum speed (km/hr)
6) Reduction in transportation time (hours)
7) Internal rate of return: FIRR (%), EIRR (%)

(2) Timing

Two years after project completion

(End)