

1. Name of the Project

Country: India

Project: Dedicated Freight Corridor Project (Phase I)

Loan Agreement: October 27, 2009

Loan Amount: 2,606 million Yen

Borrower: The President of India

2. Background and Necessity of the Project**(1) Current State and Issues of the Transport Sector in India**

The volume of freight traffic in India is increasing at an annual rate of 15 percent, but existing freight rail lines are nearing the limits of their transport capacity. The development and reinforcement of India's railways is thus a pressing issue for India to continue to grow. Of particular concern is the freight transport route along the "Golden Quadrant," which connects Delhi, the country's capital and largest consumption-production base, Mumbai and Kolkata, the eastern and western gateways ports of India, and Chennai in the southeast. The volume of freight traffic along the Golden Quadrant already accounts for roughly 65% of total freight volume in India, but container cargoes and the traffic volume of agricultural products and mining/industrial resources are expected to increase in the future. Therefore, the country is seeking to increase the transport capacity of its railways by increasing carrying capacity, introducing high-speed freight trains, and joining hands with other transportation services.

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

In the 11th Five-Year Plan (April 2007 – March 2012), the Indian government has adopted the policies outlined in the 10th Five-Year Plan and emphasizes the necessity of expanding routes, introducing high-speed freight trains, and improving access to port and harbor facilities as means of enabling mass transportation along trunk railways. It places importance particularly on the prompt development of dedicated freight rail lines and improvement of passenger/freight trains along the route between Delhi and Mumbai and between Ludhiana, Delhi and Kolkata.

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

Japan's Country Assistance Program for India defines "promotion of economic growth" as a priority goal. Accordingly, JICA has set forth a policy of "promotion of sustainable economic growth through assistance to the infrastructure" as a key aid area in India, and has included "improvement of transportation networks" as one of the targets in that area. Under this target, JICA intends to support the development of trunk railways, roads, and other infrastructures mainly in India's six major metropolitan

areas, and in special economic zones, economic corridors, and other industrial cluster regions located along the Delhi-Mumbai industrial artery, with the aim of promoting regional economic development, efficient physical distribution, and foreign capital, and ultimately contributing to expanding investment in India. The project therefore fundamentally conforms to JICA's assistance policy.

The project will also provide assistance through the Special Terms for Economic Partnership (STEP) scheme for ODA loans, as stated in the joint statement issued by the prime ministers of India and Japan after a conference held in December 2006. Note that among ODA loans that have been granted to India, 17 projects worth 424.5 billion Yen have been directed to India's transport sector to date.

(4) Other Donors' Activity

The World Bank is focusing its assistance on increasing transport capacity in India through the development of road infrastructures and promoting organization reforms to increase efficiency of agencies in charge of implementing road projects. The Asian Development Bank is helping to expand road transport capacity through the development of national and state roads, while also providing assistance for capacity development and organization reform. Note that as of the end of 2008, the World Bank has provided assistance worth 16,702 million USD and the ADB 7,164 million USD to the transport sector in India.

(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, and bulk freight traffic including coal, iron ore, cement, fertilizer and grains between Ludhiana, Delhi and Sonnagar. However, existing rail lines have the capacity to satisfy only around 50% of the passenger/freight traffic demand that is predicted in 2032, across all segments. In fact, both lines are expected to reach their capacities sometime between 2010 and 2015. In response to this situation, the project aims to increase freight transport capacity and realize efficient freight traffic by constructing dedicated freight rail lines and by introducing automated signal and communication systems and electric locomotives capable of high-speed, high capacity transportation. JICA's support of the project is thus both highly necessary and relevant.

3. Project Description

(1) Project Objective(s)

The objective of the project is to make a far-reaching contribution to India's economic development by addressing the freight transport demand that is expected to continue growing in the future and increasing the efficiency of the logistics network. Of the planned segments of the dedicated freight rail lines, from Delhi to Mumbai (Western Corridor) and from Ludhiana through Delhi and to Sonnagar (Eastern

Corridor), the project will construct some 920 kilometers of tracks connecting the major cities of Gujarat, Rajasthan and Haryana, where development needs are especially high. It will also introduce automated signal and communication systems and electric locomotives capable of high-speed, high-capacity transportation.

To promote the smooth implementation of the project, the ODA loan will be allocated to engineering services (E/S) for the preparation of the project's designs.

(2) Project Site/Target Area

The segment from Rewari to Vadodara, which lies between Delhi and Mumbai and passes through the 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 920 kilometers between Rewari in Haryana State and Vadodara in Gujarat State, which have been tagged as the priority development segment between Delhi and Mumbai.

- 1) Construction works: civil engineering and architectural works (roadbed development, construction of bridges, maintenance depots, junction stations, and other infrastructures, etc.), track works (rail installation, etc.), electrical and mechanical works (upgrading of overhead lines, substations, etc.), signal and communication works (development of signal/communication systems, construction of an automated rail-crossing system), others (inspection and maintenance cars, etc.)
- 2) Car procurement: electric locomotives
- 3) Social development (publicity and residents' awareness-raising activities, HIV prevention activities, etc.)
- 4) Consulting services

The ODA loan will be allocated to the implementation of the following activities related to item 1) above and to providing assistance in formulating a feasibility study (F/S) for the segment of the Western Corridor not included in the project.

- ① Design study, etc. (review of existing studies, reassessment of project cost, etc.)
- ② Supplementary study, etc. (formulation of plans for environmental and social considerations and safety measures, etc.)

(4) Estimated Project Cost (Loan Amount; for Engineering Services)

2,744 million Yen (including ODA loan amount of 2,606 million Yen)

(5) Schedule (for Engineering Services)

Planned to be implemented from September 2008 to November 2011 (39 months)

(6) Project Implementation Structure

- 1) Borrower: The President of India
- 2) Executing Agency: Dedicated Freight Corridor Corporation of India Limited (DFCCIL), Indian Ministry of Railways (MOR)

- 3) Operation and Maintenance System: DFCCIL (operation and maintenance management of rail tracks, signal and communication system, etc.); MOR (freight transport operations, including maintenance management of locomotives)

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

1) Environmental and Social Consideration

① Category: B

② Reason for Categorization: This project is classified as Category B, because it provides a loan for engineering services, and the entire project as a whole does not fall under Category C as defined in the “JBIC Guidelines for Confirmation of Environmental and Social Considerations” (April 2002).

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 Handicapped, etc.)

The project involves large-scale construction by workers, many of whom are unaccompanied migrant workers, in a country where HIV/AIDS infection is a serious concern. Therefore, the ODA loan will support the formulation of plans for HIV/AIDS prevention activities and other activities designed to promote occupational health and safety among the construction workers, through the concerted efforts of a consultant and local NGO.

(8) Collaboration with Other Donors

JICA plans to mutually cooperate with the World Bank and ADB, donors who are slated to support the development of the Eastern Corridor, in implementing studies on environmental and social considerations at the project formulation and implementation stages and in enhancing the organizational capacity of DFCCIL, the project executing agency.

(9) Other Important Issues

None

4. Targeted Outcomes

- (1) Performance Indicators (Operation and Effect Indicator)

To be established at the time of project implementation

- (2) Internal Rate of Return

To be calculated at the time of project implementation

5. External Factors and Risk Control

Changes in freight transport demand in India

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 after implementing land acquisition and residential relocation measures. As this project involves the acquisition of a considerable area of land, the executing agency will be requested to give a regular report on the progress of resident relocation.

7. Plan for Future Evaluation

(1) Indicators to be Used

To be established at the time of project implementation

(2) Timing

To be decided at the time of project implementation