

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: The Republic of Indonesia

Project: Railway Double Tracking on Java South Line Project (IV)

Loan Agreement: February 24, 2014

Loan Amount: 16,875 million yen

Borrower: The Republic of Indonesia

2. Background and Necessity of the Project

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

The annual number of long-distance railway passengers in Java steadily increased by an average of approximately 8% in the five years between 2007 and 2011. The National Railway Master Plan developed in April 2011 by the Ministry of Transportation estimates that the number of passengers in 2030 will be 800 million in total. To meet increasing passenger demand, it is necessary to improve railway services, set appropriate fares, enhance operation, maintenance and management, and consolidate transportation capability.

The Java Main Line consists of three sub-lines known as North, South and Bandung. Increasing transportation capacity is one of the major issues in the highly crowded section between Kroya and Yogyakarta where the Bandung Line joins the South Line. While the capacity of the single-track line between Kroya and Kutoarjo (the target section of this project) was 93 trains per day as of 2010, transportation demand is expected to exceed this by 2020. Against such a background, there is an urgent need to boost transportation capacity.

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

As development goals in the transportation sector, Indonesia's current national mid-term development plan (RPJM2010-2014) currently lists: 1) enhanced transportation infrastructure and capacity; 2) improved access to transportation infrastructure; 3) improved safety in transportation infrastructure; 4) restructuring of systems related to transportation services; and 5) measures against climate change (adaptation and mitigation). The plan also express that enhancement of railway network is indispensable in urban transportation sector. The double-tracking project for the section between Chirebon and Surabaya, which includes the target section of the Railway Double Tracking on Java South Line Project (referred to here as "the Project"), is listed as a major initiative railway improvement in Java island under the National Railway Master Plan. Double-tracking of the target section by the Project (Kroya-Kutoarjo), is put high priority due to the future increase of transportation demand.

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

In “Assistance for correction of inequality and establishment of a safe society”, a priority area of the Country Assistance Policy for the Republic of Indonesia (April 2012), “Connectivity Enhancement” is set as one of the Japan's Assistance Program. The Project is set as an initiative to help make movement of goods and people smoother between major regions, islands, and cities. JICA Analytical Work for the Republic of Indonesia also identifies the development of a key transportation network among major cities as a major issue, and the Project is in accordance with the policy and the analysis. JICA has conducted 41 projects for the railway sector since the Railway Rehabilitation Project in JFY 1970. Among yen loan project provided for double tracking of the railway network in Java Island, a total of 16,361 million yen was provided in FY 1996 and FY 2003 for the section between Kutoarjo and Yogyakarta on the Java South Line (Railway Double Tracking on Java South Line Project (I) (II)), and double tracking in the section was completed in September 2007. A total of 19,800 million yen was also provided in FY 2006 and FY 2008 for double tracking between Kroya and Kutoarjo, which is a target section of the Project.

(4) Other Donors' Activity

The World Bank started the Indonesian Railway Efficiency Project, including support for railway management, policy reform and improvement of the Bandung Line, from 1996 (completed in July 2009).

(5) Necessity of the Project

As mentioned above, the Project is consistent with the country's issues and development policies, as well as the assistance policies of Japan and JICA. Therefore it is highly necessary and relevant for JICA to provide assistance through the Project.

3. Project Description

(1) Project Objective(s)

The Project is to expand the line capacity for the future traffic demand for Kroya-Kutoarjo section in Central Java by constructing railway double track, thereby contributing to the improvement of investment climate and the economic development in the region.

(2) Project Site/Target Area

Central Java Province (76 km between Kroya and Kutoarjo)

(3) Project Component(s)

- 1) Double tracking work (between Kroya and Kutoarjo): civil engineering work, track construction, bridge construction, signal communication system (ICB)
- 2) Consulting services: Detailed Design, Tender Assistance, Construction Supervision, etc. (Short List)

(4) Estimated Project Cost (Loan Amount)

42,003 million yen (amount of loan for the Project: 35,694 million yen; amount of this loan: 16,875 million yen)

(5) Schedule

The scheduled project term is from March 2008 to May 2019 (134 months in total). The work will be considered complete on the day of service commencement in May 2017.

(6) Project Implementation Structure

- 1) Borrower: The Republic of Indonesia
- 2) Executing Agency: Directorate General of Railways (DGR)
- 3) Operation and Maintenance System: Indonesian Railway Company (PT.KAI)

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

1) Environmental and Social Considerations

- ① Category A
- ② Reason for Categorization: The Project is under the category of “railway sector “provided by the Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (established in April 2002).
- ③ Environmental Permit: The Project's environmental impact assessment (EIA) report was approved in October 2006 by Central Java Province.
- ④ Anti-Pollution Measures: Concrete sleepers, sufficient ballast and long rails will be used, and sound insulation walls will be installed as noise-alleviating measures.
- ⑤ Natural environment: As the Project is to be conducted along an existing railway and the area is not situated in or around a national park or other vulnerable areas, any adverse effect on the natural environment is expected to be minimal.
- ⑥ Social Environment: The Project involves the acquisition of approximately 9.2 hectares of land and the resettlement of 49 households, which will be processed in accordance with Indonesia's domestic laws, regulations and procedures.
- ⑦ Other/monitoring: Executing Agency will conduct noise, vibration, air, water quality and other types of monitoring in accordance with the environmental monitoring plan (UPL) in the environmental impact assessment report.

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.) : Measures against HIV/AIDS will be taken for workers employed on the Project. Specific measures conducted by DGR will be considered through consultation with the Ministry of Health and the Ministry of Manpower and Transmigration. Although the Project's scope does not include station buildings and rolling stock procurement, the new Railways Act stipulates that consideration should be given to people with disabilities.

- (8) Collaboration with Other Donors or Schemes: In E/S loans of JFY 2006, coordination was made with the technical cooperation project “Improvement of Railway Safety Management-Phase 2” (2007 -2010).
- (9) Other Important Issues: Through consulting services relating to the above E/S loans, technical cooperation and assistance for the development of rules and regulations related to train operation and maintenance and for improvement of railway sector operation have been provided.

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicator)

Indicator	Reference value (2010)	Target value (2019) (2 years after project completion)
Number of passengers per year (thousand)	11,376	12,989
Volume of freight per year (thousand tons)	499	2,744
Number of running passenger trains per day	52	60
Number of running freight trains per day	8	28
Running time of executive class train between Kroya and Kutoarjo (minutes)	68	61

2) Internal rate of return

The target section is between Kroya and Kutoarjo.

FIRR: 0.2%

- Expenses: project cost, operation and maintenance cost, and management cost
- Benefits: railway service income
- Project life: 40 years after project completion

EIRR: 9.2%

- Expenses: initial investment (excluding taxes/customs duties, price escalation), operation and maintenance cost
- Benefits: Running time of executive class train between Kroya and Kutoarjo (minutes)
- Project life: 40 years after project completion

(2) Qualitative Effects

Improvement of the investment environment, regional economic development, greenhouse gas reduction, improved railway safety

5. External Factors/Risk Control

None

6. Lessons Learned from Past Projects

(1) Results of Evaluation for Similar Projects

Ex-post evaluation conducted for the Railway Double Tracking on Java South Line Projects (I) (II) found that, despite the complexity of the related processes (in which repair of existing tracks and bridges and construction of new tracks and bridges had to be conducted concurrently), the work was completed within the periods scheduled for new line construction and the projects were implemented effectively owing to efficient switching of the new and existing lines based on past experience.

(2) Lessons for the the Project

As the Project will include work on existing and new tracks, experience from the above cases will be utilized (e.g., reference to the switching processes in construction supervision by consultants) to prevent delays in implementation.

The Project also involves tunnel construction and civil work near operating lines, which require appropriate implementation of safety measures. Responsibility sharing concerning such measures will be stipulated in contract between the Executing Agency and contractors/consultants. Safety measures in the Project funded by ODA loans must be ensured by confirming safety control systems and mechanisms based on responsibilities as provided in such contract. Technical Assistance by consultants (accident prevention, safety measures, etc.) recommended in the "Recommendation for Improvement of Supervision and Recurrence Prevention of accidents in the yenloan project (July 11, 2008) "will also be considered as necessary.

7. Future Evaluation Plans

(1) Indicators to be Used

- 1) Number of passengers per year (thousand)
- 2) Volume of freight per year (thousand tons)
- 3) Number of running passenger trains per day
- 4) Number of running freight trains per day
- 5) Running time of executive class train between Kroya and Kutoarjo (minutes)
- 6) Economic internal rate of return (EIRR) (%)
- 7) Financial internal rate of return (FIRR) (%)

(2) Timing

Two years after project completion