

## Ex-Ante Evaluation

<b>1. Name of Project</b>
Country: The Republic of Indonesia Project: Railway Double Tracking on Java South Line Project (III) Loan Agreement: March 28, 2008 Loan Amount: 18,819 million yen Borrower: The Republic of Indonesia
<b>2. Necessity and Relevance of JBIC's Assistance</b>
<p>In Java, one of the world's highest population density areas, the number of passengers riding on long-distance railways increased by an average of 7% during the 10-year period from 1991 to 2000 despite a temporal decline in the period of the Asian currency crisis, excluding the Jabotabek region served by suburban railways. Since that time, however, ridership has leveled off. The principal factors behind this decrease are fare increases, a decline in confidence due to inadequate maintenance owing to a lack of financial resources and technology, the construction of expressways and increasing motorization. Another reason relates to the fact that because the government has set economy class fares low as a policy measure, the railway operator Indonesia Railway Company (Perseroan Terbatas Kereta Api Indonesia (Persero); hereinafter referred to as "PT.KAI") has systematically reduced the operation of unprofitable economy class trains. To stimulate passenger demand, it is necessary to improve operation and maintenance through measures such as formulating and implementing appropriate fare policies and increasing the number of train runs.</p> <p>Ridership on the Java South Line also tended to decline up to 2004 for the above reasons, but since 2005, it has shown an uptrend. Although airlines and road transport compete with railways for passengers, air transport between Jakarta and Surabaya, Yogyakarta, and Solo, the major cities in the eastern district of Java, is expected to reach the saturation point in a few years since the airport facilities are expected to reach capacity. At the same time, road transportation will be affected by the sharp rise in gasoline prices and the elimination of the government's gasoline subsidy, which has led to predictions that railway passenger demand will increase. Although freight transport demand has declined since 1994, PT Holcim Indonesia Tbk., a cement manufacturer, has a plan to transport by rail 2,535 tons of cement (2007 estimate) from its cement plant in the industrial city Cilacap in the Kroya suburbs to Yogyakarta, Solo, Semarang and Madiun via the target section of this project, prompting predictions of a sharp rise in freight transport demand. What is more, ethanol fuel, which is expected to begin production from 2009 in Cilacap, will be transported by rail. On the other hand, transport of crude oil from the Cepu block in the central region of Java, which originally was to be transported by rail, has been changed to sea transport from the target section of this project. In light of the above, it is expected that railway line capacity between Kroya and Kutoarjo will reach its limit in 2009, with the same to occur for railway line capacity in the Cirebon-Kroya section in 2010.</p> <p>In the Jakarta-Solo section, which is the main trunk line on Java island (total extension of 576km), the only section that is not double tracked is the section covered by this project. This section poses many challenges in terms of transport capacity, high-speed service, and safety, and because transportation demand is expected to increase, the necessity for JBIC assistance is</p>

high.

In the National Medium Term Development Plan (RPJM: 2004-2009), the Government of Indonesia calls for adequate transport capacity and quality improvements in key railway lines, specifically through the stepwise railway double tracking of the Java South Line, including the section covered by this project. The 2007-2010 long-term plan of PT.KAI also sets the objective of improving the safety and service of railway transportation.

Japan's Country Assistance Program for Indonesia (November 2004) stresses the need to take steps to maximize the utility of existing infrastructure and calls for a comprehensive study of assistance aimed at improving the capacity to operate economic infrastructure, including human resources development, when carrying out assistance. This project concerns the double tracking of existing railway lines and thus is consistent with the above objectives.

JBIC's Medium-Term Strategy for Overseas Economic Cooperation Operations (April 2005) regards the development of economic infrastructure as a priority area for creating an investment environment and emphasizes intellectual cooperation and technical support toward strengthening the implementation structure. This project regards the development of economic infrastructure for improving an investment climate as a priority area for Indonesia and is concerned with the development of economic infrastructure. As such, it is in line with the above strategy.

### **3. Project Objectives and Outline**

The objective of this project is to expand the line capacity for the future traffic demand for Cirebon -Kroya-Kutoarjo section in Central Java by railway double tracking, thus contributing to the improvement of investment climate and the economic development in the region.

### **4. Project Description**

(1) Target Area  
Central Java

(2) Project Outline

(a) Kroya-Kutoarjo section: Railway double tracking work (permanent works, track works, bridge works, signaling and communications works)

(b) Kroya-Kutoarjo section: Consulting services (detailed design, tender assistance, construction supervision)

(c) Cirebon-Kroya section: Railway double tracking work (permanent works, track works, bridge works, signaling and communications works)

(d) Cirebon-Kroya section: Consulting services (detailed design, tender assistance, construction supervision)

Of the above, the Japanese ODA loan will cover the permanent works, track works and bridge works of (a), the construction supervision of (b), and the detailed design and tender assistance for the Cirebon-Purupuk section and Purwokerto-Kroya section of (d). The other components of the project will be implemented by the Government of Indonesia using its own funds and a possible future Japanese ODA loan with the exception of the detailed design of (b) above,

which is covered by a past Japanese ODA loan.

(3) Total Project Cost/Loan Amount

22,151 million yen (Japanese ODA Loan Amount: 18,819 million yen )

(4) Schedule

March 2008-November 2013 (69 months). Project Completion was defined as the commencement of double track service for Kroya-Kutoarjo section.

(5) Implementation Structure

(a) Borrower: The Republic of Indonesia

(b) Executing Agency: Directorate General of Railways, Ministry of Transportation

(c) Operation and Maintenance System: Upon completion of this project, PT.KAI will perform operation and maintenance of track, station buildings and other facilities along the targeted section.

(6) Environmental and Social Considerations

(a) Environmental Impact/Land Acquisition and Resettlement

(i) Category: A

(ii) Reason for Categorization: This project is classified as Category A because it pertains to the railway sector as described in Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (established April 2002)

(iii) Environmental Permit: The environmental impact assessment (EIA) report concerning the Kroya-Kutoarjo section of this project was approved by the Central Java Province in October 2006. The EIA report concerning the Cirebon-Kroya section was prepared in December 2007 and will be approved by the Ministry of the Environment in 2008.

(iv) Anti-pollution Measures: In order to reduce noise, concrete sleepers, a sufficient quantity of ballast and long rails will be used, and noise-blocking walls will be erected.

(v) Natural Environment: It is expected that any adverse impact on the natural environment due to this project will be minimal since the project will be implemented along an existing railway and will not affect sensitive areas such as national parks and their surrounding areas.

(vi) Social Environment: Sites with an area of 6.5ha will be acquired for the Kroya-Kutoarjo section which is the target of the main loan for the project. This is expected to require the resettlement of 19 residential households and 11 stores and hospitals. Procedures for site acquisition and resettlement of residents will be implemented in accordance with plans and domestic laws concerning site acquisition and resettlement of residents.

(vii) Other/Monitoring: The executing agency will monitor the noise, vibrations, and air and water quality.

(b) Promotion of Poverty Reduction: None

(c) Promotion of Social Development: (gender perspective, measures for infectious diseases including AIDS, consideration for the handicapped, etc): It is planned to implement measures against HIV/AIDS toward workers employed by this project. DGR will consider specific measures in consultation with the Ministry of Health and Ministry of Manpower and

Transmigration of Indonesia. Although station buildings and procurement of rolling stock are not covered by this project, consideration for disabled persons is stated in the new railway law.

**(7) Other Important Issue**

The Railway Double Tracking on Java South Line Project (III) (E/S) (engineering service; hereinafter referred to as “this project’s E/S loan”) includes assistance for improving the administration of the railway sector, assistance for establishing standards and regulations concerning railroad operation, maintenance and management, and assistance for introducing asset management systems, which are expected to generate synergistic effects with this project from the viewpoint of improving administrative capacity and enhancing service.

**5. Outcome Targets**

**(1) Evaluation Indicators (Operation and Effect Indicators)**

Indicator Name	Baseline (2007 actual )	Target (2018, 2 years after project completion* )
Number of passengers per year (thousand)	9,269	11,257
Volume of freight per year (thousand tons)	457	1,866
Number of running passenger trains per day	50	62
Number of running freight trains per day	16	34
Running time of executive class train between Kroya and Kutoarjo (minutes)	68	58

**(2) Internal Rate of Return (Economic/Financial Internal Rate of Return)**

Based on the assumptions given below, the economic internal rate of return (EIRR) and the financial internal rate of return (FIRR) of this project will be 15.1% and 2.6%, respectively. The targeted section is Kroya-Kutoarjo section, including the components of signaling and telecommunication works and existing track replacement works that are not covered by this loan. On the other hand, EIRR and FIRR for Cirebon-Kroya section are not calculated and will be set when considering the main project loan.

**[EIRR]**

- (a) Cost: Initial investment expenses/operation and maintenance expenses, (excluding taxes and customs duties)
- (b) Benefit: Reduction of passenger travel time, passenger waiting time, passenger delays, passenger expenses, and freight expenses; environmental improvements
- (c) Project Life: 40 years after project completion

**[FIRR]**

- (a) Cost: Initial investment expenses, operation and maintenance expenses
- (b) Benefit: Railway service income
- (c) Project Life: 40 years after project completion

<b>6. External Risk Factors</b>
Reliability of cement transport.
<b>7. Lessons Learned from Findings of Similar Projects Undertaken in the Past</b>
Ex-post evaluations of similar projects in Indonesia's existing railway sector offered the following advice: (1) although the objectives of strengthening transport capacity and reducing train delays have been achieved, there are cases where declines in the sustainability of project benefits have been seen due to inadequate operation and maintenance organizations; and (2) technical assistance is required in the area of railway administration in order to improve profitability and organizational administration. In accordance with this advice, assistance for improving administration of the railway sector, assistance for establishing standards and regulations concerning train operation and maintenance, and assistance for introducing asset management systems are included in the consulting services under this project's E/S loan. JBIC will promote supervision and implementation through progress reports and the like.
<b>8. Plans for Future Evaluation</b>
(1) Indicators for Future Evaluation (a) Number of passengers per year (thousand persons) (b) Volume of freight (thousand tons) (c) Number of running passenger trains per day (d) Number of running freight trains per day (e) Running time of executive class train between Kroya and Kutoarjo (minutes) (f) Economic internal rate of return (%)/financial internal rate of return (%)
(2) Timing of Next Evaluation Two years after project completion