

Ex-Ante Evaluation (for a Japanese ODA Loan)

1. Name of the Project

Country: The Republic of Tunisia

Project: Metropolitan Railway Electrification Project (II)

Loan Agreement: March 11, 2010

Loan Amount: 45.96 million yen

Borrower: The Government of the Republic of Tunisia

2. Background and Necessity of the Project

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

The population of the Tunis metropolitan area is approximately 2.39 million (as of 2008), and is the center of the economy, society, and the administration of Tunisia. The population growth rate of the metropolitan area has reached 1.5% per year. Due to the geographical constraints, the increasing population has led the city to expand rapidly to the north and south, and is causing a serious rush-hour traffic congestion problem and environmental aggravation. The number of private automobiles per 1,000 people has rose from 60 in 1994 to 100 in 2002, due to the relaxation of automobile import regulations, etc., in the recent years. Moreover, the traffic volume is predicted to rise 2.6% per year by 2021, and is obvious that the problem is worsening.

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

In the Ninth National Development Plan (1997-2001), the Government of Tunisia claims to implement the following three for the railway sector; a) Administrative improvement of SNCFT (*Société Nationale des Chemins de Fer Tunisiens* - national railway company of Tunisia), b) Construction of railway network as an urban public transportation (especially the suburban line in the southern part of the Tunis metropolitan area including this project), c) Upgrading of the long-distance arterial line. In response to the background described in above (1), in the Eleventh National Development Plan (2007-2011), the public transportation network including railways and buses, etc., especially the railway is prioritized for the transportation sector. In 2005, a policy for developing an express railway network that connects the center of Tunis and the suburban areas was established, which this project is positioned as the priority of this policy in the beginning stages. In order to implement such projects including this one, the Government of Tunisia raised the budget four times from the Tenth National Development Plan (2002-2006) which was 4.52 million dinars, to 17.82 million dinars in the Eleventh National Economic and Social Development 5-year Plan (2007-2011).

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

Out of the policies of Japan and the priority area of the JICA assistance, this project applies to the “level up assistance of industries” and “assistance to activities with environmental consideration”. Therefore, the necessity and relevance for the assistance as a part of the

economic infrastructure development to the transportation sector, and air pollution control of is high. Japan also contributed to the reduction of congestion in the metropolitan area, by giving financial support for the *Rades-La Goulette Bridge Construction Project* in 1999.

(4) Other Donor's Activity

With regards to the assistance by other main donors to the Tunisian railway sector are the World Bank, African Development Bank (AfDB), European Investment Bank (EIB), and Agence Française de Développement (AFD), etc.

(5) Necessity of the Project

This project is an additional investment of the *Metropolitan Railway Electrification Project* which the Loan Agreement was concluded in February 2001. This existing project, which was bid during the exchange fluctuation and global elevation of material costs (iron, copper, aluminum, etc.) in 2007, the project cost was deemed to exceed the initial estimation. Therefore, reduction of the project scope, such as reducing the number of train cars was executed. However, the contract amount is still above the initial estimation, thus the Government of Tunisia requested for an additional ODA Loan in January 2008.

As described in above (2) and (3), the significance of this project within the Government of Tunisia is at high degree, and also matches the assistance policy of JICA. Therefore, considering that the Government of Tunisia is to make self-help efforts such as to reduce the project scope and increase the share of costs, providing an additional ODA Loan Project is highly necessary.

3. Project Description

(1) Project Objectives

The objective of the project is to correspond to the increasing transportation demand in the southern part of the Tunis metropolitan area, reduce traffic congestion by shifting the transportation from road to railway, and contribute to the alleviation of air pollution through electrification of the 23 km-railway (Tunis – Borj Cedria) of the southern metropolitan area.

(2) Project Site/Target Area

Tunis metropolitan area

(3) Project Components

- 1) Procurement of train cars (54 cars)
- 2) Electrification of 23 km of railway between Tunis and Borj Cedria
- 3) Development of related facilities (signal lights, tracks, facilities, and civil engineering)
- 4) Consulting services

(4) Estimated Project Cost (Loan Amount)

25,430 million yen (Loan amount at Phase I: 13,171 million yen, Loan amount at this phase: 4,596 million yen)

(5) Schedule

The planned implementation schedule of the project is from December 2001 to September 2010 (106 months in total). The use of the facilities will start in September 2010, which is

regarded as the completion date of the project.

(6) Project Implementation Structure

- 1) Borrower: The Government of the Republic of Tunisia
- 2) Executing Agency: Société Nationale des Chemins de Fer Tunisiens
- 3) Operation and Maintenance System: Same as 2)

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

1) Environmental and Social Consideration

- a. Category: B
- b. Reason for Categorization: This project is an electrification project of the existing railway, and there are no corresponding sectors, characteristics, or districts that fulfill Classification Category A requirements as listed in the “Japan Bank for International Cooperation Environmental Guidelines for ODA Loans” (established October 1999). Therefore, this project corresponds to Classification Category B. (Furthermore, it also does not correspond to major items for the railway sector in “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations” (established April 2002), and was deemed that its potential adverse impacts to environment was minor, and, was also not correspondent to the characteristic likely to cause impact or be an area likely to be affected as described in the said Guideline. Therefore, it corresponds to Category B.)
- c. Environmental Permit: Although the domestic law of Tunisia does not require the preparation of an Environmental Impact Assessment (EIA) report as related to this project, the report has already prepared on February, 2006.
- d. Anti-Pollution Measures: The implementing agency and the construction company shall take appropriate measures for the environmental impact during the construction.
- e. Natural Environment: The target area of the project is not in or on the periphery of national parks or other places that are vulnerable to environmental impacts. It is therefore expected that the negative impacts of the project on the natural environment will be limited to the minimum.
- f. Social Environment: This project shall be implemented within the property of the Government of Tunisia, such as the existing railway sites, thus land acquisition, or relocation of residents are not required.
- g. Other/Monitoring: The consultant shall monitor the environmental impact during construction.

2) Promotion of Poverty Reduction

The implementation of this project is expected to bring benefit to a wide range of groups including the low-income population.

3) Promotion of Social Development (e.g. Gender Perspective, Measure for Infectious Diseases including HIV/AIDS, Participatory Development, Considerations for Persons with Disabilities, etc.) :

(8) Collaboration with Other Donors: None.

(9) Other Important Issues: None.

4. Targeted Outcomes

(1) Performance Indicators (Operation and Effect Indicator)

Indicator		Baseline at Appraisal of Phase I (1999)	Baseline (Actual Value in 2007)	Target (2012) 【Expected value 2 years after project completion】
a. Operation Indicator				
Operation rate (Operating days/365 days) (%)	Haulage train	61.2	78.00	95.90
	Passenger car	84.4	81.00	95.90
Run time of train/day (hr)		93	93	86
Running distance of train/year (1,000km)		995	985	1,313
Number of operations (number of trains/day)		118	112	160
b. Effect Indicator				
Time required for specific area (min)	Local	48	46	35
	Express	32	32	25

(2) Internal Rate of Return

Based on the conditions indicated below, the Economic Internal Rate of Return (EIRR) of this project is 32.67%, and the Financial Internal Rate of Return (FIRR) of this project is 3.28%.

【EIRR】

Cost: Construction cost, operation and maintenance cost (excluding tax)

Benefit: Saving traveling time, congestion reduction of existing roads, reduction of driving cost of the reduced automobile transport, reduction of road accidents, maintenance cost of diesel cars, etc.

Project Life: 20 years

【FIRR】

Cost: Construction cost, operation and maintenance cost

Benefit: Fare income, government subsidy

Project Life: 20 years

5. External Factors and Risk Control

No particular factors of risks.

6. Lessons Learned from Past Projects

In the post-project evaluations of similar projects of other countries of the past, it is described that “When implementation of ODA Loan Projects and operation/maintenance is carried out

by public companies, care must be especially taken to the sustainability of the finance of the public company". With this in mind, government subsidy policies are taken in account for this project in order to ensure the financial sustainability. However, it is also important that appropriate policy is maintained, and to follow up such policy.

7. Plan for Future Evaluation

(1) Indicators to be Used

- 1) Operation rate (%)
- 2) Run time of train/day (hr)
- 3) Running distance of train/year (1,000km)
- 4) Number of operations (number of trains/day)
- 5) Time required for specific area (min)
- 6) Internal Rate of Return EIRR,FIRR (%)

(2) Timing

Two years after project completion