

## Ex-ante Evaluation

### **1. Name of the Project**

Country: Kingdom of Morocco

Project: Marrakech-Agadir Motorway Construction Project

(Loan Agreement: 03/31/2006; Loan Amount: 17,726 million yen; Borrower: Société Nationale des Autoroutes du Maroc (ADM))

### **2. Necessity and Relevance of JBIC's Assistance**

In Morocco, the annual average daily traffic volume of highways nationwide has reached 5 million vehicles, and roads are providing the primary means of transportation and movement. Thus, there is a strong demand for more and better highways in order to reduce travel time and increase driving safety. Moreover in recent years, the demand for transportation has been increasing together with economic development. The number of vehicles owned rose by approximately 200,000 between 2000 and 2003 (to approximately 1.8 million vehicles), and the number of people who newly acquired driver's licenses increased by approximately 50,000 persons between 2000 and 2003 (to approximately 250,000 persons). Tourism has also been in an uptrend in recent years; Morocco's Ministry of Tourism has created a plan with the goal of attracting 10 million tourists in 2010 and is hastening to build tourism facilities in the major tourist cities such as Marrakech and Agadir. In addition to responding to this increased demand for transportation and tourism, it is also very necessary to improve the highway network from the standpoint of safety because numerous traffic accidents are occurring due to delays in improvement of the country's existing national highways. Furthermore, because the flow of trade is expected to increase due to the upcoming abolition of customs' tax between Morocco and Europe, promotion of trade with other African countries, and the Free Trade Agreement with the US, one of the country's priority issues is expansion and construction of a highway network for transportation to promote tourism and trade.

Currently in Morocco, there exists a highway network consisting of 611 km (2005) in total, centered around Rabat. The plan is to construct approximately 150 km annually from 2005 to 2010, to build a highway network that will total 1,419 km, including the preexisting portion. Moreover, highway construction was designated as an important component of Morocco's development plan up to 2004 and is expected to continue as an important component in the Economic and Social Development Plan (5-Year Plan) (2007 – 2011) currently being composed. In the Highway Master Plan prepared in 1991 by Morocco's Ministry of Public Works and Transportation, the goal is to construct a highway network of 1,500 km by 2010 that will cover the entire country from east to west and north to south. This project is located at the terminal point of the north-south route of this highway network, and so it is expected to increase the tourism demand by connecting the two major tourist destinations of Marrakech and Agadir and to promote trade not only domestically but also with Europe, other African countries, and the US.

In JBIC's current Medium-Term Strategy for Overseas Economic Cooperation Operations (FY2005 – FY2007), priority is placed on assistance to the sector of "infrastructure development for sustainable growth," and emphasis is placed on support for the promotion of sustainable economic growth through economic and social infrastructure development, including highway construction. Moreover, in Morocco, a priority area is measures for "development of economic and social infrastructure for

transportation and tourism, etc.” Therefore, as the assistance provided by this project is consistent with the above policies, JBIC’s assistance is highly necessary and highly relevant.

### **3. Project Objectives**

The objective of this project is to respond to the increasing demand for transportation by constructing a highway linking Marrakech and Agadir, which are centers of economic activity and tourism in Morocco, and thereby contribute to the promotion of trade both domestically and with Europe, etc., and to the revitalization of Morocco’s economy by promoting tourism.

### **4. Project Description**

(1) Target Area: Marrakech to Agadir (234 km total length)

Segment 1: Marrakech to Chichaoua (84 km)

Segment 2: Chichaoua to Argana (92 km)

Segment 3: Argana to Ameskroud (46 km) \*segment financed by this project

Segment 4: Ameskroud to Agadir (12 km)

(2) Project Outline

This is a project to construct a highway with two lanes in each direction in the above-mentioned segment (i.e., civil engineering, equipment and materials procurement, consultant service (work supervision)).

(3) Total Project Cost/Loan Amount

30,097 million yen (Yen Loan Amount: 17,726 million yen)

(4) Schedule

March 2006 – November 2009 (45 months)

(5) Implementation Structure

(a) Borrower: Société Nationale des Autoroutes du Maroc (ADM)

(b) Guarantor: The Government of the Kingdom of Morocco

(c) Executing Agency: Same as (a)

(d) Operation and Maintenance System: Same as (a)

(6) Environmental and Social Consideration

(a) Environmental Effects/Land Acquisition and Resident Relocation

(i) Category A

(ii) Reason for Categorization

This project is classified as Category A because it is in the road sector, as stated in the “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations” (established April 2002).

(iii) Environmental Permit

The EIA report is not required for the project in Morocco’s legal system, but an EIA report was completed in July 2003.

(iv) Anti-Pollution Measures

Significant negative impact from air pollution and noise is not foreseen given the current air quality and surrounding environment. However, if problems are detected during monitoring, ADM will take appropriate measures to alleviate the problems. Furthermore, the construction companies are obligated by ADM to take appropriate measure to alleviate environmental impact during construction.

(v) Natural Environment

Concerning the numerous argan trees growing in the project area, ADM will plant an area in argan trees that is twice the size of the area cut for this project.

(vi) Social Environment

The project requires land acquisition of about 460 ha and the relocation of two residents' households, which will be implemented in accordance with the country's domestic procedures by the Department of Roads (DRCR) of the Ministry of Public Works and Transport. Compensation will be paid for usage rights, etc., of the argan trees planted on land owned by High Committee for Water, Forestry and Desertification Control (HCEFLCD) .

(vii) Other/Monitoring

During construction, monitoring will be conducted on the water quality, river flow volume, and establishment of the argan trees. After completion, monitoring will be conducted on the air quality, noise, water quality, and river flow volume.

(b) Promotion of Poverty Reduction

None

(c) Promotion of Social Development (e.g. Gender Perspective)

None

(7) Other Important Issues

-AfDB plans to finance the construction of auxiliary equipment such as road signs and guardrails for the entire length of the Marrakech – Agadir highway.

-In conjunction with this project, ADM plans to hold seminars concerning traffic safety measures at its own expense.

**5. Outcome Targets**

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

Indicator	Target
	2012 (2 years after completion)
Annual average daily traffic (AADT) (vehicles/day)	6,396
Reduction of vehicle operating cost (VOC) (MAD) **	406.2
Reduction of travel time (MAD)	96.8
Reduction of traffic accidents (MAD)	66.7

\*: The operation and effect indicators are set for the road segment financed by this project (Argana to Ameskroud), but the figures were calculated premised on the entire length being open to traffic.

\*\* : The currency of Morocco is dirhams, which is abbreviated as “MAD.”

(2) Internal Rate of Return

Economic Internal Rate of Return (EIRR): 11.5%

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

<p>(b) Benefit: Reduction of vehicle operating cost, reduction of travel time, and reduction of traffic accidents</p> <p>(c) Project Life: 35 years</p> <p>Financial Internal Rate of Return (FIRR): 3.9%</p> <p>(a) Cost: Project cost, operation and maintenance expense</p> <p>(b) Benefit: Income from toll fees</p> <p>(c) Project Life: 35 years</p>
<p><b>6. External Risk Factors</b></p>
<p>It is necessary that construction of the segments financed by other donors be carried out on schedule, so that they can be smoothly connected with the segment financed by this project and the effects of the project can be realized.</p>
<p><b>7. Lessons Learned from Findings of Similar Projects Undertaken in the Past</b></p>
<p>In previous ex-post evaluations, it has been learned that a schedule that meets with residents' approval should be prepared for land acquisition. Therefore, adequate information will be gathered concerning the time required for land acquisition procedures and residents' opinions, etc.</p>
<p><b>8. Plans for Future Evaluation</b></p>
<p>(1) Indicators for Future Evaluation</p> <p>(a) Annual average daily traffic (AADT)</p> <p>(b) Reduction of vehicle operating cost (VOC)</p> <p>(c) Reduction of travel time (MAD)</p> <p>(d) Reduction of traffic accidents (MAD)</p> <p>(e) Economic internal rate of return (EIRR)</p> <p>(f) Financial internal rate of return (FIRR)</p> <p>(2) Timing of Next Evaluation</p> <p>After project completion</p>