

JBIC ODA Loan Project Mid-Term Review 2006

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Field Survey: July 2007

Project Title: The Republic of Tunisia “El Jem – Sfax Motorway Construction Project” (L/A No. TS-P23)

[Loan Outline]

Loan Amount / Contract Approved Amount / Disbursed Amount : 12,501 million yen / 7,380 million yen / 6,101 million yen (as of the end of May 2007)
Loan Agreement : March 2002
Loan Expiry Date : December 2009 (7 years following the effective date of L/A)
Executing Agency : Société Tunisie Autoroutes (STA)
Operation and Maintenance Agency : Société Tunisie Autoroutes (STA)
Selection Criteria for Mid-Term Review : Progress Report has not been obtained

[Project Objective]

The objective of this project is to establish efficient production and distribution systems in the area south of Tunis, the capital of Tunisia, by building a highway (50.3 km long) and an access road (6.0 km long) between the cities of El Jem and Sfax, and thereby contribute to the integrative economic development in the north and south of Tunisia.

Consultants: Nippon Koei Co., Ltd. (Japan), SCET Tunisie (Tunisia)

Contractors: Afrique Travaux/Soroubat (Lot 1: between El Jem and El Hancha), SBF/ETEP (Lot 2: between El Hancha and Sfax) (Tunisia)

[Mid-Term Review Result]

Item	Ex-ante Evaluation (March 2002)	Result of mid-term review and ex-post evaluation results as estimated at time of mid-term review
Relevance	(1) National policy level The government of Tunisia is currently working on its 10 th Five-Year Plan (2002–2006). In continuation of the policy it adopted in the 9 th Five-Year Plan (1997–2001), the government is considering the adoption of “infrastructure building to enhance industrial competitiveness” as part of its policy guidance. The transportation sector plays a pivotal role in	(1) National policy level In the 11 th Five-Year Plan (2007–2011), the government of Tunisia sets the goal of achieving an annual economic growth rate of 6.1% through, among other things, market opening, rise in productivity, and creation of new jobs. In this plan, the transportation sector continues to occupy an important position for strengthening the industrial

infrastructure building to strengthen industrial competitiveness by facilitating and accelerating the distribution of goods.

Meanwhile, accompanying the conclusion of a free trade agreement with the EU (1995), the tariff barriers that now exist between Tunisia and the EU are scheduled to be gradually removed (and completely removed by 2008); thus paving the way for the activation of trade and distribution of goods between Tunisia and the EU. Accordingly, building the transportation infrastructure of the target area is an important task.

(2) Policy level

In light of the fact that within the transportation sector, roads account for more than 90% of passenger traffic and over 80% of freight traffic of the total ground transportation, road maintenance and improvement have a strong impact on Tunisia's economic activities. In the 9th Five-Year Plan, the largest portion of the transportation sector budget is allocated to the road sector.

Investment in the transportation sector
(Unit: million dinar)

	8 th Five-Year Plan (1992–1996)	9 th Five-Year Plan (1997–2001)
Road	487	781
Rail	290	336
Port	157	625
Air service	646	630

competitiveness of Tunisia. In particular, with regard to the development of a network of highways, it is important to continue investing to further promote various forms of exchanges, including economic exchanges with neighboring countries, activation of trade, and promotion of tourism. In connection with this, the plan points out the need to promote the building of arterial highways and regional roads, as well as the establishment of a network of roads for linking industrial belts and commercial cities.

The schedule for removing all tariff barriers by 2008 remains in effect. As was assumed at the time of the ex-ante evaluation, trade and distribution are expected to remain brisk in 2008 and beyond. Thus the importance of this project on a national policy level is recognized.

(2) Policy level

The position and importance of the road sector for the transportation sector as a whole remain unchanged. The table below shows the amount earmarked in the National Development Plan (10th and 11th Five-year Plans) for investments in the transportation sector after the ex-ante evaluation. At 57% and 31%, respectively, the government allocated the largest part of its transportation sector budget to the road sector in both the 10th Plan and the 11th Plan. Thus the importance of the road sector remains high.

Investment in the transportation sector
(Unit: million dinar)

	10 th Five-Year Plan (2002–2006)	11 th Five-Year Plan (2007–2011)
Road	1,558	2,057
Rail	409	1,782
Port	178	1,003
Air service	527	1,685

Others	27	43
Total	1,607	2,415

Source: Ministry of Economic Development

Building highways is emphasized in road maintenance and improvement as the backbone for strengthening Tunisia’s industrial competitiveness by streamlining the distribution of goods and movement of people. Thus the government adopted a highway development plan in September 1998. On the basis of that plan, the government is building a highway system radiating out from Tunis, the capital, centering on three axes. The first axis extends southward for about 260 km, the second axis westwards for about 140 km, and the third axis northward for about 50 km. The government’s goal is to build, by 2012, five highways covering a total road length of about 520 km.

(3) Planning level

The existing national road (GP1 Route [the section targeted in this project included]) that connects Tunis, the capital, to Sfax, Tunisia’s second largest city, is an important arterial road in Tunisia, and as such, there is a lot of traffic (especially large trucks and other commercial vehicles). The said national road is a two-lane (one-lane each direction) public road, and accompanying the intensification of economic activities of the area, vehicle traffic is projected to increase on average by 4.6% annually in the coming years, thus giving rise to concerns about, among other things, an increase in the number of traffic accidents and travel time. Thus, in order to solve this problem, as well as to increase safety and streamline the distribution of goods, there is a strong need to build the proposed new highway.

Others	55	80
Total	2,727	6,607

Source: Ministry of Development and International Cooperation

The highway development plan that was confirmed at the time of the ex-ante evaluation is still being implemented, and this project is being executed as part of that plan. The part that is being built under this project is the 50.3 km between El Jem and Sfax of the section “extending southward for about 260 km” from Tunis, as noted in the left column. This route is being constructed concurrently with the Msaken–El Jem Route, which is being built with assistance from the European Investment Bank (EIB). When the 97.7 km route linking Msaken to Sfax is completed, a total of 356 km of highway, or 68%, of the overall highway construction plan (total length: 520 km) will be opened to traffic.

(3) Planning level

The overland route southbound from Tunis along the coast of the Mediterranean to the Libyan border is very important. Sfax is continuing to develop as a commercial city and is also becoming a center of industrial development. This is evidenced by the formation of a new urban district resulting from the development of the seaside area and the plan to build a new petroleum refinery in a suburb south of the city. In addition, in light of the plan to build a new airport in a suburb of Sousse, which is located in the north of Msaken, the projection that traffic will increase annually by 4.6% appears reasonable. Consequently, the need for this project and the high priority placed on it have not changed since the ex-ante evaluation.

Since this project is consistent with Tunisia’s national policies and measures and the strong need for highway construction has been confirmed, this project is judged to be highly necessary and relevant.

Effectiveness (Impact)	(1) Operation and effect indicators			
	(i) Quantitative effects			
	Name of indicators	Before the highway is placed in service (2006)	7 years after the highway is placed in service (2013)	
	(a) Operation indicator			
	Daily traffic (average 1 day traffic/year)	Existing national road	14,338	10,762
		Highway to be built under this project	-	10,762
	(b) Effect indicators			
	Reduction in travel expense (dinar)		42.94	39.25
	Reduction in travel time		1 hr. 36 min	55 min
	Reduction in traffic accidents (No. of accidents)	Existing national road	94.3	64.6
		Highway to be built under this project	-	57.0
	(c) Internal rate of return			
	EIRR (Economic internal rate of return)	18.9%		
	FIRR (Financial internal rate of return)	4.5%		

Effectiveness (Impact)	(1) Operation and effect indicators			
	(i) Quantitative effects			
	Name of indicators	At the time of mid-term review (2007)	7 years after the highway is placed in service (2015)	
	(a) Operation indicator			
	Daily traffic (average 1 day traffic/year)	Existing national road	-	11,775
		Highway to be built under this project	-	11,775
	(b) Effect indicators			
	Reduction in travel expense (dinar)		-	39.25
	Reduction in travel time		-	55 min
	Reduction in traffic accidents (No. of accidents)	Existing national road	-	64.6
		Highway to be built under this project	-	57.0

With regard to the operation indicator, since none of the roads being built under this project has been placed in service, there are no data available on “the highway to be built under this project.” The Ministry of Equipment and Housing gauges the traffic volume on existing national roads once every five years. At present, the Ministry is gauging

	<p>(ii) Qualitative effects</p> <p>Building a highway connecting Tunis, the capital, to the commercial and industrial city of Sfax, the second largest city in Tunisia, can be expected to spur economic activities and promote industrial development of the region.</p>	<p>the traffic on existing roads to determine the average daily traffic for 2007. As for numerical calculations of the operation indicator, after consultation with the Société Tunisie Autoroutes (STA), the executing agency of this project, it was judged that the targeted value established at the time of ex-ante evaluation would continue to be valid. On the other hand, owing to the construction delay, the highway will not be placed in service until 2008 or later. Consequently, the target year is now projected to be 2015 (or 7 years after the highway is placed in service). If the traffic is calculated by applying the demand forecast at the time of ex-ante evaluation (4.6% annual increase in traffic volume) and on the basis of the 2006 forecast, the tentative results for 2015 would be 11,775 vehicles (for both the existing national road and the highway to be built under this project).</p> <p>With regard to effect indicators, the target values are set for after the highway is placed in service. However, in light of the fact that the scale of the road is the same as the scale adopted in the original plan and the fact that the target values of the project at the time of ex-ante evaluation are judged to continue to be valid, it will not be necessary to change the effect indicators.</p> <p>(ii) Qualitative effects</p> <p>Intensification of economic activities and promotion of industrial development can be expected due to a host of factors. They include: the redevelopment of the section of Sfax along the seaside and the formation of a new urban, the progress of industrialization in the suburbs, the plan to build a new airport in a suburb of Sousse, and the activation of trade with Libya. At present, there are no foreseeable external factors that threaten these qualitative effects. Thus it is expected that these qualitative effects will be fully expressed when it becomes time to conduct the ex-post evaluation.</p>
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	<p>(2) Factors that may influence the effectiveness and impact</p> <p>(i) Environmental and social consideration</p> <p>It has been confirmed that there will be no marked impact on the environment along the highway. This is because: there are no homes and other noise sensitive targets (e.g., schools, hospitals, or libraries) within the range that might be subjected to noise impact; and during construction, the waste water that will be generated will be treated at an effluent treatment facility and solid waste will be treated at a waste treatment facility.</p> <p>The consultant that will be hired for this project will monitor the environmental and social impacts of the project.</p> <p>(ii) Resident relocation and land acquisition</p> <p>While this project will require acquisition of 392 ha of land and relocation of poultry houses of a poultry farm along the access road, there will be no need to relocate residents. With regard to the land acquisition, the Ministry of Equipment and Housing will carry out the land acquisition based on the calculation of the value of the land in question. The land acquisition committees set up by the various local governments of the area covered in the project (also with participation of the government of Tunisia, farmers' organizations, etc.) will be handling the various aspects of land acquisition, including explaining to the landowners the need for such acquisition and negotiating with them to bring the acquisition about. Calculation of the value of land slated for acquisition was completed by the time of appraisal, and by mid-2002, it is expected that an agreement with landowners regarding land acquisition will be reached.</p> <p>(iii) Sharing of roles with other donors</p> <p>EIB is scheduled to finance the construction of the Msaken–El Jem Route, the northern section of this project. The route is scheduled to be completed at the same time as this project, so it will be necessary to</p>	<p>(2) Factors that may influence the effectiveness and impact</p> <p>(i) Environmental and social consideration</p> <p>The impact on the environment is the same as the impact that was assumed at the time of ex-ante evaluation discussed in the left column. The noise damage inflicted during construction, the contamination caused by wastewater, the problem accompanying the treatment of solid waste, and other problems have not materialized. The project is being implemented as all necessary approvals and licenses required for construction have been obtained.</p> <p>The consultants are monitoring the environmental and social impacts of the project in an appropriate manner.</p> <p>(ii) Resident relocation and land acquisition</p> <p>The Ministry of Equipment and Housing completed the acquisition of land as planned. None of the residents have been required to relocate.</p> <p>In the end, the need to relocate the poultry houses from the poultry farm did not materialize. Parts of the poultry farm were on the land that was used for the road construction, but these parts were acquired by paying the owners compensation money. Thus construction of the road has progressed without a hitch. In the process of inspecting the sites, it was confirmed that there was sufficient distance from the poultry houses to the targeted parts of the road construction, and also in the hearings held for the employees, it was confirmed that there was no problem.</p> <p>(iii) Sharing of roles with other donors</p> <p>The section targeted for EIB investment (the Msaken–El Jem Route) and this project (the El Jem–Sfax Route) are projected to be completed at virtually the same time (March 2008). Thus it is projected that the</p>
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follow up the progress.

(3) Factors that may influence the sustainability

(i) Operation and maintenance system of Société Tunisie Autoroutes (STA)

Established in 1992 with the aim of building, operating and maintaining the nation's highways, STA builds, operates and maintains highways on the basis of concession agreements it concludes with the government. As of end of 2001, 87% of its capitalization was funded by the government; the rest was funded by public organizations, including state-run banks.

As of end of 2000, STA was staffed by 217 employees.

With regard to the toll collection and operation and maintenance of highways, the executing agency plans to set up within the STA an Operational Sub-division for each highway (comprised of 50 toll collectors and 20 operation and maintenance personnel for each highway).

effectiveness of this project will not be influenced.

(3) Factors that may influence the sustainability

(i) Operation and maintenance system of Société Tunisie Autoroutes (STA)

As of end of 2005, the government of Tunisia owned 95.99% of the STA's shares, up from the 87% it owned at the end of 2001.

As of end of 2006, STA was staffed by 363 employees. The change in the number of personnel and the projected increases in the coming years are shown in the table below. The cost of employing and increasing the STA staff as well as its general administration cost are, as a rule, borne by STA, and in no way, directly or indirectly, is the government involved. Consequently, the feasibility of increasing the staff level after 2007 will largely depend on how well STA manages its financial affairs. Thus STA's financial standing in the coming months and years will need to be monitored very carefully.

Changes in the number of STA personnel and
projected increases in the coming years

2003	2004	2005	2006	2007	2008	2009
				(projected)	(projected)	(projected)
353	358	360	363	377	446	530

Source: Société Tunisie Autoroutes (STA)

The Operational Sub-division for the Msaken-Sfax Route, which includes the section being built under this project, has not been set up as of this moment, but it is scheduled to be set up when the construction is completed and the route is opened to traffic. In the current plan, the Operational Sub-division was to be staffed by a total of 84 members (those assigned to the toll collection group and operation and maintenance group.) The infusion of personnel with technical

	<p>(ii) STA's financial status and management conditions</p> <p>As of 2002, STA was operating in the black, with a robust financial standing. In 1990, highways in Tunisia began collecting toll, and on the basis of a request made by STA, it is projected that the toll will be raised in the future. Under its efficient operation system, it is projected that the ratio of operating earnings to operating costs will generally be balanced at the preset 2 to 1 ratio. Thus there is no particular concern about Tunisia's ability to service the debt.</p> <p>At the request of the Tunisia side, the toll gates that will be installed under this project will be built with STA's own funds.</p>	<p>know-how is expected, thereby ensuring a distribution of personnel appropriate for the length of the route (97.7 km).</p> <p>The progress report is to be written by the director of the field office in Sfax belonging to STA and checked by the person in charge in the STA head office in Tunis. After the report is checked, it is to be submitted to JBIC under the name of the president of STA. The first installment of the progress report was delayed, but it was submitted to JBIC's Paris office in June 2007, that is, before the date of the field survey.</p> <p>(ii) STA's financial status and management conditions</p> <p>STA's capital adequacy ratio has been moving steadily within the range of around 46%–50%. Thanks to the increase in capital provided by the government, the amount of paid-in capital from 1998 to 2006 increased by about 32 fold. The liquidity ratio, which indicates the ability to make short-term payments, was 376% as of 2006, while the rate of net worth to fixed assets, which roughly indicates the ability to make long-term payments, at 140% as of 2006, was at a reasonable level. There is no problem from the viewpoint of the security of the financial structure.</p> <p>However, the profit ratio has been deteriorating every year due to increases in operating costs including the general administration cost, reconignment cost and operation and maintenance expenses of existing infrastructure (see table below), and as a result, the operating cash flow has not been stabilized. In 2003, in an effort to increase profit, STA applied to the government, and was given permission, to raise the toll on highways as well as to lower the concession fees, but as of this moment, this has not led to an improved financial standing for STA. Given that STA is a direct borrower of the Japanese ODA loan, it is important to continue carefully monitoring of its financial standing.</p>
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	<p>(iii) Technical capacity of STA in operation and maintenance</p> <p>STA has excellent ability in operation and maintenance as evidenced by its introduction of an automatic toll collection system using electronic cards.</p>	<table border="1" data-bbox="1301 213 2051 379"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> </tr> </thead> <tbody> <tr> <td>Gross earnings</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>Operating costs</td> <td>86.5%</td> <td>96.6%</td> <td>94.9%</td> <td>99.3%</td> </tr> <tr> <td>Operating earnings</td> <td>13.5%</td> <td>3.4%</td> <td>5.1%</td> <td>0.7%</td> </tr> </tbody> </table> <p>Source: Société Tunisie Autoroutes (STA)</p> <p>Toll gates in the section financed by the Japanese ODA loan are scheduled to be built with funds provided by EIB together with the toll gates slated to be built in the adjacent section, which is being supported by EIB. (In order to put to good use the reduction in construction cost that was achieved in the EIB supported section, the original plan in which STA was initially supposed to fund the undertaking was changed so that the toll gates could be built as part of an EIB project.)</p> <p>(iii) Technical capacity of STA in operation and maintenance</p> <p>At present, 16% of the toll is collected under an automatic toll collection system using electronic cards, compared to 84% which is collected manually. STA's policy is to continue to promote the spread of the electronic card system.</p> <p>As a matter of fact, a drive on the existing Tunis–Msaken Route and the Tunis–Bizerte Route revealed that roads and toll gates are in good condition, thus attesting to STA's high technical capacity in operation and maintenance.</p>		2003	2004	2005	2006	Gross earnings	100%	100%	100%	100%	Operating costs	86.5%	96.6%	94.9%	99.3%	Operating earnings	13.5%	3.4%	5.1%	0.7%
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<p>Information for reference</p>																						
<p>Efficiency</p>	<p>(1) Outputs</p> <p><u>(a) Civil engineering work</u></p> <p>(i) Highway (length: 50.3 km [asphalt pavement], width: 34.0 m, two lanes each way: 3.5 m × 4 = 14.0 m, central divide:</p>	<p>(1) Outputs</p> <p><u>(a) Civil engineering work</u></p> <p>The scope is virtually the same as in the original plan, and so no significant change has been made. (As a minor change, the number of</p>																				

	<p>12.0 m, road shoulders: $4.0\text{m} \times 2 = 8.0\text{ m}$)</p> <p>(ii) Access road (length: 6.0 km [asphalt pavement], width: 26.0 m, two lanes each way: $3.5\text{ m} \times 4 = 14.0\text{ m}$, central divide: 6.0 m, road shoulders: $3.0\text{ m} \times 2 = 6.0\text{ m}$)</p> <p>(iii) Exits: 3 locations</p> <p>(iv) Bridges: 4 locations</p> <p>(v) Overbridges: 27 locations</p> <p>(vi) Other structures (culverts, traffic safety facilities, etc.)</p> <p><u>(b) Consulting services</u></p> <p>(i) Construction management (site supervision, progress management, preparation of the progress report, etc.)</p> <p>(ii) Environment consideration (management and monitoring; items to be monitored include: quality of surface water and ground water, state of dust and other sources of air pollution, noise, soil pollution, impact on animal and plant life, etc.)</p> <p>The total assumed consulting services M/M is 343 M/M (including foreign and local consultants).</p> <p>(2) Project period March 2002–March 2006 (49 months)</p>	<p>bridges was changed from 4 locations in the original plan to 3 locations. This change was necessary because the 80-m bridge scheduled to be built in the Qued Cherita district was changed to a box culvert (an underpass that runs underneath the road.)</p> <p><u>(b) Consulting services</u></p> <p>Both TOR and M/M are as originally planned.</p> <p>(2) Project period March 2002–March 2008 (73 months) (planned)</p> <p>Construction was started in April 2005 and is scheduled to be completed in March 2008.</p> <p>The implementation period for the project as a whole was delayed mainly because selecting the consultants and contractors took longer than expected. (The selection of consultants was delayed for 2 years and 4 months, while that of contractors was delayed for 1 year and 6 months.)</p> <p>Meanwhile, at the time of the site inspection (July 2007), 60% of the construction work was completed, and as of the end of November 2007, about 80% has been completed. So now the goal is to complete the construction work by March 2008.</p>
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Lessons Learned and Recommendations	<p>[Lessons learned]</p> <ul style="list-style-type: none"> This project involves construction of a new highway, but because the highway is still under construction, and the highway has not yet been placed in service, no data are available on traffic volume. In the future, in preparing the ex-post evaluation after the completion of such a project, it is advisable to remind the executing agency to collect data required for measuring the operation and effect indicators and to develop a system necessary for this data collection. Additionally, in particular, in cases where a project is being implemented in countries where there are no local JBIC offices staffed with resident officers, or where the executing agency is implementing the Japanese ODA loan project for the first time, it will be necessary to remind the executing agency to periodically submit a progress report and strengthen the monitoring. <p>[Recommendations]</p> <ul style="list-style-type: none"> At the present moment, although this project is expected to be completed at the same time as the section being built with funds provided by EIB (March 2008), since there is a possibility that the construction in this project may not be completed as scheduled, it is necessary to follow up on the progress of the project so as to ensure proper expression of its effects. Since the profit ratio of STA, a direct borrower of the Japanese ODA loan, is deteriorating, it will be necessary to continue to carefully monitor its financial standing, especially its profit and loss standing and the movement of its cash flow. In order to ensure adequate cash flow in the future, two factors are required. First, as it did in FY2003, the government should approve necessary raise in the highway toll and reduction in concession fees that STA requests in the future. And second, STA should make certain that the operating expenses do not increase significantly. 	
Indicators set for use at time of ex-post evaluation	<p>Indicators assumed at the time of ex-ante evaluation</p> <ol style="list-style-type: none"> Daily traffic (average 1 day traffic/year) Reduction in travel expense (TD) Reduction in travel time Reduction in traffic accidents (No. of accidents) Internal rate of return: EIRR 18.9%, FIRR: 4.5% 	<p>While there are no changes in the items included in the evaluation indicators established at the time of the ex-ante evaluation listed in the left column, there is now a need to change the target year.</p>