Japanese ODA Loan

# Ex-Ante Evaluation of the Project

## 1. Name of the Project

| | |
|---|---|
| Country: | Republic of Tunisia |
| Project: | Local Cities Water Supply Network Improvement Project |
| Loan Agreement: | February 17, 2012 |
| Loan Amount: | 6,094 million yen |
| Borrower: | Société Nationale d'Exploitation et de Distribution des Eaux (SONEDE) |

## 2. Background and Necessity of the Project

### (1) Current State and Issues of the Waterworks Sector in the Republic of Tunisia

About half of the national territory of the Republic of Tunisia (hereinafter called Tunisia) is under the condition of half aridness, and rainfall is very small on the annual average, or 500 mm. Moreover, the rainfall and surface stream which can be used during the year are not spread uniformly and locally concentrated; therefore water resources are scare and very important for Tunisia. Thus, the efficient development of limited water resources and their adequate management are critical. To cope with these issues, the government of Tunisia has enhanced the networks of drinking water supply as well as water supply. Consequently, in 2007, they have achieved a water supply rate of 92.1% in rural areas, and 100 % in urban areas. In the future, a further increase of water demand is foreseen due to population growth in urban areas and enhancement of agricultural, industrial and tourism sectors. Additionally, the existing water supply facilities are aged. For this reason, in order to supply water in a continuous and stable manner, to cope with the tasks to improve facilities is needed urgently.

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

The government of Tunisia, with its "11$^{th}$ five-year social and economic development plan" (from 2007 to 2011), sets up the goals for enhancement of water supply capacity to respond to water demand increase, construction of water conveyance and supply networks, as well as those for improvement of water supply rate in regional areas, and improvement of management in technology and administration. The interim report of said plan (2009) states that during the past three years, the necessity was pointed out about responding to the increased water demand to individual households along with the increase in population to be water-supplied. Under this background, the strategy of enhancing the existing facilities as a subsequent means of stable water supply was firmly established. This project is given a status as priority and qualified as a beneficial scheme for the improvement in the supply capacity for future water demands and water supply stability, which may lead to vitalization of regional economy as well as to the environment improvement of regional inhabitants.

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

Japan, in the sector of waterworks, has supplied yen loans of nearly 43 billion yen for six projects, and in the irrigation sector, an aid of 26.8 billion yen for six projects and in the sewerage sector an aid of 6.4 billion yen for one project. The support to Tunisia in the field of water resources development has been given the first priority by Japan. This project is aimed at the efforts developed by Tunisia for the water supply stability and higher reliability, which is designed to support their further efforts in water resources management. It can be said that this project meets the requirements of "the support for the development and management of water resources", a key sector of Japanese economic cooperation to Tunisia. In addition, this project plans to supply with water 2,240,000 people, constituting 34% of 6,500,000 people in the goal of safe water supply of the TICAD IV Yokohama Action Plan.

### (4) Other Donors' Activity

The following organizations are involved in cooperation to the sector of waterworks in Tunisia; l'Agence Française de Dévelopment (AFD), KfW, World Bank, the European Investment Bank (EIB), etc.

### (5) Necessity of the Project

This project is aimed at responding the increased demand for water supply, and also is verified to meet the criteria for Japanese key aid fields. Because of this, the necessity and validity of implementing this project is highly justified.

## 3. Project Description

### (1) Project Objective

By improving the existing water supply facilities dispersed across the national territory, the Project aims to enhance the water supply capacity to cope with future water demand, and to stabilize the water supply. In turn, this will contribute to vitalization of regional economy and improvement of the living environment of residents.

### (2) Project Site/Target Area

Tunis metropolitan area, north, central and south regions (19 governorates)

### (3) Project Components

Renovation and enhancement of the existing water supply facilities in 19 governorates of Tunisia
- Civil engineering work, procurement of materials and equipment (national competitive bidding)
- Ductile cast-iron piping work (international competitive bidding)

### (4) Estimated Project Cost (Loan Amount)

8,267 million yen (including agreed loan amount: 6,094 million yen)

**(5) Schedule**

Planned for February 2012 - December 2018 (83 months in total); the Project will be completed when the facilities start operation (January 2018).

**(6) Project Implementation Structure**

1) Borrower: SONEDE
2) Guarantor: The Government of the Republic of Tunisia
3) Executing Agency: SONEDE
4) Operation and Maintenance System: SONEDE

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

1) Environmental and Social Consideration

(1) Category: B

(2) Reason for Categorization: The project is classified as Category B because it has been determined that the sector, the characteristics and the target area of the project do not come under the categories of sensitive sectors, sensitive characteristics or sensitive areas and that it will not have significant adverse impacts on the environment in light of the Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (established in April 2002).

(3) Environmental Permit
An environmental impact assessment (EIA) report for the project is not required under the Tunisian domestic law.

(4) Anti-Pollution Measures
For environment impacts of dust, noise, waste, etc., relevant measures are taken by contractor, according to necessity, such as watering, covering with soil dispersion-prevention sheets, use of low noise machines, and taking of appropriate waste measures at disposal sites, etc.

(5) Natural Environment
The target area is not located in or around any sensitive areas, such as national parks, and so any adverse impact on the natural environment is assumed to be minimal.

(6) Social Environment
The Project involves the acquisition of about 69 ha of land. The land will be acquired according to necessary procedures in Tunisia. The project will not require resettlement.

(7) Other/Monitoring
During construction and operation of the Project, the executing agency will monitor water quality, etc.

2) Poverty reduction
None in particular.

3) Promotion of Social Development (gender perspective, measures for infectious diseases including HIV/AIDS, participatory development, consideration for persons with disabilities, etc.)
By enhancement of the existing facilities, it is expected that measures of infectious diseases and life environment will be improved through permanent supply of safe drinking water.

**(8) Other Schemes and Collaboration with Other Donors:** None in particular.

**(9) Other Important Issues:** None in particular.

## 4. Targeted Outcomes

### (1) Quantitative effects

1) **Performance Indicators (Operation and Effect Indicator)**

| Indicator | Baseline (Actual Value in 2010) | Target (in 2019) [2 years after project completion] |
|---|---|---|
| Water supplied population (in thousand person) | 1,890 | 2,235 |
| Supplied water (1000 $m^3$/day) | 214 | 297 |

### 2) Internal Rate of Return

Economic Internal Rate of Return (EIRR):64.1%
[Assumption for EIRR]
Costs: Project cost (excluding taxes), operating and maintenance costs
Benefits: Marginal profits resulting from the savings in drinking water purchase
Project life: 30 years

Financial Internal Rate of Return (FIRR): 18.6%
[Assumption for FIRR]:
Costs: Project cost, operating and maintenance costs
Benefits: Revenue from water charges
Project life: 30 years

### (2) Qualitative effects

Vitalization of local economy, improvement and stabilization of the life environment of local residents

## 5. External Factors and Risk Control

None in particular.

## 6) Lessons Learned from Past Projects

### (1) Evaluation of similar past projects

The opinion of ex-post evaluation of past similar projects such as “Projects for the Development of Waterworks in China" was that it is necessary to develop the facilities not included in the scope of the project, which have the likelihood to exert an effect on the performance of the project.

### (2) Lessons for the Project

Through the appraisal, it is confirmed that the facilities relating to this project (water purification plants, etc.) are well developed.

## 7. Plan for Future Evaluation

### (1) Indicators to be used

1) Water supplied population (number of people)
2) Supplied water ($m^3$/day)
3) Economical Internal Rate of Return EIRR (%)
4) Financial Internal Rate of Return FIRR (%)

### (2) Timing

Two years after project completion