

**PROJECT INFORMATION DOCUMENT (PID)  
ADDITIONAL FINANCING**

Report No.: PIDA24338

<b>Project Name</b>	Tunisia - Northern Tunis Wastewater Project Additional Finance (P154713)
<b>Parent Project Name</b>	Tunisia Northern Tunis Wastewater Project (P117082)
<b>Region</b>	MIDDLE EAST AND NORTH AFRICA
<b>Country</b>	Tunisia
<b>Sector(s)</b>	Wastewater Collection and Transportation (100%)
<b>Theme(s)</b>	Pollution management and environmental health (70%), Water resource management (30%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P154713
<b>Parent Project ID</b>	P117082
<b>Borrower(s)</b>	Office National de l Assainissement (ONAS)
<b>Implementing Agency</b>	Office National de l Assainissement (ONAS)
<b>Environmental Category</b>	A-Full Assessment
<b>Date PID Prepared/Updated</b>	15-Apr-2015
<b>Date PID Approved/Disclosed</b>	21-Apr-2015
<b>Estimated Date of Appraisal Completion</b>	20-Apr-2015
<b>Estimated Date of Board Approval</b>	01-Jul-2015
<b>Appraisal Review Decision (from Decision Note)</b>	The review did authorize the team to appraise and negotiate

**I. Project Context**

**Country Context**

Tunisia is often seen as one of the leading performers in the MENA region in terms of economic and human development outcomes. However, despite past achievements, the Tunisian development model implemented for the past two decades preceding the 2011 Revolution failed to generate inclusive growth, in its most comprehensive sense. Significant steps toward a more open and transparent society, accountable public sector and a more inclusive economic system have been taken since the 2011 revolution, culminating with free and fair elections, as well as the adoption of a Constitution that lays the foundations for a new social contract.

**Sectoral and institutional Context**

The water and sanitation sector has followed a similar pattern. Tunisia remains one of the most advanced countries in the MENA region in terms of water management. It has achieved remarkable

results in water supply and sanitation, with all the urban population and 90 percent of the rural population having access to potable water, and 85 percent of the population having access to improved sanitation services. Its two national utilities, SONEDE for water supply services and ONAS for sewerage services, have historically provided satisfactory standards of services to the population, and established themselves among the best performers in the region. The country also made considerable efforts to mobilize its limited water resources, including through the promotion of innovative techniques such as aquifer recharge and wastewater reuse.

However, this system has come under increasing strain in more recent years, particularly since the 2011 Revolution, and in the sanitation sector. In the greater Tunis area (around 2.3 million inhabitants), although 86 percent of the volume of wastewater collected (96 million cubic meters) is treated annually in the existing wastewater treatments plants (WWTPs) of Northern Tunis, the current infrastructure does not allow for proper treatment and disposal of the effluents. This has mainly been due to:

- a. Increasingly strained human and financial resources due to years of under-staffing and insufficient recruitment, as well as reticence to increase tariffs adequately, both problems exacerbated by the political context since 2011;
- b. Several of the existing plants are chronically overloaded, and do not include Nitrogen and Phosphorus removal in the current treatment processes, with limited resources to rehabilitate or upgrade them. Projects to build additional capacity to alleviate the strain on existing WWTPs have suffered significant delays and have not yet come online;
- c. Lack of appropriate solutions for efficient disposal of treated wastewater (TWW), as efforts to promote reuse have yielded tangible results which are however far from being sufficient to address to entire volumes of TWW, and as only a limited number of submarine outfalls have been built to date.

The coastal and marine ecosystems in Tunisia are therefore increasingly threatened by the combination of (sometimes untreated) wastewater discharges as well as diffuse pollution from agricultural drainage. The Tunisian coast has been identified as a pollution “hot spot” for priority investments under the Strategic Action Program for the Mediterranean basin (SAP MED), the Strategic Action Program of the Mediterranean Action Plan (SAP-MAP) under the Mediterranean Sea Large Marine Ecosystem Strategic Partnership, a joint initiative of the countries of the Mediterranean Sea basin to address shared environmental problems. As the Gulf of Tunis is by far the biggest pollution “hot spot” in the country, resulting in significant adverse economic and environmental impacts, ONAS developed a master plan for wastewater collection, treatment and discharge which included:

- a. The transfer of the treatment load of approximately 700,000 inhabitants in Tunis West from the existing Northern Tunis WWTP system to a large new WWTP, situated at El Attar, the construction of which is on-going under World Bank financing (currently planned to be completed by June 30, 2017 after significant delays);
- b. The upgrade and rehabilitation of a number of existing WWTPs, including the critical Choutrana I and II WWTPs, to increase the current system’s performance (currently planned to be completed by 2016), as well as closing the Côtieres Nord WWTP which is the poorest performing one,
- c. The construction of a submarine outfall in the North of Tunis to discharge the 70 million cubic meters of wastewater treated by its system of WWTPs in an environmentally safe manner, complemented by the rehabilitation of the upstream TWW transfer section located between the existing WWTPs and the pumping station of Borj Touil (currently planned to be completed by

2018).

The improvement of the wastewater seashore discharge in the Gulf of Tunis, in addition to its positive impact on tourism and the environment, would therefore play a significant role in helping Tunisia comply with its commitment with the other countries of the Mediterranean basin in the framework of the SAP-MED and SAP-MAP international agreements. It would participate in the wider transnational efforts to reduce the pollution of the Mediterranean and protect its ecosystems.

In that perspective, the Government of Tunisia (GOT) also made it a national priority to protect sensitive ecosystems and reducing nutrient discharges in the Gulf of Tunis, in particular by developing the use of treated wastewater as a non-conventional source of water for agriculture and, wherever feasible, groundwater recharge. In 2010, TWW was being reused for the irrigation of 9,000 hectares of land, including 760 hectares of golf courses, and 340 hectares of parks – significant results when compared with the rest of the region, yet far from its full potential. GOT, together with ONAS, developed a national program for wastewater reuse, mainly as an alternative resource to cope with increasing water scarcity, but also aiming at minimizing treated wastewater discharge in the Mediterranean Sea by transferring it to irrigation perimeters located in central areas including Zaghouan, Nabeul and Kairouan areas, totalling a surface of over 25,000 hectares. This strategy included the promotion of the reuse of wastewater produced in the various WWTPs of the greater Tunis area in irrigation perimeters, either existing or to be developed close to the WWTPs. In Northern Tunis, the Borj Touil irrigation perimeter is the only irrigation perimeter where TWW can be reused. TWW has already been reused in Borj Touil, but with very low intensification rates as drainage and irrigation infrastructure is aging and is not working properly.

The development of TWW reuse was bolstered by the adoption in 2010 of a national program aiming to rehabilitate existing irrigation areas and develop new areas reusing TWW in agriculture. The objective of this new program, to be implemented by the Ministry of Agriculture (MARHP), was to increase by 2014 the national rate of TWW reused in agriculture from the initial 30 percent to 50 percent of the volume of TWW produced in Tunisia. The first tranche of investments under this Program included the rehabilitation of the Borj Touil irrigation perimeter and of other irrigation perimeters located in the South of Tunis. The extension of the Borj Touil irrigation perimeter by an additional 400 hectares was also being considered. At the time of appraisal of the Northern Tunis Wastewater project in 2010, a parallel project was being prepared to finance the rehabilitation and extension of the Borj Touil irrigation perimeter, under the responsibility of the Ministry of Agriculture and its local agencies. The objective would have been to afford the project a strong demand base for reuse of its treated wastewater as well as the opportunity to develop effective coordination mechanisms between ONAS and the Ministry of Agriculture.

Since 2011, both the development of reuse of treated wastewater and the modernization of the irrigation sector have not made any significant progress. There have been recurrent problems with the quality and timely availability of the TWW made available by ONAS to irrigation perimeters, resulting in significant resistance from farmers to increase its usage. The integration of treatment station projects and irrigated perimeters have remained poor, and coordination between ONAS and the departments within the Ministry for Agriculture in charge of irrigation insufficient. In particular, the Borj Touil reuse project preparation stalled following the events of 2011. In 2014, the Government shifted its strategy away from reuse in Borj Touil, towards a more comprehensive irrigation modernization strategy, and the request for financing of the rehabilitation and extension of the Borj Touil irrigation perimeter was rescinded. Despite this turn of events, ONAS remains

faced with significant challenges for the implementation of an ambitious strategy to improve its wastewater treatment infrastructure and promote the reuse of treated wastewater in agriculture, to minimize the impacts of the discharge of TWW in the Gulf of Tunis. Continued support by the Bank therefore appears largely justified.

## II. Proposed Development Objectives

### A. Current Project Development Objectives – Parent

The project development objectives of the Project are to: (a) provide an environmentally safe disposal system for the treated wastewater which will not be reused in agriculture in the North of Tunis; and (b) increase the quantity and quality of treated wastewater made available to farmers to encourage its reuse in agriculture in the Borj Touil area.

### B. Proposed Project Development Objectives – Additional Financing (AF)

The Project's Development Objective is to provide an environmentally safe disposal system for the treated wastewater in the North of Tunis.

## III. Project Description

### Component Name

Part A: transfer of treated wastewater (TWW) to increase its reuse in agriculture

### Comments (optional)

This component is now mostly financed under the GEF grant. This component focuses on the investments necessary to transfer the TWW from its existing discharge point close to the El Kehlij agriculture drainage canal, through a double pipeline of 1800mm of diameter, up to a 160,000 cubic meter compartmented storage basin from which better-quality TWW will be made available for reuse in agriculture. It also includes a TWW reuse pilot in the Sidi Amor area.

### Component Name

Part B: improvement of the discharge of the remaining TWW in the Mediterranean Sea

### Comments (optional)

This component includes (i) one pipeline of which will convey the TWW for about 5km from the storage basin to the Raoued beach following the North side of the El Hissiène Oued; and (ii) a submarine outfall about 6 km long which will discharge the TWW at a depth of about 20 meters. The length, depth and point of discharge of the submarine outfall was confirmed by the results of a dispersion modelling study aimed at optimizing the design in order to maximize dilution and mixing of the TWW with the sea water at the point of discharge.

### Component Name

Part C: monitoring and capacity strengthening

### Comments (optional)

This component includes technical assistance for supervision of works and environmental and water quality monitoring systems in the Project area; consultant services for the reinforcement of human and technical resources, and design studies for future projects such as a future WWTP in the North of Tunis, or future transfer of TWW in the South of Tunis.

## IV. Financing (in USD Million)

Total Project Cost:	28.00	Total Bank Financing:	25.00
Financing Gap:	0.00		

<b>For Loans/Credits/Others</b>	<b>Amount</b>
Borrower	3.00
International Bank for Reconstruction and Development	25.00
Total	28.00

## **V. Implementation**

The Office National de l'Assainissement (ONAS) is the borrower and the implementing agency for the Project and will therefore work to ensure that progress is consistent with the planned implementation timeline. The Project will also be coordinated with activities under ongoing projects dealing with the wastewater treatment system (Tunis West Sewerage Project) or with TWW reuse (PISEAU 2, new irrigation project under preparation). ONAS reports to the Ministry of Environment and Sustainable Development (MESD), and cooperation with the Bank is coordinated through the Ministry of Development and International Cooperation (MDCI).

The Bank has supported the development of ONAS since its creation in 1974 and helped it implement seven projects in a satisfactory manner, including the ongoing West Tunis Sewerage project. During these years ONAS has developed strong technical, planning and institutional capacity that compare favorably to most similar utilities in the region. ONAS implements most of its construction and consultancy supervision work in house, relying on its technical, financial and administrative staff. For specific tasks such as construction and supervision of wastewater treatment plants, submarine outfalls and tariff studies ONAS uses national and international consultants. The National Environment Protection Agency (ANPE), the technical arm of MESD, is making sure that environmental impact assessments and environmental standards are adhered to by all stakeholders.

Within ONAS, Project implementation will adopt the same arrangements as the previous and ongoing projects. Designated staff within ONAS' Planning, General Studies and Budgeting Department will be responsible for the implementation of the Project and for coordinating the activities funded under the Project with other concerned departments of ONAS (finance, technical, environment, etc). The Planning, General Studies and Budgeting Department will also be responsible for Project progress reports preparation, on a semester basis, and will make sure that such Progress reports, along with Procurement and Financial Management reports are submitted to the Bank in due time. Project performance indicators and results will be monitored by ONAS and regularly reported in progress reports. The consultant assignment aiming at strengthening water quality monitoring systems in the Project area will assist ONAS in critical steps, including the implementation of the provisions of the Environmental Management Plan. ONAS will coordinate with Government entities in charge of coastal and marine water quality measurement, as well as TWW reuse.

## **VI. Safeguard Policies (including public consultation)**

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	<b>x</b>	
Natural Habitats OP/BP 4.04		<b>x</b>
Forests OP/BP 4.36		<b>x</b>
Pest Management OP 4.09		<b>x</b>
Physical Cultural Resources OP/BP 4.11		<b>x</b>

Indigenous Peoples OP/BP 4.10		x
Involuntary Resettlement OP/BP 4.12	x	
Safety of Dams OP/BP 4.37		x
Projects on International Waterways OP/BP 7.50		x
Projects in Disputed Areas OP/BP 7.60		x

**Comments (optional)**

The initial ESIA was received by the Bank, and disclosed in-country and to the Infoshop on February 15, 2010.

Dispersion modeling studies were conducted from September 2013 to June 2014. The results of the studies largely confirmed project design and did not alter any of the ESIA findings and mitigation measures. The ESIA was therefore updated to reflect this conclusion. The revised ESIA was approved by the Bank on March 5, 2015, and publicly disclosed on ONAS' website on March 10, 2015, and to the Infoshop on March 11, 2015.

**VII. Contact point**

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