REPORT NO.: RES35587

RESTRUCTURING PAPER

ON A

PROPOSED PROJECT RESTRUCTURING

OF THE

TUNISIA NORTHERN TUNIS WASTEWATER PROJECT

APPROVED ON JUNE 17, 2010

TO THE

OFFICE NATIONAL DE L'ASSAINISSEMENT (ONAS)

Public Disclosure Authorized

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WATER

MIDDLE EAST AND NORTH AFRICA

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ABBREVIATIONS AND ACRONYMS

CRDA	Agricultural Development Regional Commission (*Commission Régionale de Développement Agricole*)
EIB	European Investment Bank
ERR	Economic Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FM	Financial Management
GDA	Agricultural Development Group (*Groupement de Développement Agricole*)
GEF	Global Environment Fund
GEO	Global Environment Objective
IBRD	International Bank for Reconstruction and Development
ICT	Information and communication technology
IP	Implementation Progress
ISR	Implementation Status and Results Report
LAP	Land Acquisition Plan
mg/l	Milligrams per liter
mL	milliliters
m^3/day	Cubic meters per day
m^3/year	Cubic meters per year
NPV	Net Present Value
O&M	Operation and Maintenance
ONAS	Tunisia's National Sanitation Office (*Office National de l'Assainissement*)
OPRC	Operational Procurement Review Committee
PDO	Project Development Objective
PPP	Public-Private Partnership
PS	Pumping Stations
STEG	Tunisia's National Electricity and Gas Utility
TND	Tunisian Dinar
TSS	Total Suspended Solids
TWW	Treated Wastewater
US$	United States Dollar
WWTP	Wastewater Treatment Plant

BASIC DATA

Product Information

Project ID	Financing Instrument
P117082	Investment Project Financing
Original EA Category	**Current EA Category**
Full Assessment (A)	Full Assessment (A)
Approval Date	**Current Closing Date**
17-Jun-2010	31-Dec-2019

Organizations

Borrower	Responsible Agency
Office National de l'Assainissement (ONAS)	Office National de l'Assainissement (ONAS)

Project Development Objective (PDO)

Original PDO

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 wastewatermade available to farmers to encourage its reuse in agriculture in the Borj Touil area.

Current PDO

The project development objective is to provide an environmentally safe disposal system for the treated wastewater in the North of Tunis, and increase availability for its reuse in the Project Area.

Summary Status of Financing

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net Commitment	Disbursed	Undisbursed
IBRD-86440	31-Aug-2016	30-Nov-2016	22-May-2017	31-Dec-2019	18.00	3.77	14.25
IBRD-79170	17-Jun-2010	07-Oct-2010	14-Apr-2011	31-Dec-2019	39.40	39.40	0
TF-96891	07-Oct-2010	07-Oct-2010	14-Apr-2011	30-Jun-2016	8.03	8.03	0

Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No

I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

A. Introduction

1. **This Restructuring Paper proposes to extend by 18 months the closing date of Additional Loan IBRD 8644-TN associated with the Northern Tunis Wastewater Project (P117082).** The extension will allow to incorporate under the scope of the "Part A" component the activities listed below, as well as help finalize the engineering designs and studies currently being developed under "Part C" of the Project:

(i) The procurement and installation of a pipeline to replace an open-air treated effluent canal situated upstream of the Project area. This is a critical component of the transfer system to provide an environmentally safe disposal system for the treated wastewater in Northern Tunis. These works were originally meant to be co-financed by the European Investment Bank (EIB) and the National Sanitation Office (ONAS) and would now be incorporated into the project scope with continued financial support from the EIB[1];

(ii) Repair works, replacement and maintenance of equipment associated with wastewater treatment plants (WWTP) and pumping stations within the same wastewater collection and transfer system; and

2. **The implementation of these activities is critical to ensure the sustainability of the results achieved by the Project.** These new activities would be financed by the remaining uncommitted balance of the additional financing loan approved in 2016. Due to the depreciation of the Tunisian dinar over the last few years (including by 21 percent and 11 percent, against the Euro and US$, respectively, since the approval of the Additional Loan in August 2016), the Project has accumulated savings of about US$13 million. This balance is enough to cover the costs associated with the new activities.

3. **This would be the first extension of the Additional Loan.** The Additional Loan would be extended from December 31, 2019 to June 30, 2021 to allow sufficient time for the above-mentioned activities to be completed.

4. **Other proposed changes.** Concurrently with the closing date extension, the Project will be restructured to: (i) update the Results Framework; (ii) revise the project description of activities and costs; (iii) revise the disbursement estimates and implementation schedule; (iv) update the economic, financial, technical, social and environmental analysis to incorporate aspects related to the new activities added to the scope of the Project; and (v) the partial reallocation of IBRD loan proceeds from disbursement category 1 to a newly created category 3 earmarked for the co-financing of activities described in paragraph 1.i. above.

B. Background

5. **The existing system of WWTPs in Northern Tunis is saturated, and discharges 70 million cubic meters of low-quality treated wastewater (TWW) into the El Khelij open-air canal.** As it flows through the canal, this TWW is mixed with stormwater, irrigation drainage, local discharge of untreated wastewater, and unregulated solid waste disposal. Consequently, TWW quality further deteriorates as it runs along the canal, resulting in adverse social and economic impacts in the Project area. The canal then flows along the residential areas of the increasingly urbanizing city of Raoued, before reaching the shoreline and discharging into the Gulf of Tunis, thereby contaminating Raoued Beach.

6. **To address this issue, ONAS developed a program tackling the different links of the sanitation chain in the Northern Tunis urban area.** The different projects and activities included in the program are described here below:

(i) *Implementation of urgent repairs and rehabilitation works on the WWTPs and wastewater pumping stations of the Northern Tunis wastewater treatment system.* This treatment hub comprises the WWTPs of Choutrana

[1] The Project would cover the 50 percent originally meant to be covered by ONAS counterpart funding, with the remaining 50 percent still financed through the EIB loan.

I, Choutrana II, Côtière Nord and Charguia. Some key pieces of equipment of these facilities and of many of their associated pumping stations must be repaired or replaced in order to ensure an acceptable level of TWW quality for downstream users and discharge points. While some of these works are under implementation as part of projects financed by other financial partners, others were originally meant to be funded with fiscal resources. The implementation of the latter has not yet started as allocations from the National Treasury were postponed due to the deterioration of the fiscal situation in Tunisia.

(ii) *Replacement of the open-air canal between the treatment hub and the existing pumping station operated by the Ariana Agricultural Development Regional Commission (CRDA) by a double TWW transmission pipeline*. TWW from this treatment hub is currently discharged into the 4.3-kilometer open-air canal which ends at an existing pumping station operated by the Ariana CRDA for reuse in the nearby irrigation perimeter. This canal is to be replaced by a double transmission pipeline, which construction was to be co-financed by the EIB (50 percent) and the Tunisian Government with fiscal resources (50 percent). Goods, works and services required for the implementation of these activities have already been procured. Approximately 60 percent of the pipes have already been delivered to the site and the contractor was recently mobilized to start installation. So far only 200 meters of pipes have been laid.

(iii) *Covering of the existing canal between the CRDA pumping station and the existing discharge point into the Oued El Khelij.* These works had already been completed by ONAS when the Project was designed.

(iv) *Construction of a TWW transmission pipeline between the discharge point into the Oued El Khelij and a storage TWW basin.* This two-compartment storage basin was built to both facilitate future TWW reuse in the Borj Touil irrigation perimeter, as well as to regulate the flow of TWW to be discharged into the Gulf of Tunis through the submarine outfall. The installation of the 2-kilometer conveyance pipes, as well as the construction of the storage basin and the associated pumping station were financed under the Project (under the "Part A" component) and are now fully completed and operational.

(v) *Construction of a TWW effluent submarine outfall.* TWW is conveyed from the storage basin's pumping station through a 4-kilometer pressure pipeline to the headworks chamber of the 6-kilometer outfall. Both the outfall and pressure pipeline are financed under the Project (under the "Part B" component), have been completed and are fully operational.

7. **Table 1 summarizes the scope and implementation status of the different major infrastructure components of the program developed by ONAS to enhance the performance of the Northern Tunis wastewater treatment system,** indicating which of said components are financed under the Project and the source of funding for those that are not.

TABLE ERROR! NO TEXT OF SPECIFIED STYLE IN DOCUMENT.: INFRASTRUCTURE COMPONENTS, SOURCE OF FINANCING AND IMPLEMENTATION STATUS

Scope of the Program for the enhancement of the performance of the Northern Tunis wastewater treatment system	Originally expected source of funding	Implementation status
Urgent repairs and rehabilitation of WWTPs and pumping stations	Fiscal Resources	Not yet procured
TWW transmission pipeline between Choutrana WWTP and Ariana CRDA pumping station	EIB loan and fiscal resources (50/50)	Procured and under implementation
Covering of the TWW canal between Ariana CRDA pumping station and Oued El Khelij	Fiscal resources	Completed
TWW transmission pipeline between Oued El Khelij and the new TWW storage basin	IBRD Project (Part A)	Completed
TWW storage basin and associated pumping station	IBRD Project (Part A)	Completed

TWW pressure pipeline and submarine outfall	IBRD Project (Part B)	Completed

C. Project status

8. **As highlighted, all infrastructure construction activities originally included under the IBRD-financed Northern Tunis Wastewater Project have been completed.** The Project was approved on June 17, 2010 and became effective on April 14, 2011. Project funds amount to US$65.43 million (US$39.40 million under Loan 7917-TN, US$8.03 million under GEF Grant TF096891, and US$18.00 million under Additional Loan 8644-TN), which, with the addition of US$7.57 million in taxes financed by ONAS, amount to a total project cost of US$73.00 million. The Additional Loan was approved on August 31, 2016 and became effective on March 30, 2017. The original closing date was December 31, 2015, and the Original Loan (7917-TN) was extended twice to June 30, 2017, as well as to December 31, 2019. The closing date for the Additional Loan is also December 31, 2019. The Original Loan is now fully disbursed and will not be further extended. The GEF Grant was extended once to June 30, 2016 and is now fully disbursed and closed.

9. **The Project Development Objective (PDO) is to provide an environmentally safe disposal system for the treated wastewater in the North of Tunis and increase availability for its reuse in the Project Area.** Similarly, the Project's Global Environment Objective (GEO) was to support increasing the reuse of treated wastewater in agriculture, thereby reducing treated wastewater discharge from Greater Tunis into the Gulf of Tunis, an environmentally sensitive area of the Mediterranean Sea. The Project includes three components, namely "Part A: Transfer of treated wastewater to increase availability for its reuse", "Part B: Improvement of the discharge of the remaining TWW in the Mediterranean Sea" and "Part C: Monitoring and capacity strengthening".

10. **The Project also finances the implementation of TWW reuse pilot, which is now completed.** In order to minimize the flow of TWW discharged through the outfall, the Project seeks to increase the reuse of TWW prior to its discharge, in particular by farmers in the contiguous Borj Touil area, as well as developers and municipalities. To achieve this, the Project aims to tap into unmet demand for better quality and reliability of TWW and finances a small-scale reuse pilot in the Sidi Amor area to test coordination mechanisms among stakeholders involved in TWW at a local scale (ONAS, CRDA, Agricultural Development Groups or GDAs, as well as farmers) and create the conditions for increased uptake by farmers. The Sidi Amor pilot is financed under Part A of the Project, it is currently operational and meeting applicable effluent quality standards for agricultural reuse.

11. **All related technical assistance, supervision of works, water quality monitoring and capacity strengthening activities are included under Part C of the Project.** This includes consulting services for the development of ONAS' commercial information system, the design studies for a future WWTP in Northern Tunis, as well as for a future marine outfall in Southern Tunis. Activities under this component are still ongoing and are expected to be completed by October 2020.

12. **Progress towards achievement of PDO and progress towards achievement of GEO are Satisfactory.** The extent to which the PDO is achieved is assessed through five PDO indicators: (i) Number of direct project's beneficiaries (end target: 50,000); (ii) Average annual volume of TWW made available for reuse (end target 3 million m^3/year); (iii) Average annual concentration of total suspended solids (TSS) in TWW made available at the storage basin (end target below 30 mg/L); (iv) Percentage of seawater samples at Raoued Beach complying with imperative norms in total coliforms and fecal coliforms (end target 90%); and (v) Average annual count of fecal coliforms in seawater samples in the surrounding of the outfall (end target below 2,000 counts per 100 mL).

13. **The achievement of the end targets set for four of the five PDO indicators has already been confirmed, with the verification on the fifth indicator pending on the collection of the required data.** While the TSS concentration at the TWW storage basin is still to be assessed, according to the first two seawater quality monitoring campaigns performed after the commissioning of the works, 100 percent of the seawater samples collected and tested presented total and fecal coliforms concentrations below the thresholds set by the applicable Tunisian norm (NT.106.002), i.e. 10,000 and

2,000 counts per 100 mL respectively. This has a direct positive impact on the population living in the vicinity of the Raoued beach that, along with the community neighboring the TWW open-air canal that was replaced by a transmission pipeline under the Project, amounts to more than 50,000 people. Moreover, that's to the reuse pilot implemented under the project, the Sidi Amor GDA and farmers of the Borj Touil perimeter have gained access to a reliable source of reclaimed water that allowed them to put 7.5 hectares under irrigation.

14. **Overall Implementation Progress (IP) rating stands at Moderately Satisfactory due to delays in implementing Financial Management (FM) and safeguards-related actions identified during supervision missions.** For FM, after some delays in the preparation of the audit reports on the implementing entity (ONAS) and the Project, these have been finally submitted to the Bank and were found to be acceptable. As of today, there are no overdue Project audit reports. Consequently, FM rating was upgraded from Moderately Unsatisfactory to Moderately Satisfactory in the last Implementation Status and Results Report (ISR). As for safeguards, the current overall rating is Moderately Satisfactory due to (i) delays in the construction of a fence and adoption of erosion control and flood protection measures in the Sidi Amor pilot site; and (ii) delays in the processing of the compensatory payment due to the former owner of the plot of land where the TWW storage basin has been constructed (these delays are due to factors beyond the control of the implementing agency). The contract for the fencing of the Sidi Amor site was finally signed on September 2, 2019 and works are expected to be finalized by February 2020. Regarding the second point, it should be highlighted that the concerned plot was acquired in 2014 in compliance with OP 4.12 and in accordance with the Land Acquisition Plan (LAP). While the current land owners (2) have not yet been compensated as the resolution of an ongoing title dispute follows due process (with close monitoring by ONAS and support by the Bank), the final court hearing on the case is scheduled for December 2019. The full compensation amount is in escrow waiting for the final resolution of the case.

15. **Disbursements currently stand at 73 percent total** (69 percent of loans and 100 percent of GEF grant). As explained above, due to the considerable depreciation of the Tunisian dinar over the last few years, the Project has accumulated savings of about US$13 million. This restructuring proposes to take advantage of these savings to incorporate to the scope of the Project those activities considered under the wider program developed by ONAS to enhance the performance of the Northern Tunis wastewater treatment system (described in section B above) that were originally meant to be totally or partially funded with fiscal resources, i.e. : (i) Implementation of urgent repairs and rehabilitation activities on the WWTPs and wastewater pumping stations of the Northern Tunis wastewater treatment hub (originally meant to be totally financed by ONAS with fiscal resources); and (ii) the replacement of the open-air canal between the treatment hub and the Ariana CRDA pumping station by a TWW transmission pipeline (originally meant to be co-financed by ONAS with fiscal resources and through an EIB loan -50/50-, now to be co-financed by the IBRD under the project and by the EIB loan -50/50-).

D. Rationale for restructuring

16. **As explained above, sustainability of the results achieved by the Project is contingent on the completion of all upstream activities considered under ONAS' program for Northern Tunis.** The rehabilitation and maintenance of equipment in the various WWTPs and pumping stations of the Northern Tunis wastewater management system is key to improving treatment performance and therefore to keep pollutant concentrations in the effluent to be reused—or discharged through the submarine outfall constructed under the Project—below applicable thresholds in the years to come. On the other hand, having TWW conveyed through an open-air canal generates a significant risk of recontamination of the treated effluent and important health concerns in communities crossed by the canal.

17. **Due to the deterioration of the economic context in Tunisia, ONAS has requested the support of the World Bank to finance upstream activities that were originally meant to be funded with fiscal resources.** The Project was originally designed to be executed in parallel with foreseen activities upstream, i.e. WWTPs and pumping stations' upgrade and maintenance activities (to be financed under existing ONAS and various donor projects), as well as the

replacement of the open-air canal between the Northern Tunis treatment hub and the CRDA pumping station with a pipeline (to be financed by the EIB under a 50/50 co-financing arrangement with ONAS). While some progress has been made with the former, a number of WWTPs and pumping stations still require equipment rehabilitation and maintenance in order to ensure that TWW enters the sanitation chain with a quality suitable for reuse and disposal. As for the pipeline, delays in the procurement of the materials and associated works have led to the non-availability of timely counterpart funding from ONAS, and their incorporation into the Project scope was thus requested to complement EIB financing. Nevertheless, a project closing date extension of 18 months is required in order to complete the installation of the pipeline.

II. DESCRIPTION OF PROPOSED CHANGES

A. Results Framework

18. **The Results Framework has been modified to reflect the incorporation of the new activities under the project scope.** The following changes were introduced: (i) the intermediate-level indicator "Length of pipe installed" target was updated to take into account the 4.3-kilometer pipeline to be installed between the Northern Tunis treatment hub and the Ariana CRDA pumping station (the revised end target would be 16.3 km); and (ii) a new intermediate-level indicator, "Number of WWTPs and pumping stations in the Northern Tunis system benefitting from equipment rehabilitation and maintenance", was introduced (end target 6). PDO-level indicators and their targets will remain the same, as they mostly relate to water quality in the Gulf of Tunis and are already dependent on all of the sanitation chain building blocks being completed. In addition, the PDO-level "Direct project beneficiaries" indicator will also remain unchanged as the original and new project activities benefit the same population of neighboring areas, as well as a smaller number of farmers in the Borj Touil area.

B. Components and Costs

19. **Part A ("Transfer of treated wastewater to increase availability for its reuse") will be updated to incorporate the new activities**, whereas Part B ("Improvement of the discharge of the remaining TWW in the Mediterranean Sea") and Part C ("Monitoring and capacity strengthening") will remain unchanged in terms of scope. US$ 13 million will be reallocated from Part B to Part A to cover incremental cost associated with the new activities. Updated component costs reflecting the actual costs of completed activities, as well as the estimated costs associated with the new activities are detailed in Table 2 and in Section IV (Detailed change(s)).

TABLE 2: PROJECT COMPONENTS, ACTIVITIES AND BUDGET

Component	Main activities	Original budget (US$ million)	Revised budget US$ million)
Part A: Transfer of treated wastewater to increase availability for its reuse	- Urgent repairs and rehabilitation of WWTPs and pumping stations in the Northern wastewater treatment system (**new**) - TWW transmission pipeline between Choutrana WWTP and Ariana CRDA pumping station (**new**) - TWW transmission pipeline between Oued El Khelij and the new TWW storage basin (existing) - TWW storage basin and associated pumping station (existing)	12	25
Part B: Improvement of the discharge of the remaining TWW in the Mediterranean Sea	- TWW pressure pipeline and submarine outfall (existing)	55	42

Part C: Monitoring and capacity strengthening	- Technical assistance for supervision of works and environmental and water quality monitoring systems in the Project area (existing) - Consultant services for the reinforcement of human and technical resources (existing) - Design studies: future WWTP in the North of Tunis (existing) - Design studies: transfer of TWW in the South of Tunis (existing) - Develop and implement a new commercial information system for ONAS	6	6

C. Reallocation between disbursement categories

20. **A new disbursement category will be created for payments related to the goods and works contracts that will be co-financed with the EIB.** Before the restructuring, all Project expenditures under the additional loan approved in 2016 – i.e. the source of financing for the proposed new activities – were included under one category (Category 1), except for expenditures related to the payment of the Additional Loan front-end fee, that were included under Category 2. As part of the restructuring, EUR8.4 million will be reallocated from Category 1 to this new Category 3, which funds will be earmarked for the payments due to the pipe supplier and the contractor hired for the replacement of the remaining segment of the open-air treated effluent canal by a double transmission pipeline.

D. Disbursement estimates and implementation schedule

21. **The closing date of the Project and of the Additional Financing Loan (IBRD 8644-TN) will be extended by 18 months,** from December 31, 2019 to June 30, 2021. This would allow for the development of new activities incorporated to the scope of the Project under Part A and for the completion of ongoing activities under Part C. Disbursement projections have been revised accordingly and can be found below in Section IV "Detailed Change(s)".

E. Economic and Financial Analysis

22. **Although proposed new activities will generate additional positive externalities, these have not been quantified because of lack of appropriate data and methodological limitations.** New activities included under Part A of the project will contribute to further improve the quality of the treated wastewater effluent of the Northern treatment hub, and therefore they will contribute to the six categories of benefits that were analyzed as part of the economic analysis performed for the appraisal stage. These six categories are: (i) benefits for local tourism (reduction in transport costs of local population to more distant beaches); (ii) benefits from international tourism (with foreign tourists spending more nights in the Gammarth area); (iii) increased revenues from fisheries (due to overall improvement in marine biotopes); (iv) reduction in public health hazards (due both to poor quality of seawater in the Northern Tunis area, and contamination of local population living nearby the currently open sewage canal); (v) improvement of the quality of life and landscape surrounding the Raoued beach, where the wastewater is currently discharged (as measured by an increase in real estate rental costs in the area); and (vi) increased treated wastewater reuse potential in the Borj Touil area.

23. **Nonetheless, the estimated value of expected benefits was updated to take into consideration inflation and a discount rate of 6 percent[2].** The resulting economic value of expected benefits is TND 42 million per year.

24. **The cost-benefit analysis was adjusted to consider actual costs associated with completed activities, costs budgeted for new activities and inflation.** As a result, total economic cost of the investment now stands at about TND 142.1 million (compared with TND 104.2 million in the analysis performed during the appraisal of the additional financing). The annual average operating cost of the wastewater infrastructure has been estimated at TND 0.71 million per year. In addition to the updated economic costs, the disbursement phase of the Project has been extended from 5 to 8 years to reflect the new elements of the Project.

The updated economic analysis shows that the Project remains economically justified, as it yields a Net Present Value (NPV) of about TND 173 million (2019 TND) over 25 years, a Present Value benefit/cost ratio of about 254 percent, associated with an Economic Rate of Return (ERR) of 13.7 percent, which is consistent with the ERR at appraisal of the additional financing (17.5 percent). This ERR is a satisfactory value for an environmental project which also generates many positive externalities which have not been accounted for in the calculations.

[2] The present analysis uses a discount rate of 6 percent (compared to 8 percent in the original analysis), as per the 2016 recommendations of the World Bank's Sustainable Development Chief Economist.

25. **The sustainability of the transfer infrastructure built under the Project is contingent on the continued improvement of ONAS's broader financial performance.** The level of cost recovery of the operation and maintenance (O&M) costs of ONAS, which draws its revenues mainly from the sanitation tariff collected through water bills, has remained steady in recent years. Full cost recovery is reached thanks to the Government's commitment to cover the remaining operating deficit through an annual transfer of funds. In addition, the Council of Ministers approved on July 27, 2018 tariff increases aiming at ensuring that ONAS can cover 100 percent of its O&M by 2029. The Council approved an annual increase of 11 percent from 2020 to 2025 (i.e. 3 percent more than what had already been approved back in 2017) and 6.3 percent annually from 2025 to 2029. While these increases need to be effectively put in place every year, it shows an important level of commitment from the Government in bringing sustainability to the sanitation sector and will boost ONAS's capacity to operate and maintain the Project's infrastructure sustainably.

26. **The World Bank closely monitors the financial sustainability of ONAS**, as its working and current ratios remain compliant with the Project's specific financial covenants, while continuing to engage with ONAS on its long-term strategy, and the potential of its resources to achieve its vision and objectives. In particular, the World Bank is currently supporting ONAS in Tunisia's strategic shift towards public-private partnerships (PPP), through the Tunisia Sanitation PPP Support Project (P162957) under preparation, as the most efficient and sustainable way to upgrade, improve and properly manage its wastewater collection and treatment system.

F. Technical Analysis

27. **Rehabilitation of WWTPs and pumping stations of the Northern Tunis wastewater treatment system**. Under the scope of the "Part A" component, the Project will finance the procurement of key electromechanical equipment required to ensure the correct and continuous operation of WWTPs integrating the Northern Tunis treatment hub and associated wastewater pumping stations. The goods to be procured are meant to serve as spare parts or to replace key pieces of equipment that, as confirmed by the due diligence performed by the World Bank, have reached the end of their lifespan or are not in good operating condition. This includes the equipment of the Charguia, Choutrana I and Choutrana II WWTPs and the Montplaisir, X3 El Kram, SP5 Lac, Chatt Ghaba and Tunis Nord pumping stations (PS).

28. **Replacement of the open-air canal between the treatment hub and the Ariana CRDA pumping station by a double TWW transmission pipeline** (aggregated costs US$17 million, 50 percent IBRD and 50 percent EIB). The open-air canal will be replaced by two parallel TWW transmission pipelines: (i) one transporting TWW of lower quality coming from the Choutrana I and Cotière Nord WWTPs (91,000 m^3/day) that does not consistently meet applicable quality standards for irrigation; and (ii) one transporting TWW of greater quality coming from Choutrana II and Charguia (90,000 m3/day). Only the latter will be connected to the Ariana CRDA pumping station, from where 20 percent of the flow will be pumped for reuse at the Borj Touil irrigation perimeter. These two new 2,000mm-diameter reinforced concrete pipelines will be fed by a new pumping station located in the vicinity of the Choutrana I WWTP.

29. **The soundness of the design proposed for this new infrastructure was already assessed at the appraisal stage despite not being part of the original scope of Project.** Indeed, the technical due diligence performed at appraisal had to look not just at infrastructure components included in the project scope, but also at critical elements of the wastewater collection, treatment and conveyance system located upstream, and which could affect the ability of the project to deliver the expected results.

30. **The construction of this new transmission pipeline is already ongoing.** As explained above, this activity was meant to be financed by the EIB and ONAS and is being incorporated into the scope of the Project, through which the IBRD will finance the 50 percent that was originally to be covered by ONAS. Contracts for the supply of pipeline materials and for the pipeline installation works were signed on May 2016 and September 2018, respectively. As of today, approximately 60 percent of the pipe material has been delivered on site. The contractor responsible for installation works and for the construction of the pumping station has been mobilized and has started site clearing

and earthwork activities. So far only around 200 meters of pipes have been laid. Based on site inspections performed by the team, and information shared by ONAS and the EIB, no incident has occurred on site and the contractor is performing the works according to applicable standards and to the satisfaction of the owner and the financier.

31. **Due diligence was conducted to ensure the alignment of these two contracts and their respective procurement processes with applicable World Bank Procurement Policies.** The procurement of the pipeline materials and associated installation works was finalized in May 2016 and September 2018, respectively, under EIB procurement rules. At World Bank request, ONAS, the EIB and the concerned supplier and contractor have agreed to amend the corresponding contracts to ensure alignment with World Bank policies and procedures, including those related to procurement, integrity and environmental and social safeguards. On the other hand, ONAS and EIB also confirmed that: (i) there are no major issues related to the status of the works or the performance of the contractors; and (ii) that there are no ongoing investigations or other integrity concerns related to the contracts, including any subcontracts.

G. Implementation arrangements.

32. **Implementation arrangements will remain unchanged.** For the two ongoing contracts that will be co-financed by the EIB and IBRD, once the restructuring is effective, invoices issued under these two contracts will be fully paid with IBRD load proceeds until the accumulated amount paid from each of the two financing sources (EIB and IBRD loans) are equalized. Payments due from that point onwards will be made from both sources keeping the 50/50 "*pari passu*" rate. As of today, 44 percent the financial resources allocated by the EIB for this activity have already been disbursed. ONAS, EIB and IBRD also agreed that no-objections for issues related to these two contracts would be requested by ONAS to the two institutions, but granted by IBRD on behalf of both, after internal coordination.

H. Social and Environmental Analysis

33. **The Project is a Category A operation.** The Restructuring will not trigger new safeguards policies or change safeguard categories, which remains at Category A. Nonetheless, new activities to be incorporated into the scope of the Project as part of the restructuring could be considered as Category B, as evidenced by the environmental screening performed by the Bank.

34. **The Environmental and Social Impact Assessment (ESIA) of the Project has been updated to reflect the current project implementation status and to incorporate under its scope the activity related to the replacement of the remaining segment of the open-air TWW canal by the transmission pipeline.** The updated version of the ESIA, which includes an Environmental and Social Management Plan (ESMP) covering concerned activities, was disclosed on ONAS website and on the external site of the World Bank on December 3, 2019 and December 5, 2019, respectively.

35. **Two stand-alone ESMPs have been prepared by ONAS to cover activities related to the repair and replacement of electromechanical equipment in select WWTPs and pumping stations, respectively.** These ESMPs address the risks identified through the screening performed by the Bank in collaboration with ONAS; have been disclosed on December 6, 2019 and will be incorporated to the concerned contractual documents before the launching of the corresponding bidding processes.

36. **The expected impacts of the new proposed activities are mainly positive.** The repair and replacement of electromechanical equipment in WWTPs and pumping stations will further improve the quality of the treated wastewater effluent. On the other hand, the replacement of the open-air canal by the transmission pipeline will contribute to maintaining the quality of the TWW along its itinerary from Choutrana WWTP to the sea, improve the social and environmental living environment of residents around the open-air canal and upgrade land values around the El Khelij canal.

37. **Negative impacts are linked to occupational and community Health and Safety and are time limited to the pipeline construction and equipment replacement phase.** The updated version of the ESIA covering activities related to the replacement of the remaining segment of the open-air canal, identified all impacts linked to the generation of dust, noise, waste, hazardous waste and health and safety of workers and population, as well as proposed adequate mitigation measures. The ESIA proposed specific mitigation measures in the ESMP for biological (potentially pathogenic micro-organisms) and chemical risks related to the work environment because of the existence of the TWW in the open-air canal from the Choutrana WWTP, as well as the need to maintain the functionality of the TWW transfer system during the entire construction phase. As for activities related to the replacement of electromechanical equipment in pumping stations and WWTPs, risks identified as part of the screening exercise relate mainly to occupational health and safety. On this regard, it should be highlighted that both the updated version of the ESIA and the two stand-alone ESMP contemplate the obligation of the contractors to notify ONAS within 24 hours of the occurrence of an event involving any significant social, labor, health and safety, security or environmental incident, accident, or circumstance involving the Project, project workers and/or local communities. Likewise, as per the provisions of the amended loan agreement, ONAS shall notify the Bank within five days of the occurrence of such event.

38. **No involuntary resettlement, land taking, or economic displacement is expected associated to the implementation of new activities incorporated to the scope of the Project.** Electromechanical equipment replacement activities will take place within the limits of WWTPs and pumping station facilities. Construction activities outside these facilities will be confined to the right-of-way of the canal, which belongs to the State and is encroachment-free.

39. **Safeguards-related clauses of the ongoing pipeline construction contract were amended to ensure enforcement and compliance with the provisions of the updated version of the ESIA and World Bank Safeguard Policies.** The contract has been amended to refer to the final version of the ESIA as a contractual document, and to ensure alignment with World Bank Safeguard Policies and with the standard safeguard-related clauses of the General Conditions of Contracts that are adopted when standard WB bidding documents are used.

III. SUMMARY OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Reallocation between Disbursement Categories	✓	
Disbursements Arrangements	✓	
Disbursement Estimates	✓	
Implementation Schedule	✓	
Economic and Financial Analysis	✓	
Technical Analysis	✓	
Social Analysis	✓	

Environmental Analysis	✓	
Implementing Agency		✓
DDO Status		✓
Project's Development Objectives		✓
Cancellations Proposed		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Other Change(s)		✓

IV. DETAILED CHANGE(S)

COMPONENTS

Current Component Name	Current Cost (US$M)	Action	Proposed Component Name	Proposed Cost (US$M)
Part A: transfer of treated wastewater (TWW) to increase availability for its reuse	12.00	Revised	Part A: transfer of treated wastewater (TWW) to increase availability for its reuse	25.00
Part B: improvement of the discharge of the remaining TWW in the Mediterranean Sea	55.00	Revised	Part B: improvement of the discharge of the remaining TWW in the Mediterranean Sea	42.00
Part C: monitoring and capacity strengthening	6.00	No Change	Part C: monitoring and capacity strengthening	6.00
TOTAL	**73.00**			**73.00**

LOAN CLOSING DATE(S)

Ln/Cr/Tf	Status	Original Closing	Revised Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IBRD-79170	Effective	31-Dec-2015	30-Jun-2017, 31-Dec-2019	31-Dec-2019	30-Apr-2020
IBRD-86440	Effective	31-Dec-2019		30-Jun-2021	30-Oct-2021
TF-96891	Closed	31-Dec-2015	30-Jun-2016, 31-Jan-2017		

REALLOCATION BETWEEN DISBURSEMENT CATEGORIES

	Current Allocation	Actuals + Committed	Proposed Allocation	Financing % (Type Total) Current	Financing % (Type Total) Proposed
IBRD-86440-001 | Currency: EUR					
iLap Category Sequence No: 1		Current Expenditure Category: GD;WRK; CS			
	16,159,500.00	1,832,808.87	7,759,500.00	100.00	100.00
iLap Category Sequence No: 3		Current Expenditure Category: GD;WRK			
	0.00	0.00	8,400,000.00		100
Total	**16,159,500.00**	**1,832,808.87**	**16,159,500.00**		

DISBURSEMENT ESTIMATES

Change in Disbursement Estimates
Yes

Year	Current	Proposed
0000	0.00	0.00
2010	0.00	0.00
2011	0.00	0.00
2012	0.00	0.00

2013	150,000.00	140,466.18
2014	3,000,000.00	3,037,422.12
2015	980,000.00	969,991.70
2016	3,500,000.00	3,516,907.75
2017	15,000,000.00	12,747,230.81
2018	16,000,000.00	18,320,243.04
2019	17,000,000.00	6,837,738.40
2020	1,770,000.00	9,000,000.00
2021	0.00	10,860,000.00

Results framework

COUNTRY: Tunisia
Tunisia Northern Tunis Wastewater Project

Project Development Objectives(s)

The project development objective is to provide an environmentally safe disposal system for the treated wastewater in the North of Tunis, and increase availability for its reuse in the Project Area.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	DLI	Baseline	End Target
Provide an environmentally safe disposal system for wastewater treatment in the North of Tunis			
Direct project beneficiaries (Number)		0.00	50,000.00
Female beneficiaries (Percentage)		0.00	50.00
Percentage of seawater samples at Raoued Beach complying with imperative norms in total coliforms and fecal coliforms (respectively 10,000 TC/100ml and 2,000 FC/100ml). (Percentage)		80.00	90.00
Average annual count of fecal coliforms in seawater samples in the surrounding of the outfall (Number)		200.00	2,000.00
Increase availability of wastewater for its reuse in the Project Area			
Average annual volume of TWW made available to farmers, developers or municipalities in the vicinity of the Project (Cubic Meter(m3))		0.00	3,000,000.00
Average annual concentration of suspended solids in TWW made available at the El Hissiene basin (Percentage)		120.00	30.00

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	End Target
Part A: transfer of treated wastewater (TWW) to increase availability for its reuse			
Length of pipe installed (Meter(m))		0.00	16,300.00
Action: This indicator has been Revised			
Average annual count of fecal coliforms in seawater samples at Raoued beach (Number)		450.00	100.00
Number of WWTPs and pumping stations in the Northern Tunis system benefiting from equipment rehabilitation and maintenance (Number)		0.00	6.00
Action: This indicator is New			
Part B: improvement of the discharge of the remaining TWW in the Mediterranean Sea			
Average annual concentration of suspended solids in TWW made available at the Sidi Amor reuse pilot (Microgram/m3)		120.00	30.00
Average annual concentration of suspended solids in TWW at the entry point of the transfer system (Microgram/m3)		120.00	30.00
Percentage of TWW (not reused) from Northern Tunis WWTP discharged at the submarine outfall (Percentage)		0.00	95.00
Part C: monitoring and capacity strengthening			
Grievances registered related to delivery of project benefits addressed (%) (Percentage)		0.00	75.00