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IMPLEMENTATION COMPLETION AND RESULTS REPORT

IBRD 8322-AL

ON A

LOAN

IN THE AMOUNT OF €62.5 MILLION

(US\$85.3 MILLION EQUIVALENT)

TO THE

REPUBLIC OF ALBANIA

FOR A

WATER SECTOR INVESTMENT PROJECT

September 25, 2020

Water Global Practice
Europe and Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2020)

Currency Unit = Euros (€)

€0.9127 = US\$1

US\$1.3648 = SDR 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BCR	Benefit-Cost Ratio
BWSP	Bulk Water Supply Pipeline
CBA	Cost-Benefit Analysis
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
DUSA	Durres Utility Service Area
DWU	Durres Water Utility
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ENPV	Economic Net Present Value
ERR	Economic Rate of Return
ERRU	Albanian Water Supply and Sanitation Regulatory Authority (<i>Entit Rregullator t^e Ujit</i>)
EU	European Union
FM	Financial Management
FNPV	Financial Net Present Value
FRR	Financial Rate of Return
FWR	Financial Working Ratio
GDP	Gross Domestic Product
GoA	Government of Albania
ICR	Implementation Completion and Results Report
IRR	Internal Rate of Return
ISR	Implementation Status and Results Report
KfW	<i>Kreditanstalt für Wiederaufbau</i>
M&E	Monitoring and Evaluation
MoIE	Ministry of Infrastructure and Energy
MTI	Ministry of Transport and Infrastructure
MTR	Midterm Review
NPV	Net Present Value
NRW	Nonrevenue Water
OCC	Opportunity Cost of Capital
O&M	Operation and Maintenance
PAD	Project Appraisal Document
PDO	Project Development Objective
PIU	Project Implementation Unit
PMBU	Performance Monitoring and Benchmarking Unit
RAP	Resettlement Action Plan
SIV	System Input Value
SPGE	Belgian utility (<i>Societe Publique de Gestion d'Eau</i>)
TTL	Task Team Leader
VAT	Value Added Tax
WDMP	Water Demand Management Program
WSIP	Water Sector Investment Project
WSS	Water Supply and Sanitation

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TABLE OF CONTENTS

DATA SHEET	1
I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES.....	5
A. CONTEXT AT APPRAISAL	5
B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)	12
II. OUTCOME	14
A. RELEVANCE OF PDOs	14
B. ACHIEVEMENT OF PDOs (EFFICACY)	15
C. EFFICIENCY	18
D. JUSTIFICATION OF OVERALL OUTCOME RATING	20
E. OTHER OUTCOMES AND IMPACTS (IF ANY).....	20
III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME.....	23
A. KEY FACTORS DURING PREPARATION	23
B. KEY FACTORS DURING IMPLEMENTATION	23
IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME	25
A. QUALITY OF MONITORING AND EVALUATION (M&E)	25
B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE	26
C. BANK PERFORMANCE	27
D. RISK TO DEVELOPMENT OUTCOME	29
V. LESSONS AND RECOMMENDATIONS.....	30
ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS	32
ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION	41
ANNEX 3. PROJECT COST BY COMPONENT.....	44
ANNEX 4. EFFICIENCY ANALYSIS	45
ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS.....	62
ANNEX 6. SUPPORTING DOCUMENTS	63



DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P102733	Water Sector Investment Project
Country	Financing Instrument
Albania	Investment Project Financing
Original EA Category	Revised EA Category

Organizations

Borrower	Implementing Agency
Republic of Albania	AKUM

Project Development Objective (PDO)

Original PDO

The Project Development Objectives (PDO) are to:

- (i) improve the quality of water and wastewater services in the Durres Water Utility Service Area; and
- (ii) improve the financial performance of Durres Water Utility.



FINANCING

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing			
IBRD-83230	85,300,000	85,300,000	72,525,696
Total	85,300,000	85,300,000	72,525,696
Non-World Bank Financing			
Borrower/Recipient	440,000	464,032	1,314,720
Total	440,000	464,032	1,314,720
Total Project Cost	85,740,000	85,764,032	73,840,416

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
20-Dec-2013	14-May-2014	17-Nov-2014	30-Jun-2019	31-Mar-2020

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
26-May-2017	21.58	Change in Results Framework
21-Feb-2019	54.31	Change in Loan Closing Date(s) Reallocation between Disbursement Categories Change in Implementation Schedule

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Moderately Satisfactory	Moderately Satisfactory	Substantial

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	22-Feb-2014	Satisfactory	Satisfactory	.95



02	24-Jun-2014	Satisfactory	Satisfactory	.95
03	18-Dec-2014	Moderately Satisfactory	Moderately Satisfactory	9.11
04	30-May-2015	Moderately Satisfactory	Moderately Unsatisfactory	9.11
05	17-Dec-2015	Moderately Unsatisfactory	Moderately Unsatisfactory	9.11
06	30-May-2016	Moderately Unsatisfactory	Moderately Satisfactory	14.17
07	20-Dec-2016	Moderately Unsatisfactory	Moderately Satisfactory	16.40
08	30-Jun-2017	Moderately Satisfactory	Moderately Satisfactory	22.53
09	21-Dec-2017	Moderately Satisfactory	Moderately Satisfactory	29.34
10	20-Jun-2018	Moderately Satisfactory	Satisfactory	35.75
11	21-Dec-2018	Moderately Satisfactory	Satisfactory	48.78
12	13-Jun-2019	Moderately Satisfactory	Satisfactory	62.88
13	10-Dec-2019	Moderately Satisfactory	Satisfactory	69.85

SECTORS AND THEMES

Sectors

Major Sector/Sector (%)

Public Administration 8

Sub-National Government 8

Water, Sanitation and Waste Management 92

Sanitation 17

Water Supply 75

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)



Urban and Rural Development	100
Urban Development	75
Urban Infrastructure and Service Delivery	75
Rural Development	25
Rural Infrastructure and service delivery	25

ADM STAFF		
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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

- 1. At the time of appraisal of the Water Sector Investment Project (WSIP), Albania's economy was among the poorest in Europe, though it had recorded sustained growth over the previous 10 years.** Average growth was around 2.2 percent¹ and gross domestic product (GDP) per capita in 2012 was estimated at US\$3,894, although an estimated 12 percent² of the population were living below the poverty line. The World Bank played a major role in supporting reforms, strengthening institutions, and financing investments across the full range of sectors in Albania over the previous two to three decades. Albania graduated from the International Development Association (IDA) in 2008 and became creditworthy for loans from the International Bank for Reconstruction and Development (IBRD).
- 2. At the time of appraisal, the Government of Albania (GoA) assigned high priority to the improving of infrastructure services, including water supply and sanitation (WSS).** Albania was endowed with substantial water resources, equivalent to an estimated 8,600 m³ per capita per year, of which the withdrawal was only 6 percent annually. The sector was facing a systemic challenge of delivering reliable, high-quality services. Rural service coverage (57 percent) was lagging significantly behind service coverage in urban areas (91 percent). The total population served by piped water supply was 80 percent, 76 percent of whom were with house connections. The relatively high coverage was however negated by the poor quality of service as Albania's urban water supply sector was inefficient. For example, average nonrevenue water (NRW), a measure of the share of water produced that does not generate revenue, was estimated at around 64 percent in 2011 for the utilities, far above that in other European and Central Asian countries (38 percent) and many developing countries. The average duration of city water supply was only 11.2 hours per day, which was well below the European Union (EU) benchmark of 24 hours. As a result, Albanian citizens were forced to rely on investing in coping mechanisms such as household water tanks and booster pumps to compensate for unreliable supply.
- 3. Wastewater services were also in need of improvement.** According to official data at the time of project appraisal,³ about 50 percent of the total population had access to a wastewater connection, while the rest used on-site sanitation facilities. At appraisal, Albania had only a few operational conventional wastewater treatment plants, for example, in Kavaja and Pogradec. Also, wastewater treatment plants were built in Durres, Sarande, and Lehze. In most cities where sewerage service is available, coverage was still limited, and the effluent was discharged untreated into the environment. Environmental protection of water sources and coastal waters was an important issue, and both ground and surface water, which constitute the main sources of drinking water, were at risk of pollution as a result of the discharge of untreated wastewater into rivers and the sea and inappropriate dumping of solid waste on riverbanks.
- 4. At appraisal, water and sewerage services were poor in Durres City,** because it was suffering from deficiencies due to the following reasons: (a) investment funding allocations under past operations

¹ International Monetary Fund (IMF), World Economic Outlook 2012.

² Official poverty data vary among sources, ranging from 12 percent to 25 percent.

³ Source: Performance Monitoring and Benchmarking Unit (PMBU). Only 30 of these 58 utilities that report to the PMBU provide sewerage service data.



were inadequate and never focused on increasing the supply of water to a level that could match the demand in Durres and its adjacent rural communes; (b) historical investments did not adequately create the conditions for efficient and sustainable services, for instance, through effective demand management and reduction of losses; and (c) the Durres Utility service area (DUSA) municipalities and communes historically had not established an effective institutional structure for managing service delivery in a sustainable manner to all the areas that ultimately use its water supply. The service area of the Durres Water Utility (DWU) catered to 340 km² and extended well beyond the city limits to several adjacent municipalities and rural communes and settlements. More specifically, the water context in Durres during appraisal was as follows:⁴

- (a) **Water service coverage.** In the Durres service area, water supply service coverage in urban areas was estimated at 70 percent compared to 50 percent in rural areas. In addition, there were parts of the service area officially connected to the network that were not able to receive water due to inadequate water supply and low pressure, which was caused by an old and inadequate distribution system causing intermittent water supply and an apparent lack of coordination between the utility and village authorities in preparing the secondary and tertiary network designs.
- (b) **Continuity of service.** The Durres service area used to receive an average of 6 hours of water supply per day, below the national average of 11.2 hours and EU benchmark of 24 hours. Consequently, water quality could not be guaranteed given the increased risk of contamination when water supply pipes are not operated under pressure.
- (c) **Inefficiencies of commercial services.** Most of Albania's water utilities, including Durres, were unable to cover their operating costs due to a combination of factors, including high operating costs, low metering, low bill collection rates, and high levels of NRW. To cover utilities' financial deficits, the Government was forced to provide operational subsidies of about US\$30 million per year sector-wide or about one-third of the operating costs. While the average reported utility collection rates nationally stood at 84 percent, collection rates in Durres were as low as 60 percent in 2010 and 69 percent in 2011. Overstaffing at the DWU was also a major challenge, with 7.3 staff per 1,000 water/sewerage connections compared to the EU benchmark of 2 staff per 1,000 connections. The utility had a financial working ratio (FWR) of 1.69⁵ against an EU benchmark of 0.50. The chronic lack of resources forced the DWU, like several others, to defer costs of infrastructure maintenance, ultimately contributing to accelerated deterioration and premature breakdown of assets. In addition to that, NRW was estimated at around 64 percent in 2011 for the WSS utilities as a whole with Durres reporting an NRW rate of 66 percent which was slightly higher than the national average.⁶
- (d) **Inadequate demand management.** Only 45 percent of the household connections nationally and 50 percent in Durres were metered, which generally encouraged wastage, overconsumption, and lack of accountability for water resource usage. Low metering levels

⁴ Project Appraisal Document (PAD), Water Sector Investment Project, IBRD. Albania. November 25, 2013.

⁵ FWR is the ratio of operating costs excluding depreciation to the operating revenues of the utility.

⁶ WRAA (Water Regulatory Authority of Albania) (ERRU). 2011. *Report on the Performance of the Water Supply and Sewerage Companies*. http://www.erru.al/doc/WRA_Performance_Report_2011.pdf



undermined billing and collection efficiency, as many households refused to pay when billed against the norm rather than for actual water consumed. therefore, converting non-metered customers into metered resulted in a reduction of billed volumes.

- (e) **Inadequate sewerage services.** Wastewater coverage was relatively low in DUSA (52 percent) and the existing Durres sewerage system was in dire need of rehabilitation due to age, poor design and construction, haphazard illegal connections from the sewers to and from storm water drains, and poor maintenance. Consequently, the system was plagued with chronic problems such as sewer blockages and overflow of pumping stations, leading to flooding. The wastewater effluent was flowing to the Adriatic Sea until the constructed Durres wastewater treatment plant was connected to the wastewater network and was receiving effluent flows, and the full operation of the plant started in March 2013.
- (f) **Institutional challenges.** In addition to the governance issues linked to the impasses in the transfer of some of the utilities to local government units, the sector at both the national and local levels faced other institutional challenges such as weaknesses in managerial staff capacity to operate the utilities on a commercial basis, weaknesses in the regulatory framework for the sector, and the absence of adequate asset documentation.

5. **Alongside other donors, the World Bank had been providing a steady stream of investments to help improve water and sanitation services in Durres and beyond and contributed to institution-building measures in Albania.** These included three prior World Bank-supported operations in Durres and other cities and technical assistance support to explore sector consolidation efforts and institutional models (through a feasibility study for regional utilities in 2009 and a study to look at options for institutional models in the Durres Options Study in 2011) and to establish the PMBU within the National Water Agency (a dedicated agency under the Ministry of Transport and Infrastructure [MTI], a responsible line ministry at the time). In recognition of its long-standing sector engagement, convening power, and global experience, the World Bank had been requested by the GoA to assist in preparing its National Water and Sanitation Strategy for the 2010–2016 period. The new strategy, which was endorsed by the Government in September 2011, updated the 2003 Sector Strategy with a vision to develop proper policies and commit sufficient resources to improve the provision of water supply and sewerage services and to consistently move toward compliance with EU standards. Having indicated to donors that the water sector should be a major focus of infrastructure support going forward, the Government subsequently prepared a comprehensive capital investment master plan for the sector with the support of *Kreditanstalt für Wiederaufbau* (KfW). Furthermore, The World Bank worked with the GoA in developing the Financing Policy for the Water Supply and Sanitation (WSS) sector including a financial planning tool/model enabling the projection of national WSS sector targets based on a combination of available funding resources. The WSIP incorporated lessons learned from previous World Bank engagements and the existing strategic context at appraisal and was implemented throughout the evolving strategic, policy and regulatory framework in the last five years. At the same time, the project has been a building stone in terms of providing key investments and provided an entry point for policy dialogue for the World Bank to participate in these strategic developments. (further detail is provided in section E).

Theory of Change (Results Chain)

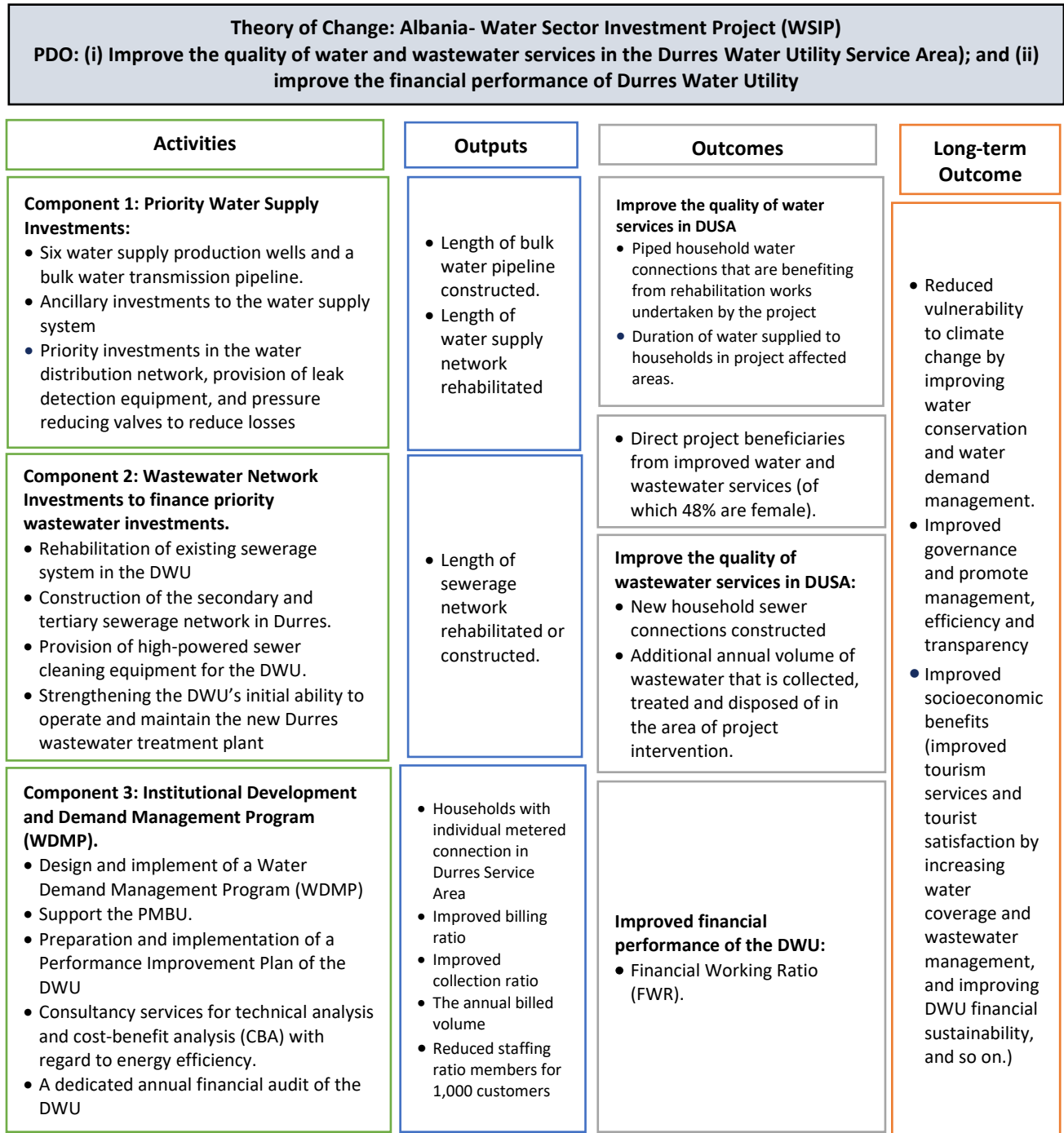
6. **The project aimed to: (a) improve the quality of water and wastewater services in the DWU service area; and (b) improve the financial performance of DWU.**



- (a) **Activities.** As shown in figure 1, the underlying logic of the proposed activities was to implement priority investments for water supply production to address the acute water shortages through enhanced water supply production capacity, to enhance the existing sewerage network's capacity, to consolidate and further improve the operations and sustainability of the DWU through effective enhancements in financial management (FM) and cost recovery, and to support project implementation through an established Project Implementation Unit (PIU).
- (b) **Intermediate results.** Project activities were envisioned to lead to the construction and operation of piped household water connections and new household sewer connections, to improve the bulk water pipeline and water and sewerage network with connection to meters, and to improve the billing and collection ratios and the total billed volume.
- (c) **Outcomes/Project Development Objectives (PDOs).** The project outcome focused on improving the quality of water and wastewater services and the financial performance of the DWU.
- (d) **Long-term outcomes.** In the long term the project would reduce the vulnerability to climate change by improving water conservation and water demand management, improve governance and promote management, efficiency and transparency, and improve socioeconomic benefits such as improve tourism services and tourist satisfaction by increasing water coverage and wastewater management, and improving DWU financial sustainability.



Figure 1. Theory of Change



Note: DUSA = Durres Utility Service Area

Project Development Objectives (PDOs)

7. **The PDO was to** (i) improve the quality of water and wastewater services in the Durres Utility Service Area; and (ii) improve the financial performance of Durres Water Utility.



Key Expected Outcomes and Outcome Indicators

8. The PDO was measured through the indicators listed in table 1.

Table 1. Outcomes and Indicators (as at Appraisal Stage)

Outcome	PDO Indicator ^a
Improved the quality of water services in the Durres Utility Service Area	<ul style="list-style-type: none"> • Piped household water connected • Direct project beneficiaries
Improved the quality of wastewater services in the Durres Utility Service Area	<ul style="list-style-type: none"> • New household sewer connections constructed
Improved financial performance of Durres Water Utility	<ul style="list-style-type: none"> • Financial Working Ratio

Note: a. Other intermediate indicators that measure project progress and contribute to the PDO are discussed under sections I A and II B.

Components

9. The project had four components; the first two components focused on water and wastewater supply and networks investments to address, in a sustainable manner, the acute water shortages experienced in the Durres Water Supply Service Area and to enhance the existing sewerage network’s capacity to handle the increased water supply in an environmentally and socially sustainable manner. Component 3 supported the Government’s broad-based policy and reform agenda at the national level with specific interventions at the local level, focused on the Durres region and its utility on a pilot basis. Component 4 supported the implementation of the project. Table 2 shows the costs of the components (estimated at appraisal and revised) with the source of funds.

- (a) **Component 1: Priority Water Supply Investments** was designed to finance: (i) a new bulk⁷ water supply system (6 water wells and 63 km bulk water transmission pipeline) that goes straight into the city of Durres and provides up to 630 L/s additional supply capacity to address the acute water shortages in the Durres Water Supply Service Area. The old pipeline would continue to serve the communes of Durres and support the City of Durres; (ii) ancillary investments linking settlements/communes in the Durres service area and along the transmission pipeline route to the water supply system in a sustainable manner; and (iii) priority investments in the water distribution network in Durres along the old main transmission, as well as the provision of leak detection equipment and pressure reducing valves to reduce losses.
- (b) **Component 2: Wastewater Network Investments** was designed to finance priority wastewater investments aimed at enhancement of the existing sewerage network’s capacity to handle the increased water supply in an environmentally and socially sustainable manner; rehabilitation of critical parts of the existing sewerage system in Durres City; construction of the secondary and tertiary sewerage network in the Durres beach area; provision of high-powered sewer cleaning equipment (trucks and so on) for the DWU to clean the main

⁷ Bulk water generally refers to potable water transported in tanker trucks. However, for the sake of consistency, the Implementation Completion and Results Report (ICR) team adhered to the use found in the PAD which means water pumped to demand centers from the main source (wellfields).



collectors; and strengthening of the DWU’s initial ability to operate and maintain the new Durres wastewater treatment plant.

- (c) **Component 3: Institutional Development Program, Utility Strengthening and Water Demand Management** was designed to support the Government’s broad-based policy and reform agenda at the national level with specific interventions at the local level. Investments included: (i) design and implementation of a WDMP (metering system, public awareness on water conservation and improved water management, and so on); (ii) support to the PMBU (creation of a core set of indicators and enhancement of the data collection and monitoring and improvement of data dissemination and usage); (iii) preparation and implementation of a Performance Improvement Plan and other support for institutional strengthening of the DWU to improve the efficiency of operations (the financial and operating efficiency of its service delivery in a sustainable manner), including design of a customer service survey and public awareness campaign; (iv) consultancy services for technical analysis and capacity building, in particular with regard to energy efficiency; and (v) a dedicated annual financial audit of the DWU.
- (d) **Component 4: Project Implementation Support** to the PIU staff and operating costs, needed equipment, consultancy, supervision, and monitoring and evaluation (M&E) services.

10. The total cost of the project was €63.70 million, financed through an IBRD loan (€62.5 million) and the GoA (€1.2 million).⁸

Table 2. Cost of Components at Appraisal and Revised (€, millions)

Component	Total Cost at Appraisal (IBRD and GoA)	Total Cost at Appraisal from the IBRD	Total Cost at Appraisal from the GoA	Revised Total Cost from the IBRD	Revised Total Cost from the GoA	Final Project Cost (IBRD and GoA)
Component 1	44.14	43.80	0.34	44.86	0.7	45.56
Component 2	10.00	10.00		15.15	0.3	15.45
Component 3	3.86	3.86		1.23	0.0	1.23
Component 4	0.68	0.68		1.10	0.2	1.30
Subtotal baseline cost	58.68	58.34	0.34	62.34	1.2	63.54
Physical contingencies	3.00	3.00				
Price contingencies	1.00	1.00				
Total contingency	4.00	4.00				
Total project cost	62.68	62.34	0.34			
Front-end fee (0.25%)	0.16	0.16		0.16		0.16
Grand total	62.84	62.5	0.34	62.5	1.20	63.70

⁸ The GoA funds financed indirect costs such as the cost of permits, licenses, and taxes and local costs of contracts, offset negative currency exchange, and so on.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs and Outcome Targets

11. **The original PDO was not modified during project implementation.** Two restructurings of the project (on May 26, 2017, and February 21, 2019) were done to maintain the achievement of the PDO.

Revised PDO Indicators

12. **The PDO indicators were revised in May 2017 to reflect midterm review (MTR) outcomes and more accurately track the PDO.** One target of existing indicators was modified, and two new targets were introduced (table 3). During the MTR mission, changes were proposed to the annual and final targets of the FWR (cash operating expenses/collected revenues). The original target value of 0.85 was assessed as unrealistically high to be achieved by project closing date, given the achieved value (1.46) at the time, the trends in tariff levels approved from the regulatory agency were not as planned with rising electricity costs. A new target value of 1.05, close to cost recovery of operational expenditure, was introduced to be achieved by project closing. Two other PDO-level indicators were introduced, related to the improvement in the quality of wastewater services to ensure that each aspect of the PDO was being adequately monitored.

Table 3. New PDO Indicators and revised targets

Original, Revised, and New PDO Indicators	Unit Measure	Baseline/First Year Measurement	Original Targets as in the PAD	Revised/New Targets
[REVISED] Financial Working Ratio	%	1.69	0.85	1.05
[NEW] Additional annual volume of wastewater that is appropriately collected, treated and disposed of in the area of Project intervention.	m ³	0	New indicator	1,835,400
[NEW] Beneficiaries from improved wastewater collection and transportation facilities.	Number	0	New indicator	51,600

Revised Components

13. The original components remained valid and were not revised.

Other Changes

14. **Other changes were done to enhance achievement of the PDO as follows:**

- (a) Extending the project closing date from June 30, 2019, to March 31, 2020, to allow the PIU/DWU to complete the contracts implementation.
- (b) Changing the economic and financial analysis from project appraisal to replicate the modification regarding the achievement of cost recovery by the end of the project because



of the unexpected trends of increasing energy cost over 20 percent and non-approval of improving tariff levels by the regulatory agency.

- (c) Revising the disbursement projection foreseen at appraisal to reflect actual and forecasted disbursements.
- (d) Revising the Results Framework. Five intermediate targets were modified (table 4) and a new one was introduced to measure the number of cubic meters billed from metered consumption.

Table 4 Revised, and New Intermediate Indicators

Original, Revised, and New Intermediate Indicators	Unit Measure	Baseline/First Year Measurement	Original Target as in the PAD	Revised/New Target
[REVISED] Length of sewerage network rehabilitated or constructed	Km	0	TBC (was not identified)	17.00
[REVISED] Households with individual metered connection in the Durres Service Area	%	35.0	90	84.20
[REVISED] Billing ratio	%	32	50	35.00
[REVISED] Collection ratio	%	74	92	92.00
[NEW] Total annual billed volume by DWU	m ³	0	New indicator	10,000,000

Rationale for Changes and Their Implication on the Original Theory of Change

15. **The project’s initial procurement delays meant that activities could not be completed in the original time period. The project was approved on December 20, 2013 and became effective in May 2014.** Until 2016, the project suffered from slow implementation due to delays in the procurement process for the main works financed under the project (bulk water supply system), and in obtaining related construction permits. This resulted in a considerable disbursement lag. For this and other implementation issues, including lack of sufficient coordination between the ministerial-level PIU and the DWU, the project’s overall implementation progress was rated Moderately Unsatisfactory from 2014 until May 2016. Project implementation accelerated following the award of works on the bulk water supply system (February 2016), as well as the finalization of additional procurement activities. Commitments and disbursements improved going forward from 2016. Due to the delays that occurred at the beginning of the project, the contracts were not expected to finish by the project closing date. Therefore, the project team agreed with the project counterparts (PIU and DWU) and officially extended the project closing date through a restructuring in February 2019, from June 30, 2019, to March 31, 2020, to achieve the PDO.

16. **The original PDO targets, in particular with regard to financial performance, were challenged by changing circumstances outside of the project’s influence,** such as: (a) the availability of data at appraisal being limited and therefore some of the underlying assumptions and baselines proving to be inaccurate once project implementation started and more data became available; and (b) the targets established at project appraisal regarding cost recovery by collection levels (that is, full operating cost recovery in 2016) proving to be more challenging to achieve, though there was significant progress in the DWU’s ability to achieve cost recovery. This is primarily because these targets were based on: (a) estimated tariff levels



higher than those subsequently approved by the Albanian Water Supply and Sanitation (WSS) Regulatory Authority (*Entit Rregullator të Ujit*, ERRU); and (b) lower starting energy prices, which subsequently have experienced a countrywide increase of over 20 percent, resulting from an overall reform in the energy sector (noting that energy costs account for over 45 percent of the overall operating costs for the utility). Therefore, the FWR became unrealistic to achieve in the immediate/short term. Since the start of the project, progress toward achievement of the PDO in the Implementation Status and Results Reports (ISRs) has been rated Moderately Unsatisfactory on this account. Following the MTR recommendations in December 2016 and the adoption of a revised business plan, the World Bank team and the project counterparts agreed to undertake the May 2017 restructuring, when the DWU was clear of projected targets and more reliable information on key operational aspects was available.

17. **The proposed new target for cost recovery was considered as an important milestone for the DWU and was still relevant to the PDO to improve DWU cost recovery** ‘by billed revenue’ in 2019 (which is the first year in which the construction of the infrastructure financed by the project was completed) and close to full operating cost recovery (95 percent) by ‘collected revenue’, which is the specific indicator included in the project’s revised Results Framework.

18. **The new target of the volume of water billed was introduced to enable the calculation of actual water production and water supplies.** The measurement of water billed that is accompanied by the optimization of the water system and distribution network and improvement of the water demand program will enhance the water conservation, which in turn will reduce vulnerabilities to climate change at the long run.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

19. **The project’s objectives were strongly aligned with the GoA’s National Water and Sanitation Strategy for 2010–2016 and continue to be relevant to the adopted National Water Supply and Sewerage Services Sector Strategy 2019–2030.** The project is highly relevant to the Government’s priorities by advancing the policy and institutional reform agenda as aimed by the Sector Strategy (2019–2030): (a) expanding and improving the quality of water supply and sewerage services; (b) orienting the water utilities toward principles of cost control and full cost recovery; (c) improving governance and regulation in the sector; (d) investing in enhancing the capacities of the sector workforce; and (e) moving toward convergence of Albanian Law with EU Water Directives. The WSIP was designed within this strategic framework and the GoA sought to use it as a vehicle to implement its reform agenda.

20. **The project is consistent with and directly supports the third strategic focus area (strengthening public sector management and service delivery) of the IBRD FY15–FY20 Country Partnership Framework (CPF).**⁹ The CPF support is more directly aimed at building citizens’ trust in government, strengthening service provision and improving service delivery and access to basic services, which is closely comply with the first part of the project objective (that is improve the quality of water and wastewater services in the

⁹ CPF Report Number 98254.



Durres Utility Service Area). In addition, the same focus area of the CPF aims at strengthening public sector management (i.e. enhancing transparency, accountability and improving financial efficiency) which complies with the second objective of the project (improve the financial performance of Durres Water Utility). Furthermore, the project also contributed to the World Bank Group's goal of promoting shared prosperity by addressing water service quality that disproportionately affects rural and urban poor populations.

21. **Durres is the second largest city in Albania and as a coastal city is a major source of tourism receipts for the country's economy.** The Durres-Tirana Corridor alone is estimated to generate about 60 percent of the country's GDP. As such, reliable and efficient water and wastewater services are not only essential to the city's residents and visitors, but also are an important factor in the performance of the regional economy. Wastewater treatment is also a critical factor in Durres as a coastal city, as it will help reduce the degradation of Durres' beaches and natural habitats along the coastline.

22. **Rating.** The overall relevance of the project is rated **High**. Improving the quality of water and wastewater services was and is still¹⁰ relevant to sector needs and DUSA was specifically defined in the Water Sector Strategy (2019–2030) as a priority. Besides direct benefits, increased convenience and consumer satisfaction with improved water supply and improvements in water quality are generally deemed to contribute to public health benefits by reducing the risk of waterborne diseases in the project areas. Furthermore, the financial performance improvement of the DWU was crucial toward its cost recovery and sustainability and it is complying with the GoA's long-term financial policy for the WSS sector (2019), which includes setting national sector policy objectives and targets and lining up investment priorities based on available funding for the sector, which have been adopted for planning and budgeting purposes.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

23. **The PDO has multiple outcomes: (a) improve the quality of water services in Durres Utility Service Area; (b) improve the quality of wastewater services in Durres Utility Service Area; and (c) improve the financial performance of the DWU.** A split evaluation was considered given the restructuring and reduction in the value of the FWR. However, since the split evaluation did not affect the rating pre and post restructuring, it has not been undertaken. There are several outcome indicators used to monitor and assess the achievement of the PDO outcomes (shown in table 5). The project was restructured twice to achieve its objectives, during which, the project closing date was extended, and targets modified.

24. **PDO 1: Improve the quality of water services in Durres Utility Service Area. Achievement - Substantial.** This objective was measured by three main outcome indicators: (a) piped household water connections that are benefiting from rehabilitation of works undertaken by the project; (b) direct project

¹⁰ According to the National Water Supply and Sewerage Services Sector Strategy 2019–2030. According to the Sustainable Development Goals' definition of access to safely managed water services, Albania has 69 percent coverage at national level, whereas the national coverage figure for piped water supply as used in the national strategy is 78 percent. National figures for piped water supply and sewerage coverage show huge differences in urban and rural rate coverage (92 percent versus 59 percent for water supply and 76 percent versus 13 percent for sewerage). although one in five rural households have no piped connection in the yard and still need to travel to collect water from varying distances. With regard to the treatment of wastewater, only around 10 percent of the total urban population is connected to wastewater treatment.



beneficiaries; and (c) duration of water supplied to households in project affected areas (an intermediate indicator). Despite the delays in implementation at the start of the project, 87,885 households (more than the target of 77,000 households) have benefited from piped water connections through the rehabilitation of water facilities undertaken by the project. Consequently, this raised the direct project beneficiaries from water-related facilities to 317,724, out of which 48 percent were females.¹¹ The duration of water supplied to households in project-affected areas improved from 6.0 to 9.1 hours on average (target is 12 hours)¹². The increase in the duration of water supplied to households followed a gradual pattern during project implementation and it will most likely achieve the target of 12 hours a day in Durres by summer 2021 when the new bulk water system starts operating at full capacity. Noting that the disruptive earthquake and COVID situations at project closing, affected together the commissioning of the main pipeline and its pumping capacity at the ICR reporting was ranging between 70 percent to full capacity at the default and liability period due to testing purposes that required pumps configuration and adjustments, which may be completed by the end of 2020 and early 2021 and accordingly improve the supply duration. Furthermore, the network optimization program which is under implementation would reduce the NRW and help in improving the water supply, as well as the improved capacity of the technical assistance activities for the operation and maintenance staff would enhance the DWU capacity to improve its operation and water supply patterns. Furthermore, the project achieved other intermediate targets such as the lengths of bulk water pipeline and distribution networks and installation of meters. In addition, it built 7 water reservoirs for system balance and disinfection for better water quality.

25. **PDO 2: Improve the quality of wastewater services in Durres Utility Service Area. Achievement - High.** The project achieved significant progress under the wastewater component. Achievements toward targets of the PDO were realized as 3,074 new household sewer connections were constructed under the project (more than the target of 3,000); 1.9 million m³ (more than the target 1.8 million m³) of additional volume of wastewater that was appropriately collected, treated, and disposed of in the project area of intervention, this reflect the improved capacity of the wastewater management and treatment quality at DWU; and 68,100 people (more than the target of 51,600) benefited from improved wastewater collection and transportation facilities.

26. **PDO 3: Improvement of financial performance of the DWU. Achievement - Modest.** The DWU slightly improved its financial and operating efficiency through the implementation of a comprehensive business plan. This was reflected in reducing the FWR¹³ from 1.69 to 0.99 in 2018 due to strong government involvement by giving amnesty for customers to declare illegal connections and encouraging them to sign agreements with the DWU for sorting out old debts, as well as increasing the number of contracts in the same year by 5,087 and the collection rate to above 100 percent. However, the momentum did not continue in 2019, as the regulator did not allow for the targeted tariff increase, besides the significant increase of the electricity cost in early 2019 by more than 20 percent, and the socioeconomic impact of the earthquake in 2019, followed by the COVID-19 pandemic impact around the project closing date. Therefore, the FWR increased again to 1.30 (the original target was 0.85 and was modified to 1.05). Similarly, the related intermediate indicators (the collection ratio is 26.1 and the target

¹¹ The project beneficiaries target is 330,000, this includes water and wastewater. The wastewater target was specified during the restructuring as 51,600 beneficiaries. Therefore, the water target would be (330,000–51,600), that is, 278,400 beneficiaries. Therefore, the total beneficiaries for water and wastewater is 385,824 (317,724+68,100).

¹² This intermediate indicator was evaluated here under the PDO indicators as it is an outcome indicator and was assessed as such.

¹³ FWR is the relationship between the collected revenues and cash operating expenses. It is the inverse of the 'O&M cost coverage' indicator utilized by the ERRU.



is 50 percent, the billing ratio is 91.3 and the target is 92 percent, the total billed volume is 8.6 million m³ while the target is 10 million m³, and so on) have faced shortcomings too. As of the 2020 calendar year, however, all financial indicators are expected to register an improvement due to the arrival of adequate water in Durres with accompanying reductions in NRW (through the optimization program) and daily service hours. 2020/2021 will probably see a reduction in the FWR, which will continue declining for the next decade due to the increase in water supply, more water meters installed and network optimization (i.e. reduction in NRW ratio), reducing expenses including electricity bill (planned energy efficiency program) and in the other hand increasing billing and collection ratio¹⁴. Moreover, the project has supported the DWU in different technical assistance and institutional-building areas, which would likely improve the DWU financial performance such as: (a) commercial strengthening—implementation of periodic (monthly) analysis such as billed volume variance analyses to prioritize meter replacement, and so on and elaboration of the billing software including meter-reading controls, data cleansing of the customer database, structuring contracts for meter delivery, and so on; (b) contract supervision, particularly the network optimization study and the supervisory control and data acquisition (SCADA) system under the big pipeline project; (c) support to the DWU in-house network management activities—zoning, technical specifications for data loggers, repair of electrical-mechanical (Siemens) devices, assessment and NRW reduction at the existing trunk main; and (d) financial and business planning—preparation of an updated financial model used for calculation of revised framework objectives, and so on.

Table 5. Achievement of the PDO-level Indicators

PDO Indicators	Targets		Actual Results Achievement	Share of Achievement (Actual Results/Targets)		Rating of Achievement
	Original	Revised	By ICR September 1, 2020	Original	Revised	
Piped household water connections that are benefiting from rehabilitation works undertaken by the project	77,000	Not revised	87,885	114%		Substantial
Direct project beneficiaries with female percentage	W and WW 330,000 (W=278,400 and WW = 51,600) 48% females	Not revised	317,724 (W) 385,824 ^a (W and WW) 48%	114%(W) 48% females	117% (W and WW) 48% females	
New household sewer connections constructed under the project	3,000	Not revised	3,074	102%		High

¹⁴ Refer to the “risk to development objective” section for a more comprehensive discussion of expected improvements in the utility’s financial situation.



PDO Indicators	Targets		Actual Results Achievement	Share of Achievement (Actual Results/Targets)		Rating of Achievement
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Direct project beneficiaries with female percentage	W and WW 330,000 (W=278,400 and WW = 51,600) 48% females	Not revised	317,724 (W) 385,824 ^a (W and WW) 48%	114%(W) 48% females	117% (W and WW) 48% females	
Additional annual volume of wastewater that is appropriately collected, treated and disposed	New target	1,835,400	1,905,000		104%	
Beneficiaries from improved wastewater collection and transportation facilities	New target	51,600	68,100		132%	
Financial Working Ratio	0.85	1.05	1.30	53%	76%	Modest

Note: W = Water; WW = Wastewater.

a. The total achieved target for water (317,724) and wastewater (68,100) is 385,824 beneficiaries, which is higher than the target (330,000).

Justification of Overall Efficacy Rating

27. The overall efficacy rating is **Substantial** because achievement of one of the project objectives was substantial, one was high, and one of them was modest, with a strong likelihood of improvement in FY21 once the impact of COVID and the 2019 earthquakes subside, and the new, project-supported infrastructure is fully deployed.

C. EFFICIENCY

Assessment of Efficiency and Rating

28. Efficiency analysis in this ICR strives to measure how economically resources and inputs have been converted into results. Since the original project calculated an economic rate of return (ERR)/internal rate of return (IRR), the underlying assumptions are being fully explained and rendered transparent in annex 4 and an effort is being made to re-estimate and update the ERR (and other efficiency parameters) calculated at project appraisal for completion of reporting. Two types of analyses were offered in the Project Appraisal Document (PAD), which comprised: (a) an Economic and Financial Cost-Benefit Analysis



(CBA) for Component 1; and (b) a Partial Financial Analysis on the Metering Investment. A comparable analytical approach and variables were utilized (such as water quantity produced and delivered, price of water in economic and financial terms, and O&M costs) at ICR stage for the ERR and FRR except for changes in the level of the variables (design estimates versus real data) and adjustments in the implementation schedule to reflect project delays. Meanwhile, partial financial analysis of metering used the same time frame as contained in the PAD. The below table captures the original and re-estimated efficiency parameters, which will be explained in the following paragraphs.

Table 6. Summary of Economic and Financial Assessment - PAD and ICR

Description	Efficiency Parameter	Type of Analysis		
		Component 1 - Economic CBA	Component 1 - Financial CBA	Partial Financial Analysis for Metering
PAD	ERR or FRR	11%	9.8% (base case)	31%
	ENPV, FNPV	US\$22.71 million	US\$1.6 million	n.a.
	BCR	1.26	n.a.	n.a.
ICR	ERR or FRR	10%	7%	20%
	ENPV, FNPV	US\$18.45 million	US\$7.87 million	n.a.
	BCR	1.2	1.07	n.a.

Note: BCR = Benefit-cost Ratio; ENPV = Economic Net Present Value; FNPV = Financial Net Present Value; FRR = Financial Rate of Return.

29. **In more specific terms, efficiency analysis focused on the extent to which the intervention has delivered, or is likely to deliver, results in an “economic” and “timely” manner¹⁵.** The “economic” dimension looked into the conversion of inputs into outputs, outcomes and impacts, while the “timely” delivery dimension dealt with the intended and actual timeframes for the delivery of the project outcomes. The “timely” delivery of the project output has a bearing on the “operational efficiency” which pertains to how well the intervention was managed. The economic and timely dimensions of efficiency analysis mutually reinforce one another and are largely captured by the efficiency parameters (ERR, FRR, NPV and CBR).¹⁶ ICR level calculations are largely in agreement with the PAD estimates for the key efficiency parameters and underlined the soundness of the investment in both economic and financial terms. It should be noted that the appraisal analysis had used a higher economic and financial price for water and also assumed a larger quantity of water being supplied by Fushe Milot. These two reasons combined resulted in a slightly lower ERR and FRR. Likewise, delayed completion of the metering activity resulted in a lower – though still highly positive - rate of return.

30. **The project’s operational efficiency was also favorable, with limited overall delays and costs below or at initial projections.** Despite a limited delay, the project delivered all of the promised outputs at reasonable cost and without exceeding budget levels. Important efficiency gains are expected to be achieved by building this dedicated supply line to Durres. The new bulk water system is expected to lower O&M costs (mainly due to savings in power costs, undertaking a network rehabilitation and optimization program for reducing the rate of the NRW, increasing billing by incorporating large customers, and

¹⁵ Better Criteria for Better Evaluation, Revised Evaluation Criteria Definitions and Principles for Use, OECD/DAC Network on Development Evaluation, <https://www.oecd.org/dac/evaluation/revised-evaluation-criteria-dec-2019.pdf>

¹⁶ This means that the higher the level of cost effectiveness, the higher the ERR, and vice versa. Likewise, the shorter the delivery time the higher the ERR, and vice versa.



improving tariff) while meeting 100 percent of the demand in Durres and effecting significant improvements in the financial performance indicators (mainly the FWR) as envisioned.

31. **Justification of overall Efficiency rating.** The project delivered substantially positive economic and financial benefits, despite limited delays, hence qualifying the project as an acceptable investment effort in the WSS sector in Albania and warranting a “**Substantial**” rating for the efficiency dimension of the project assessment.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

32. **The overall outcome is rated Moderately Satisfactory (instead of Satisfactory) because one of the objectives (improving the financial situation of DWU) had moderate shortcomings in its achievements.** The project relevancy remained high to the GoA’s strategies and population which attributes high value to water and sanitation services at DUSA as a vital tourist and economic city. In terms of efficacy, the project substantially achieved the improvement of the quality of water and wastewater management services within DUSA. However, the project only moderately achieved its second objective by time of ICR write-up, to a degree due to the ongoing pandemic and socio-economic effect which have deteriorated the WSS utilities’ financial situation, combined with the fact that the construction of the main works was finalized in the lead up to the project closing Date, which means the utility is still adjusting to bring its new operations and maintenance costs (including energy) under control. Overall, Efficacy was rated Substantial because two of the project objectives were almost fully achieved and one of them had a moderate shortcoming. Efficiency was rated Substantial because the project delivered all the promised outputs, albeit with a delay, at a reasonable cost and without exceeding budget levels.

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

33. The project focused on improving the quality of water and wastewater services in DUSA, which benefited both men and women. Access to water (direct beneficiaries, length of the bulk water pipeline, networks, the duration of water supplied, and so on), and wastewater services (beneficiaries were increased; new household sewer connections, additional wastewater collected, treated, and disposed, and so on) have increased. While improved water and wastewater services benefit both men and women, it can be argued that the improvements are more significant for women as they are often the ones collecting and using more water at home and affected by the health challenges relating to the lack of treatment of wastewater, on a daily basis, especially in rural areas of DUSA.

Institutional Strengthening

34. **Although the project’s main financing focused on water and sanitation infrastructure development, it provided extensive institutional support to the DWU and highlighted it in its second objective.** The Durres water service area, in addition to the technical challenges related to access and quality of services, was facing institutional challenges and inefficiencies at both the utility and consumer levels, including high levels of NRW due to, among other reasons, inadequate demand management demonstrated by heavy wastage by consumers, low levels of metering (more than 50 percent of consumers were unmetered), and so on. The support provided to the DWU for improvement of the WDMP and preparation and implementation of its Performance Improvement Plan, helped the utility to implement (and retro-fed into) the broad-based policy and reform agenda at the national level which took



place since 2016, and also helped the DWU to improve its FWR (that is, the billing and collection ratios were improved, more meters were installed and read, and so on). Furthermore, leak detection equipment and waste cleansing were also supplied to the DWU through the project for O&M purposes.

35. **The project helped improve the capacity of the utility in a few key areas (commercial management, network operations, contract supervision, and FM).** The technical assistance provided by the World Bank team under the institutional strengthening component and funded through the World Bank budget and trust funds (EU, Danube Water Program, and others) on several internal processes (from cost accounting to NRW management) has resulted in improvement in key performance indicators (including collection efficiency, metering of production and consumption, NRW, and billed volumes). Furthermore, during the life of the project, the utility reached full coverage of direct operating costs (in 2018) after decades of working at an operating loss. Coordination between the PIU and Durres also steadily improved, with the DWU being involved alongside the PIU's project engineer in works supervision, problem solving during hand over, commissioning, and so on. The utility has also ranked better in the regulatory agency's assessment, which in 2018, ranked it among the strongest performers (from holding one of the lowest rankings earlier).¹⁷

36. **The institutional strengthening component of the WSIP provided an excellent entry point for the World Bank engagement in broader WSS sector policy dialogue** and key analytical work to support the Government in the development of policy and regulatory instruments and to inform overall sector reform in Albania as reflected in Box 2. Furthermore, The World Bank team learned several lessons from the project implementation and have incorporated them in the programmatic operation which is now under development. At the same time, the project provided an entry point for policy dialogue for the World Bank to participate in these strategic developments.

¹⁷ See the ERRU's performance reports in <http://www.erru.al/mat.php?idr=46&idm=113&lang=2>.



Box 2: Policy Dialogue around WSS Sector Reform during WSIP Implementation

Since 2015, through a parallel Advisory Services and Analytics (ASA), Water Supply and Sanitation Sector Policy Support (P152351), the World Bank has advised on the Development Financing Policy for the WSS sector, in coordination with the line ministry (MTI at the time) and the Ministry of Finance and Economy. This work developed a financial planning tool/model enabling the projection of national WSS sector targets based on a combination of available funding resources considering tariffs from customers, taxes (national budget), and transfers (donor grants). The WSS sector financial policy was adopted by the GoA in 2016 in seeking to align sector target setting and budgeting of resources—and has been used by the Ministry of Infrastructure and Energy (MoIE) to prepare the new National Strategy (2019–2030), focusing on improvement of utility performance as recommended by the financing policy. This analytical and advisory work has been welcomed by key development partners, EU and KfW.

In addition, significant capacity building and analytical work for WSS sector reform issues was provided under the regional Danube Water Program including: (i) assisting the national water regulatory agency in improving its regulatory, benchmarking, and tariff-setting practices during 2014–2016; (ii) capacity building, engaging with the national utility association (Shukalb) to help them further strengthen their curricula, and offering capacity-building programs for WSS utilities in Albania through the Danube Water Partnership - D-leap; (iii) analytical work through an individual country note in the 'State of the Sector Report 2015' and regional update in 2018; and (iv) enabling knowledge exchange around sector policy and regulation issues with participation of key policy decision-makers from Albania in various regional conferences, workshops, and study tours during 2013–2019. Other World Bank involvements and support for the new National Strategy (2019–2030), focusing on energy efficiency and development of renewable energy measures for the WSS utilities have been going on.

In late 2018, the relevant engagement and TA and policy advice at national sector level led to a request from relevant line ministry – supported by Ministry of Finance and Economy for Bank's financing to support a broad reform program led by the Government. This new Program, The Albania National Water Supply and Sanitation Modernization Program (P180891) is under preparation and is structured as a PforR given strong ownership by government and focus on results. Its proposed PDO is to strengthen the framework of incentives and institutional capacities for WSS services delivery at national level.

Mobilizing Private Sector Financing

37. Not applicable.

Poverty Reduction and Shared Prosperity

38. **The project has contributed in improving the quality of water and wastewater services, which could reflect in enhancing the substantial benefits to the economy.** The project was initiated to improve the quality of water and wastewater services and access to services has been increased too (increasing the length of the networks, the piped households connected, duration of water supplied, and so on). People purchasing water through private supply units, evacuating their wastewater through evacuation trucks, and so on, would pay more for the services and may affect the purchasing capacity for basic needs of the poor and lower-income people. Therefore, the project has supported and benefited the people (including the poor) in accessing cheaper and more reliable services and thus helped in improving



conditions under which economic development and prosperity can take place. Furthermore, improving the water and wastewater services could have generated significant benefits for public health, the environment, and certain economic sectors such as fisheries, tourism, and property markets, although these benefits may be less obvious to individuals and more difficult to assess in monetary terms.

Other Unintended Outcomes and Impacts

39. Not applicable.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

40. **The background analysis for the project was sound and helped in defining the project objective.** The underlying challenges in the water and wastewater sectors and their relation to the overall economy as well as the level of services were highlighted. The analyses at appraisal confirmed a situation of insufficient water and wastewater services in the Durres service area. Studies (for example, institutional option study, and feasibility study) that were done before project appraisal helped identify the project objectives, institutional arrangements, and insights about appropriate strategies for delivering services while recovering connection and operating costs over time, and so on.

41. **The project team was able to build on extensive prior studies and World Bank engagement to design a realistic and well-informed intervention.** Given the country sector context, the project design identified clear and relevant objectives with structured components and clear operational logic, implementation arrangements, and appropriate timing.

42. **The M&E plan was developed and adopted by the involved agencies.** The MTI was responsible for the project M&E through the PMBU, which monitors 58 urban water utilities, including Durres, against established indicators. The project provided technical assistance to strengthen PMBU capacity in some areas: data quality assurance, expansion to reach rural areas, and so on. Some of the project targets were consistent with those used by the regulatory agency, and that would enhance regulatory functions and monitoring process in the sector.

43. **Readiness for implementation would accelerate progress at the start of project implementation.** Despite the good studies that were done during project preparation, which defined project objectives and focused on the needed outputs, project implementation experienced some delays at the beginning of the project due to delays in issuing construction permits and land acquisition.

B. KEY FACTORS DURING IMPLEMENTATION

(a) Factors Subject to the Control of Government and/or Implementing Entities:

44. **Coordination, engagement, and organizational capacity proved to be important elements for implementation progress.** The implementation arrangements clearly articulated each involved entity's (MTI and DWU) duties and responsibilities. Limited coordination between the PIU and DWU at the beginning of project implementation delayed some decisions. The capacity-building support to the DWU improved its implementation capacity and engagement, in addition to the establishment of the PIU, which



led the project implementation and follow-up. The PIU was appointed with the needed human resources with sufficient capacity to implement the project. However, the procurement and fiduciary capacity of implementing agencies required improvement, as one of the major interventions was delayed due to shortcomings in the process.

45. **Commitment of the leadership and dedicated regulations supported project objectives.** The GoA was committed and showed cooperation and support during project implementation. The MTI/PIU and DWU combined efforts and dedicated staff to follow up and were responsive and cooperative with the contractors, consultants, and the World Bank task team. At a certain time, the Government issued policies that helped the DWU in increasing its subscribers and improving its collection efficiency. However, the water regulatory agency did not allow for tariff increase for the water and sanitation services, which with other issues (for example, electricity fees increase) has affected the DWU's financial status in achieving the FWR to the envisaged level.

(b) Factors outside the Control of Government and/or Implementing Entities

46. **The macroeconomic environment affected the water sector's financial viability.** Albania's economic transformation during the past decades has worked to build on the country's huge potential and opportunities. However, the growth model needs to adapt to the new global and local economic realities and shift from consumption-fueled to investment- and export-led growth. The model will also need to help those with less access to economic opportunities to contribute to and benefit from economic growth.¹⁸ The Government aimed at improving the sector's growth and financial sustainability, including the water and sanitation utilities' governance. In 2018, the GoA undertook legislative changes criminalizing the theft of water and illegal connections. That helped water utilities significantly boost their customer base in the first and second quarters of 2018. In a similar process, bad debtors were forced to sign installment plans with the water utilities for gradual payment of old debts. As a result, 2018 was the best year, financially, for utilities such as the DWU with collection rates exceeding 100 percent of billed revenues in some months. Additionally, the GoA (at the prime minister level), through the MoE, established a process of detailed tracking of utility key performance indicators on a monthly basis.

47. **Disruptive earthquake and COVID-19 situation caused delay of Project commissioning.** Albania was hit by a devastating earthquake on November 26, 2019, which affected project implementation and delayed its commissioning. It also caused the DWU to respond to damages and restore services increasing its cost and hampering its planned implementation. In response, a donors' conference was organized in Brussels in February 2020 to mobilize financial support for Albania, and countries and international financial institutions pledged roughly €1 billion. In the midst of these reconstruction efforts, the COVID-19 crisis puts more pressure on the Government's budget and its ability to respond to needs and in providing subsidies. Similarly, this delayed the full operation of the system and caused reduction in revenues (i.e. low bills payments during the pandemic) and increase in associated costs for the DWU.

¹⁸ The World Bank in Albania: Country Snapshot, <http://pubdocs.worldbank.org/en/392601587075676027/Albania-Snapshot-Apr2020.pdf>.



IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design

48. **Indicators were adequate to measure the achievement of the PDO and were relevant to the objectives.** Indicators were comprehensive and relevant to the project activities. However, some of the necessary data was either not available or not accurate during the project preparation, which resulted in ambitious targets (for example, FWR and billing ratio) or unidentified targets (length of water supply network, billed amount, etc.) therefore they were restructured during implementation.

49. **The overall M&E framework focused on the construction of the water and wastewater infrastructure investments and in improving the quality of the financial performance of the DWU.** Many of the indicators would only be achieved upon completion of the major infrastructure pieces or on achievement of the anticipated FWR. However, the Results Framework has several intermediate indicators, where some of them were able to monitor progress in the interim of the project.

50. **The indicators included the billed ratio as indirect version of the NRW.** Although the annual water production in physical quantity (in m³) and NRW are of high significance to measure operational progress of water supply projects, they were not adopted as PDO indicators, due to the absence of bulk and householder meters at the time of preparation. However, a very indirect version of NRW (expressed as billing ratio¹⁹) was included among the intermediate results indicators in the original design, and the quantity of water billed (which would enable the calculation of actual water production) was added in the Results Framework during the first project restructuring.

M&E Implementation

51. **The MTI, through the PMBU, monitored the project progress.** The project supported the PMBU in data collection, verification, and monitoring capacity including expanding its capacity in monitoring the entire sector including rural areas and communes. Project monitoring started at the project site through the consultants, the PIU representatives, and the Durres commune authorities, which was done regularly and timely, where feedback for improvement was done directly. The PMBU reported regularly on project progress, which was captured in progress reports and Aide Memoires.

M&E Utilization

52. **The M&E system informed the MTR on December 12, 2016, which assessed the status of the project components and its implementation progress toward achievement of the PDO** and other expected outcomes. The MTR reviewed the implementation issues faced by the project and agreement on an action plan for their resolution, which pushed progress forward. It recommended fostering the monitoring indicators as some of them were restructured accordingly.

53. **The M&E system was designed to support decision-making and implementation quality.** M&E supported the DWU in implementing the Performance Improvement Plan and other institutional

¹⁹ Billing ratio and NRW relationship is $NRW = 100 - \text{Billing ratio}$ or $\text{Billing ratio} = 100 - NRW$



strengthening services to improve the efficiency of operations. The PIU prepared regular quarterly reports and submitted them to the World Bank, and their quality improved over time. The task team was able to modify targets during implementation based on the collected data and the M&E outcomes.

Justification of Overall Rating of Quality of M&E

54. **The overall rating of the quality of M&E is Substantial.** The M&E design had minor target shortcomings due to inadequate data during preparation. The project data were collected, monitored by the team, and reported on the need to restructure the project. However, the project M&E system was able to develop overtime and be integrated within the DWU M&E system as there was inconsistency in some of the reported indicators by the DWU to the regulator and to the World Bank task team (for example, O&M cost coverage, collection efficiency, and hours of water supply). However, this has been improved through the capacity building support provided by the project to the PMBU.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

Environment and Social Safeguards

55. **Overall, the project activities complied with the World Bank's safeguard policies.** The project was classified as Category B according to OP 4.01 (Environmental Assessment), as there were no associated significant, sensitive, diverse, unprecedented, or irreversible impacts. Under the triggered safeguards policies, for example, for OP 4.01, an Environmental Impact Assessment (EIA) and an Environmental Management Plan (EMP) were prepared for the project and disclosed in-country on May 21, 2013, and at the World Bank's InfoShop on May 22, 2013. For OP 4.12 (Involuntary Resettlement), a Resettlement Policy Framework (RPF), in addition to a Resettlement Action Plan (RAP) for the defined areas of the production wells and transmission main routing, were prepared for this project. The prepared safeguard policies were cleared by the World Bank. The overall environment and social impacts were well managed by applying the different instruments (Environmental Assessment, EIA, EMPs, and the RAP) and were in compliance with the national legislation.

56. **The PIU's social safeguards specialist was appointed late, after more than two years from the start of the project, and therefore there was no real presence on the ground.** This caused delays in implementing the social safeguard instruments (for example, the RAP), which resulted in changing the locations of one of the wells as the implementation of the RAP was stalled. The project avoided resettlement by changing the routes of some of the water and wastewater lines in some areas. It was reported that the DWU was handling the complaints in its own area, but not outside its area. Having a website and posting of the contact information for the communities was a weak point of the complaint system under the project. This approach resulted in direct complaints to the World Bank's social network account about the contractor who after completing the works delayed in laying back the local road to its original condition. In addition, no institutionalized presence, documentation, reporting, and response was present. This was brought to the attention of the PIU. However, the safeguards compliance improved in 2016 once the project hired a full-time social safeguards specialist, who followed related issues in the field, attending meetings with involved partners (contractor, supervisor, PIU, and DWU including the social safeguards specialist) to handle complaints.

57. The project closed on March 31, 2020, with a Satisfactory safeguards rating.



Procurement

58. **The procurement function was carried out by the PIU within the National Agency of Water Supply and Sanitation.** The procurement risk was identified as Substantial at project preparation and was kept at the same level during most of the project implementation. The procurement performance rating was identified as Moderately Satisfactory during the first two years of project implementation—this was due to delays in procurement launching and the beginning of the project and staff turnover, in addition to the delays that occurred due to obtaining construction permits for some of the work contracts. However, it was upgraded to Satisfactory for the last two years of project implementation. All procurement packages for goods and works were conducted following the competitive bidding process (either International Competitive Bidding [ICB] or National Competitive Bidding [NCB]), while the main consulting services contracts were selected following the Quality- and Cost-Based Selection (QCBS) method. The PIU conducted the procurement process in accordance with the procurement and consultants' guidelines, and in line with the Procurement Plan agreed with the World Bank. For prior review contracts, all documents were submitted by the PIU and reviewed by the World Bank team on time. Given the progress made by the PIU and improvement of fiduciary aspects and performance during the last two years, the fiduciary rating (including procurement one) was upgraded to Satisfactory.

Financial Management

59. **The MTI managed the FM and disbursement of the project through the PIU.** The risk was assessed at 'Moderate' as the PIU has extensive experience in implementing World Bank projects and the project was implemented smoothly from an FM perspective. The FM performance rating was improved from Moderately Satisfactory to Satisfactory, because the assessment on fiduciary aspects of the project has been satisfactory over the last year; government counterparts (MoIE and National Agency for Water Supply and Sewerage and Waste Infrastructure of Albania [*Agjencia Kombëtare Ujësjetllës Kanalizime dhe Mbetjeve te Ngurta*]) have agreed to fund, from government funds, cost overruns incurred under ongoing contracts because of changes in the currency exchange rate over the project implementation time line, as well as other key minor works and equipment at the network level in Durrës City. Regular supervision missions confirmed that the project has complied with the obligations of the FM system including budgeting, internal controls, financial reporting, staffing, and auditing. Audit reports and interim financial reports were submitted to the World Bank on time and with minor issues.

C. BANK PERFORMANCE

Quality at Entry

60. **The strategic relevance of the project was well articulated at entry and built upon earlier World Bank engagement in the sector and closely matched client priorities.** The project was built on earlier work in the sector and the reform process supported by the GoA toward improving water and sanitation services. The project was well aligned with the national water development objectives and strategies and addressed a very critical need for improving the quality of services and the sustainability of the DWU. Despite this relevance, at the project level, the indicators had some shortcomings, which were fixed during implementation.

61. **The World Bank teams mobilized a relevant mix of expertise to incorporate appropriate concepts in the project design.** The project concept was well aligned with the Country Partnership



Strategy (CPS)²⁰ and lessons from previous operations were adequately integrated. The project faced readiness issues resulting in implementation delays. Considering the level of ambition of the original project, intensive capacity development could have started during preparation.

62. **The project experienced some delays at the beginning of the implementation.** During the project design and preparation, several studies were done which helped in providing good information to the project. However, the project could have worked on other preparedness issues (permits for construction, procurement capacity and documents) at the preparation time to avoid the delays for almost two years.

Quality of Supervision

63. **Focus on development impact.** On December 12, 2016 (two years after board approval), the World Bank proactively conducted the MTR mission to assess the status of implementation of the project and its different components, the overall progress toward achievement of the PDO and other expected outcomes, and implementation issues faced by the project and agreement on an action plan for their resolution. A key focus of the MTR was to agree on revisions required to the project's Results Framework, components, and categories of eligible expenditures and implementation arrangements to inform a possible project restructuring as needed.

64. **Supervision of fiduciary and safeguard aspects.** The World Bank provided ongoing implementation support on fiduciary and safeguard issues during project implementation. Capacity challenges were progressively addressed. At project completion, fiduciary and safeguard capacity had improved, and reporting had become more regular.

65. **Candor and quality of performance reporting.** The quality of performance reporting improved during the process and with World Bank feedback. Project ratings in the ISRs were candid and the Aide Memoires reflected project challenges and issued recommendations to address them. Following the MTR, the World Bank team was instrumental in carrying out major changes to get the implementation progress back on track.

66. **Adequacy of supervision inputs and processes.** The World Bank overcame the usual start-up challenges to develop an adequate project implementation plan and conducted a combination of regular implementation support missions and just-in-time technical visits to the project areas. The World Bank teams offered regular, demand-responsive, and thematic technical assistance outside the regular missions. The capacity-building efforts provided by the missions included field-level interactive sessions. The World Bank mobilized multidisciplinary teams with expertise in procurement, FM, community participation, and project evaluation to review relevant implementation documents and supported innovative practices that facilitated smooth project monitoring.

Justification of Overall Rating of Bank Performance

67. The project experienced moderate shortcomings at the preparation stage (ambitious indicators, preparedness for implementation, limited exploration of other alternatives to delay investments in additional water production) however the team undertook proactive actions in restructuring the project

²⁰ IBRD/IFC Country Partnership Strategy (CPS) for Albania (R2010-0175 [IDA/R2010-0249, IFC/R2010-0263]). 2010. https://wbdocs.worldbank.org/wbdocs/component/drl?objectId=090224b0821ad009&standalone=true&Reload=1598288775459&__dmfClientId=1598288775459&respositoryId=WBDocs&__dmfTzoff=240.



toward achieving the PDO and provided useful recommendations while keeping a focus on impact. The World Bank team effectively assisted the implementing agencies in achieving a major turnaround moving the project from initial delays to a successful project. On the other hand, the World Bank could have also made a better assessment to align the project ambition with the DWU implementation capacity and evolving circumstances to improve its financial performance and achieve cost recovery. As a result, the overall World Bank performance is rated **Moderately Satisfactory**.

D. RISK TO DEVELOPMENT OUTCOME

68. **Maintaining the sustainability of the built infrastructure is a challenge that can be achieved with a combination of utility and national-level actions.** The nonachievement of the financial sustainability of the DWU, in the medium term, could threaten the sustainability of the built infrastructure, as it will hamper the DWU from providing the required maintenance. The impact of the COVID-19 pandemic could further affect the DWU's financial capacity as more water would be supplied with less collection. However, those risks will shrink gradually as the DWU improves its financial efficiency and is likely to do so, both at utility level and at national level.

69. **At utility level, there is an expectation of further reductions in costs (through operational efficiency improvements), as well as revenue increases,** by (i) reducing energy costs, which currently represent 45% of the total operating cost structure, this should be achieved when the system is fully operational (most probably next year) and by introducing renewable energy and energy efficiency measures.²¹ (ii) Undertaking a network rehabilitation and optimization program with financing from the AFD (under advanced preparation status) to improve the water networks and reduce the high rate of NRW from 68% to 50% because of leakages in the secondary distribution network. This will enable further cost reductions, and as it will impact the supplied and billed amount of water (including reduction of energy consumption), the duration of water supply and the FWR. (iii) Increasing billing by incorporating large customers (hotels and some industries) as customers as the levels of service improve; those customers were using their own – more expensive - sources because of unreliable service until now. (iv) Resubmitting a tariff review proposal to the regulatory entity, which is planned for 2021.

70. **At the same time, the central GoA is determined to improve the sector's financial sustainability** (the ongoing policies and national water and sanitation sector strategy specifically target it as one of the goals). In this context, it is taking several actions: i) enforcing new legislations to boost customer base, eliminate water thefts, and improve collection efficiency; (ii) supporting a nation-wide energy efficiency and NRW reduction investments program as a way to improve operational efficiency that generate savings and improve cost recovery; (iii) securing financing for these investments under the new PforR Program under preparation with the Bank. A continuous ongoing policy dialogue around sector financing issues within Albania (government, regulator and utilities) and externally with donors and IFIs, including the Bank, will also provide a supporting enabling environment for financial sustainability.

²¹ A preliminary energy efficiency audit in Durres undertaken as part of the new Bank program under preparation, indicates that there is potential to reduce energy costs by 25% with a relatively small and straightforward identified investments (US\$ 5.5 mill) with a calculated payback of 4.1 years. This measure alone would be enough to bring the utility under full operational cost recovery again, as it was in 2018. The new Bank Program under preparation can and is expected provide the financing for this intervention;



V. LESSONS AND RECOMMENDATIONS

71. **Including Institutional building with infrastructure development within the project components improves performance efficiency and sustainability.** The project included a capacity-building component, which supported institutional capacity of the DWU and built the basis for a WDMP, financial and business planning, and strategic development toward sector modernization, all of which will support financial viability and institutional sustainability. The World Bank should ensure proper designs that would enhance institutional sustainability through proper investments including institutional building. Some technical assistance and capacity building could be delivered at the project preparation stage to improve the capacity of the client and prepare the team for the project implementation stage.

72. **Project preparedness before effectiveness and strong coordination between implementing agencies and transparency help in expediting implementation, avoiding delays, and improving ownership.** The project faced some initial implementation delays due to missing procurement documents. Preparation of the feasibility studies and project designs, preparation of main project bidding documents, securing of construction permits, and so on, before effectiveness would expedite implementation and avoid delays. Smooth and effective coordination between involved entities and stakeholders would facilitate procedures, overcome obstacles, and accelerate implementation. Transparency would encourage all stakeholders and local communities to support project objectives and therefore help in expediting project implementation. Weaknesses in such issues during project implementation (that is, securing construction permits, procurement preparation and processing of the main contract, and collaboration between the PIU and DWU) affected project progress and caused delays. The World Bank should make an assessment on project readiness, institutional procedures, and fiduciary system to ensure strong coordination and design proper implementation arrangement and monitoring systems.

73. **Government support and committed leadership helps project progress and achieving targets.** The Government support and satisfaction with the project objectives and expected outcomes is key to encourage them to make policies and take decisions that are crucial and would make a positive difference in the sector (for example, the number of contracts between the DWU and customers increased when the Government provided amnesty for unmetered households and illegal connections to reconcile their situations and therefore revenue collection increased). The World Bank should ensure proper consultation with the Government and sector leaders to ensure their commitment to the project objectives and required actions to achieve objectives.

74. **A strong PIU will help achieve project outcomes.** It is essential to have motivated and experienced staff within the PIU throughout the entire implementation period—the implementation pace increased dramatically when a new motivated coordinator was recruited at the end of December 2017. The borrower/client needs to ensure that key project management positions are filled with competent staff and reasonable compensations. The World Bank helps ensure this through appropriate covenants and prompt supervision.

75. **Strong Monitoring and Evaluation system help identify shortcomings and keep project on track.** Poor data in terms of availability and accuracy affected the design of the results framework and required project restructuring during implementation. The regular timely M&E reports informed the projects on



the shortcomings during the project implementation. It is essential to build a M&E system at the project preparation, train involved staff, incorporate results framework within the institutional M&E system for timely reporting and sustenance of monitoring efforts beyond project closure.



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Improved quality of water and wastewater services in the Durres Utility Service Area

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Beneficiaries from improved wastewater collection and transportation facilities	Number	0.00	0.00	51600.00	68100.00
		25-Nov-2013	25-Nov-2013	26-May-2017	31-Mar-2020

Comments (achievements against targets):
Achievement against target is 132%.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Direct project beneficiaries	Number	0.00	330000.00		385824.00
		01-Apr-2013	11-Nov-2019		31-Mar-2020
Female beneficiaries	Percentage	48.00	48.00		48.00
			18-Jun-2018		



Comments (achievements against targets):

Achievement against target is 114% (48% female) from water services and 117% (48% female) from both water and wastewater services.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Additional annual volume of wastewater that is appropriately collected, treated and disposed	Cubic Meter(m3)	0.00	0.00	1835400.00	1905000.00
		26-May-2017	26-Nov-2013	26-May-2017	31-Mar-2020

Comments (achievements against targets):

Achievement against targets is 104%.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
New household sewer connections constructed under the project	Number	0.00	3000.00		3074.00
		25-Nov-2013	25-Nov-2013		31-Mar-2020

Comments (achievements against targets):

Achievement against target is 102%.



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Piped household water connections that are benefiting from rehabilitation works undertaken by the project	Number	0.00	77000.00		87885.00
		25-Nov-2013	25-Nov-2013		31-Mar-2020
<p>Comments (achievements against targets): Achievement against target is 114%.</p>					

Objective/Outcome: Improved financial situation of Durres Water Utility

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Financial Working Ratio	Number	1.69	0.85	1.05	1.30
		25-Apr-2013	25-Nov-2013	26-May-2017	31-Mar-2020
<p>Comments (achievements against targets): Achievement against revised target is 76%</p>					



A.2 Intermediate Results Indicators

Component: Priority Water Supply Investments

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Length of water supply network rehabilitated	Kilometers	0.00	4.00		23.30
		25-Nov-2013	25-Nov-2013		31-Mar-2020
<p>Comments (achievements against targets): Achievement against target is 482%</p>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Length of bulk water pipeline constructed	Kilometers	0.00	63.00		64.00
		25-Nov-2013	25-Nov-2013		11-Nov-2019
<p>Comments (achievements against targets): Achievement against target is 106%</p>					

Component: Wastewater Network Investments

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised	Actual Achieved at
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				Target	Completion
Length of sewerage network rehabilitated or constructed	Kilometers	0.00	35.80		35.80
		25-Nov-2013	25-Nov-2013		31-Mar-2020
Comments (achievements against targets): Achievement against target is 100%.					

Component: Institutional Development Program

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Collection ratio	Percentage	74.00	92.00	92.00	91.30
		25-Nov-2013	25-Nov-2013	26-May-2017	31-Mar-2020
Comments (achievements against targets): Achievement against target is 76%					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Billing ratio	Percentage	22.00	50.00	35.00	26.10
		25-Nov-2013	25-Nov-2013	26-May-2017	31-Mar-2020



Comments (achievements against targets):

Achieved against revised target is 25%

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Total Annual Billed Volume by DWU	Cubic Meter(m3)	7800000.00	10000000.00	10000000.00	8600000.00
		26-May-2017	26-May-2017	26-May-2017	31-Mar-2020

Comments (achievements against targets):

Achievement against target is 86%

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Households with individual metered connection in the Durres Service Area	Percentage	35.00	90.00		85.40
		25-Nov-2013	25-Nov-2013		31-Mar-2020

Comments (achievements against targets):

Achievement against target is 90%



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Duration of water supplied to households in project affected areas	Hours	6.00	12.00	12.00	9.10
		25-Nov-2013	25-Nov-2013	26-May-2017	31-Mar-2020
Comments (achievements against targets): Achieved against revised target is 76%.					



B. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1: Improved quality of water services in the Durres Utility Service Area	
Outcome Indicators	<ol style="list-style-type: none"> 1. Piped household water connections that are benefiting from rehabilitation works undertaken by the project 2. Direct project beneficiaries with female percentage
Intermediate Results Indicators	<ol style="list-style-type: none"> 1. Duration of water supplied to households in project affected areas 2. Length of bulk water pipeline constructed 3. Length of water supply network rehabilitated 4. Households with individual metered connection in the Durres Service Area
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	<ol style="list-style-type: none"> 1. 87,885 household water connections benefited from rehabilitation works 2. 385,824 (48 percent female) direct beneficiaries 3. 9.1 hours duration of water supplied to households in project affected area 4. 64 km of bulk water pipeline constructed 5. 23.3km of water supply network rehabilitated. 6. 85.4 percent households connected with individual metered connection in the Durres Service Area
Objective/Outcome 2: Improved quality of wastewater services in the Durres Utility Service Area	
Outcome Indicators	<ol style="list-style-type: none"> 1. New household sewer connections constructed under the project 2. Additional annual volume of wastewater that is appropriately collected, treated and disposed 3. Beneficiaries from improved wastewater collection and transportation facilities
Intermediate Results Indicators	<ol style="list-style-type: none"> 1. Length of sewerage network rehabilitated or constructed
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<ol style="list-style-type: none"> 1. 3,074 new household sewer connections constructed under the project 2. 1.9 million additional annual volume of wastewater that is appropriately collected, treated, and disposed 3. 68,100 benefited from improved wastewater collection and transportation facilities.



Objective/Outcome 3: Improved financial situation of Durres Water Utility	
Outcome Indicators	Financial Working Ratio
Intermediate Results Indicators	<ol style="list-style-type: none">1. Billing ratio2. Collection Ratio3. Total annual billed volume by DWU4. Staffing ratio to be reduced
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<ol style="list-style-type: none">1. 1.3 is the financial working ratio2. 26.1% is the billing ratio3. 91.3 is the collection ratio.4. 8.6 is the staffing ratio



ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Stephen Karam	Sector Leader and TTL up to negotiations
David Michaud	Task Team Leader(s)
Benedicta T. Oliveros	Procurement Specialist(s)
Jonida Myftiu	Financial Management Specialist
Frederick Edmund Brusberg	Lead Social Development Specialist
Amy Evans	Social Specialist
Bekim Imeri	Social Specialist
Nikola Ille	Social Specialist
Artan Guxho	Sr. Infrastructure Specialist
Blaga Djourdjin	Procurement Officer
Delphine Hamilton	Senior Program Assistant
Elda Hafizi	Program Assistant
Gentian Keri	Procurement Analyst
Jonathan Pavluk	Senior Counsel
Jonida Myftiu	Financial Management Specialist
Manuel G. Marino	Lead Water and Sanitation Specialist
Margaret Png	Lead Counsel
Nightingale Rukuba-Ngaiza	Senior Counsel
Paula Restrepo Cadavid	Young Professional Urban Economist



Sanyu Lutalo	Environmental Engineer
Van Anh Hong	Young Professional ECSS5
Aimonchok Tashieva	Legal Assistant, Consultant
Suha Satana	Consultant Economist
Willem Starkenburg	Water and Sanitation Engineer Consultant
Supervision/ICR	
Patricia Lopez Martinez, Trandelina Baraku	Task Team Leader(s)
Arben Maho, Orjana Ibrahim	Procurement Specialist(s)
Jonida Myftiu	Financial Management Specialist
Anne N. Ranasinghe	Procurement Team
Guy Tchakounte Tchabo	Team Member
Artan Guxho	Team Member
Bekim Imeri	Social Specialist
Nikola Ille	Environmental Specialist
Kozeta Diamanti	Team Member
Paula Restrepo Cadavid	Team Member
Carolina Abigail Delgadillo Medina	Team Member
Manjola Malo	Procurement Team
Gabriela Grinsteins	Counsel



B. STAFF TIME AND COST

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
Preparation		
FY10	10.925	91,048.69
FY11	32.291	242,628.10
FY12	25.026	84,715.49
FY13	30.628	160,770.03
FY14	17.125	72,432.53
Total	116.00	651,594.84
Supervision/ICR		
FY14	14.634	83,682.38
FY15	30.035	141,823.03
FY16	23.663	110,073.15
FY17	17.538	61,973.10
FY18	22.225	119,564.16
FY19	18.450	99,610.83
FY20	21.813	142,080.13
Total	148.36	758,806.78



ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US\$, millions)	Actual at Project Closing (US\$, millions)	Percentage of Approval
Priority Water Supply Investments	59.78	49.15	82
Wastewater Network Investments	13.65	16.60	120
Institutional Development Program	5.27	1.35	26
Project Implementation Support	0.93	1.21	130
Subtotal	79.62	68.30	86
Physical contingency	4.09		
Price contingency	1.36		
Front-end fees (0.25%)	0.22	0.18	80
Total	85.30	68.48	80

Note: Exchange rate used at the time of appraisal was €1 = US\$1.3648;

Exchange rate used at the time of project closing on March 31, 2020, was €1 = US1.0956.



ANNEX 4. EFFICIENCY ANALYSIS

Part I: Introduction and Project Background

Brief History of the Project

1. Endowed with rich water resources, Albania has come to a turning point whereby water scarcity is no longer politically sustainable. The WSS sector has therefore been one of the top government priorities where an integrated water management approach is being developed to address issues of coverage and access as well as issues of financial and institutional sustainability. In this connection, the WSIP has been conceived as the World Bank's key intervention in the sector to support this priority as it includes measures to enhance water and sanitation coverage as well as efficient and sustainable asset management.
2. In effect, the GoA has been receiving World Bank support toward providing additional supply capacities to address acute water shortages and to develop a proper network capacity to support this additional capacity. In specific terms, efforts have been ongoing, almost for the last two decades to bring a solution to the water scarcity problem in Durres City and its service area.
3. Completion of the requisite bulk water system in June 2019 opens a new era in the WSS sector in Albania which reflects the culmination of long-term endeavors and sets a demonstration model for the remaining utilities to emulate. This very aspect is expected to emerge as one of the project's visible benefits as it will encourage further action in the WSS sector in the country.

Essential Features of the Project

4. **Component 1** constitutes the major share of the project investment which seeks to bring additional bulk water into Durres City while effecting limited improvements in the city's water distribution systems. The three defining features of Component 1 consist of (a) hydrology and supply centers, (b) geospatial characteristics of the supply centers and their interactions, and (c) interaction between the supply and demand centers which comprise urban (Durres City) and rural areas, where DUSA has a land area of 338 km², with Durres City having a share of less than 10 percent of the land area, but with three-fourths of the population, while rural areas comprise the remaining 90 percent of the land area, with one-fourth of the population.

The Water Source

5. The 2015 Performance Report by the Water Regulatory Authority has an informative section on water balance²² and NRW for the DWU based on 2013 data. In addition to the project's Results Framework, this study prepared by the utility itself constitutes an alternate objective and complementary baseline since the project started in early 2014, which is immediately after the subject study was issued. A quantitative summary of this milestone report is provided in table 4.1.

²² Water Regulatory Authority of Albania. 2015. *Report on the Performance of Water Supply and Sewerage Companies*. http://www.erru.al/doc/Raporti_Performances_2015_eng.pdf.



Table 4.1. Supply and Demand Centers with Breakdown of NRW in DUSA - 2013

Principal Water Source	Population Served	Water Supplied (m ³ /day)	Water Billed (m ³ /day)	NRW (%)
FUSHE KUQE				
Durres	192,708	35,144	14,475	59
Rural areas	55,172	24,819	4,491	82
Subtotal	247,880	59,963	18,966	68
FUSHE KRUIJA				
Subtotal	17,972	14,000	2,124	85
Total of both systems	265,852	73,963	21,090	71

Source: ERRU 2015 Utility Performance Report - Special Topic 2015: Durres Water Balance.

Table 4.2. Supply and Demand Centers with Breakdown of NRW in DUSA - 2013

Principal Water Source	Population Served	Water Supplie (million m ³ /year)	Water Billed (million m ³ /year)	NRW (%)
FUSHE KUQE				
Durres	192,708	12.83	5.28	59
Others	55,172	9.06	1.64	82
Subtotal	247,880	21.89	6.92	68
FUSHE KRUIJA				
Subtotal	17,972	5.11	0.78	85
Total of both systems	265,852	27.00	7.70	71

Source: ERRU 2015 Utility Performance Report - Special Topic 2015: Durres Water Balance.

6. The key uptake from the analysis is that the utility serves both rural and urban areas. While the urban area accounted for 5.28 million m³ corresponding to about 69 percent of the total billings with its own NRW estimate of 59 percent, the rural areas accounted for 31 percent of the billings with more than 80 percent in NRW. The overall NRW for the whole service area was 71 percent in 2013, which worsened to close to 75 percent in 2019. In other words, the urban environment (with three-fourths of the population) suffered the consequences of water scarcity through unreliable water service and higher water prices, while the rural environment (with some 25 percent of the population) continued the same wasteful trend for many years. This observation lies behind the project's principal intervention model which involves supplying Durres exclusively by a dedicated and separate pipeline (72.3 km long), which was funded under the project. Therefore, the project's overriding preoccupation has been to supply the Durres City while bypassing the rural areas, to a large extent, in an effort to be able to control the very high level of NRW, as well as secure the water supply for the city because the existing supply source was already showing some salinity problems due to sea water intrusion in the aquifer wells.

Geospatial Characteristics of the Water Sources

7. The Fushe Kuqe and Fushe Kruja wellfields have been the principal water sources for the DWU. The Fushe Kuqe wellfield has been supplying Durres and rural areas lying along the pipeline since its construction about 50 years ago. Fushe Kruja, however, is a separate and hydrologically independent source serving rural areas only. The new water source is the so-called Fushe Milot wellfield which had



actually been in use for the fertilizer industry near Milot (now defunct), but it was rehabilitated²³ to serve the project's needs. It consists of six wells: five extraction wells and one monitoring well.

8. Before selecting the Fushe Milot wellfield, alternative sources of water supply have been the subject of an in-depth study by the Austrian Firm IC Consulente, from January to August 2008. The consultants examined the existing water supply infrastructure, demographic data, projected water demand, and water quality. They analyzed existing wellfields, water reservoirs, water courses, and aquifers and fed the results into a computer model to finally come up with seven alternative solutions (three wellfields and four surface reservoirs) which were compared in terms of their advantages and disadvantages. Comparison among the project alternatives indicated that the Fushe Milot alternative would be the most economical choice which could yield a sufficient quantity of water to respond to projected demand. The Fushe Milot alternative also offered the fastest implementation (4–5 years) of all options, with surface reservoirs requiring 8–9 years to become operational.²⁴

9. Regarding the interactions between the different water supply centers, the Fushe Milot and Fushe Kuqe wellfields are geographically located in the same area with Fushe Milot being 13 km to the northeast of Fushe Kuqe. Currently they serve both the urban and rural areas in the same management zones and there exist important links between the two sources. When Fushe Milot started operating at full capacity, it started displacing (replacing) water from Fushe Kuqe (where the supply will eventually be dialed down) and hence generating significant savings and efficiency gains as will be elaborated in this annex.

10. Differential NRW characterizes the separate demand centers in terms of both commercial and technical losses, which are significantly higher in the rural areas and along the existing pipeline while being significantly lower in Durres City (comparatively speaking) as described earlier. This is mainly because Durres is located downstream of the service area (as in figure 4.1) and lies at the tail end of the main water source of Kuqe. As stated, although Durres City is home to three-fourths of the population in DUSA, it tacitly bears the burden in terms of both higher-than-normal tariffs and acute water shortages and has to cope with the risks stemming from mismanagement upstream.

Supply and Demand Center Interactions

11. Following almost four years of construction, the new pipeline and the bulk water supply system came online in June 2019. However, due to various technical problems, including power outages, the actual water production at the Milot wellfield was limited to about 2 million m³, which was far below the expected output of about 7 million m³ in the second half of 2019. The wellfield capacity is about 620 L per second which would correspond to a maximum output of 19 million m³ against a sustainable yield of 15 million m³ per year.

12. An analysis of water supply and demand for the WSIP as a whole was conducted to investigate the expected project impact after the new bulk water system became operational. Water production figures for the first half of 2020 were extrapolated to the entire year using PIU data. The principal motive of this analysis was to inform the economic and financial analysis and explore the underlying efficiency dimension.

²³ WSIP EIA and EMP, 2014.

²⁴ Kowi Consultants Inception Report, 2013.



13. The results reveal that with the new water source, all of the demand in urban and rural areas will be met by producing an equivalent quantity of water which was produced in the absence of the new facilities. Specifically, 34.23 million m³ of water production would suffice to both meet the demand estimated at 18.94 million m³, as well as generate important cost savings. The top part captioned DWU Supply and Demand Model (in SIV and Supply - ECON) in figure 4.2 shows the demand in economic terms, measuring the quantity of water reaching the users after adjustments for physical losses. The lower part captioned DWU Supply and Demand Model (in SIV and Billings - FIN) in figure 4.2 illustrates the financial dimension and shows that about 11.35 million m³ of the water produced could be billed, corresponding to an overall NRW of 67 percent compared to the existing NRW of some 74 percent. It is important to note that the overall NRW in Durres City is much lower (59 percent) than the rural area NRW (80 percent). The full set of essential data (figure 4.3) is also shown after the basic model.

Figure 4.1. The Basic Supply and Demand Model

DWU Supply and Demand Model (in SIV and Supply - ECON)				
Descriptions	Wellfields	Demand Centers (M m ³)		
		Durres City	Rural Areas	Totals
Supply Centers (M m ³)	Fuche Milot	11.25		11.25
		15.00		15.00
	Fushe Kuqe	2.71	3.74	6.45
		6.78	9.34	16.12
	Fushe Kruja		1.25	1.25
		3.11	3.11	
Totals		13.96	4.98	18.94
		21.78	12.46	34.23
Yellow cells - Actual Consumption (Demand in M m3)				
Blue Cells - System Input (M m3)				
M m ³ stands for million cubic meter				

DWU Supply and Demand Model (in SIV and Billings - FIN)				
Descriptions	Wellfields	Demand Centers (M m ³)		
		Durres City	Rural Areas	Totals
Supply Centers (M m ³)	Fuche Milot	7.50		7.50
		15.00		15.00
	Fushe Kuqe	1.36	1.87	3.22
		6.78	9.34	16.12
	Fushe Kruja		0.62	0.62
		3.11	3.11	
Totals		8.86	2.49	11.35
		21.78	12.46	34.23
Estimated NRW		59%	80%	67%
Yellow cells - Total Billed Volumes (M m3)				
Blue Cells - System Input Value (M m3)				
M m ³ stands for million cubic meter				

Note: SIV = System Input Valu

1. Due to the dedicated nature of Fushe Milot, all of its water production is destined to Durres City.
2. After receiving all of the Fushe Milot water in Durres, remaining deficit is from Fushe Kuqe.
3. External water purchase will be discontinued.



Figure 4.2. Data and Parameters Used in the Supply and Demand Model

Water Production Capability (System Input Values - SIV)					
Wellfield (Fushe)	Water Production (m ³)				
	2019	First Half of 2020	Sustainable Yield		
Fushe Kuqe	24,953,354	11,257,630	25,000,000		
Fushe Kruja	4,841,186	2,367,102	4,000,000		
Fushe Milot	1,976,373	7,041,299	15,000,000		
Total Production	31,772,932	20,666,031	44,000,000		
Kavaja	1,231,792	126,559	-		
Water Supplied	33,004,724	20,792,590	44,000,000		
Source: Daniela Sherro email of July 27, 2020					
Assumed Breakdown of NRW Losses (Percent)					
Wellfield (Fushe)	Physical Losses		Commercial Losses	Total Losses (NRW)	Comment
	Transmission (T)	Distribution (D)			
Kuqe & Kruja Rural	25%	35%	20%	80%	w/o project
Milot	5%	20%	25%	50%	w/ project
Kuqe Durres	15%	20%	25%	60%	w/o project
Potential Water Available After Physical Losses in 2020					
Wellfield (Fushe)	Estimated SIV for 2020 M m ³	Physical Losses (T + D) in Percent	Available for Consumption After Physical Losses M m ³		
Fushe Kuqe	25.00	60%	10.00		
Fushe Kruja	4.00		4.00		
Fushe Milot	15.00	25%	11.25		
Total Production	44.00		25.25		
Kavaja					
Water Supplied	44.00	43%	25.25		
Water Demand in 2020					
Location	Water Source	Population (person)	ERRU Water Demand Norm (l/c/d)	Net Demand (M m ³ /year)	
Durres City	F. Kuqe & Milot	255,000	150	13.96	
Rural Areas (FQ)	Fushe Kuqe	68,250	150	3.74	
Rural Areas (FK))	Fushe Kruja	22,750	150	1.25	
Total		346,000		18.94	

Source: For population figures: Excel sheet titled 'Hours of Supply DWU.'

14. To carry out this supply-demand analysis, the DWU service area was segregated into two parts: Durres City and rural areas. Water demand was estimated on the basis of the ERRU norm of 150 L per capita per day L/c/d). The latest population figure of about 346,000 persons (of whom 255,000 live in



Durres City) was used. It was assumed that the Fushe Milot wellfield would produce about 15 million m³ of water at a sustainable rate utilizing five of the six wells only, where the 6th would be well reserved for backup monitoring. The system input value (SIV) at the Milot wellfield (gross water production) was converted to water demand (consumption) by removing the physical losses only for the economic analysis. For the financial analysis differential, NRW estimates were used to arrive at the volumes billed. All of the water production from Fushe Milot is expected to be channeled to supply Durres City, with the shortfall being provided from Fushe Kuqe.

15. Compared to the previous situation where water production was both more expensive and inadequate, the DWU now has a situation whereby it is able to meet all of the water demand and do so at a lower cost. However, despite the new bulk water system becoming operational, calculations show that Fushe Kuqe would still be needed to fully meet the demand in Durres.

16. As would be discerned, the two-by-three matrix of supply and demand in figure 4.2 constitutes a simple transportation model that is amenable to solution using linear optimization techniques (such as linear programming or similar tools). In a 2-3 case, however, the solution is trivial as it could be reached by inspection. Once the model is expanded beyond the 2-3 scale, it is harder to solve. It is possible to consider multiple goals using the same model. For instance, when unit costs are introduced in the model, it will look more like a constrained transportation model to be solved by conventional optimization tools.

17. This analysis will feed into the efficiency analysis to reflect the supply-demand status for the first year as the project benefits start accruing.

Part II: Methodology for Efficiency Analysis

Approach to Efficiency

18. This ICR utilizes the latest ICR Guidelines²⁵ where efficiency is defined as ‘a measure of how economically resources and inputs have been converted into results.’ The assessment of efficiency seeks to answer whether the costs involved in achieving project objectives were reasonable in comparison with both the benefits and with recognized norms (‘value for money’), and elaborates the extent to which the project has achieved the maximum possible benefits (outputs, outcomes, and impacts) with the minimum possible inputs/costs.

19. The efficiency discussion in this ICR reports on both the traditional measures of efficiency, such as the net present value (NPV), ERR, cost effectiveness, unit rate norms, service standards, and FRR—and aspects of design and implementation that either contributed to or reduced efficiency.

20. Because the original project calculated an ERR/IRR, the underlying assumptions are being fully explained and rendered transparent in this ICR, and the ERR estimates calculated at project appraisal are being updated and used for completion reporting. The ICR indicates what the ERR was in the PAD, and what it is when re-estimated at completion, and on what percentage of total project costs, the original and revised estimates were based.²⁶ Underlying assumptions about costs and benefits, and other

²⁵ World Bank Guidance on Implementation Completion and Results Report (ICR) for Investment Project Financing (IPF) Operations, World Bank Access to Information Policy Designation, Catalogue Number OPS5.03-GUID.152, Issued September 27, 2018.

²⁶ The first Project Restructuring re-estimated the project efficiency parameters.



information supporting the analysis (for example, output volumes, major cost items, or prices) are being presented and defended, including a sensitivity analysis.

Criterion for Acceptability

21. In World Bank-funded operations, the basic criterion for a project's acceptability involves the discounted expected present value of its benefits, net of costs. Both benefits and costs are defined as incremental compared to the without-the-project situation. To be acceptable on economic grounds, a project must meet two conditions: (a) the expected present value of the project's net benefits must not be negative and (b) the expected present value of the project's net benefits must be higher than or equal to the expected NPV of mutually exclusive project alternatives.²⁷

Key Assumptions Underlying the Original Analyses and Revised Analyses

22. **Incremental water quantity delivered in Durres.** This was computed by removing the technical losses alone from the quantity of water produced from the wellfields. Commercial losses were not considered in the economic analysis because this type of analysis looks at the overall welfare of the users regardless of whether or not they actually pay for the water they consume. The incremental water supply system was assumed to become operational as of 2016 with a provision of some 14.17 million m³ of water in 2016 and expected to stabilize at 16 million m³ per year in 2030. Due to the delay experienced in the construction of the infrastructure, this assumption did not hold. Meanwhile the fundamental capacity-related figures have remained mostly unchanged.

23. **Economic price attributed to water.** This was estimated to be around US\$0.90 per m³ (lek 94 per m³) for the Albanian conditions expressed in the PAD. To re-estimate the economic price of water for the project in 2020, the pricing structure of the Belgian utility, *Société Publique de Gestion d'Eau* (SPGE)²⁸ was used, where the set price was rather high at €5 per m³,²⁹ and possibly reflecting the full cost recovery principle. This price was adjusted downward by first removing the portion for sanitation (€1 per m³) and then using the EU per capita GDP of US\$37,400 and Albanian per capita GDP of US\$5,300, which in turn yielded €0.57 per m³ of water. Hence the re-estimated economic water price of €0.57 per m³ is lower than the one used for the PAD, which was US\$0.90 per m³ when converted at the appropriate exchange rate of €1 = US\$1.2.

24. **Cost inclusions and exclusions.** The original economic analysis includes the base cost of the core investment consisting of the new pipeline and wellfields, as well as the costs of the operations. It excludes all price contingencies, taxes, and costs of other project components, mainly those dealing with wastewater. The original financial cost used full costs including taxes and contingencies. The revised economic cost estimate is maintained at the same level as the realized investment cost except for a

²⁷ Cost-Benefit Analysis in World Bank Projects, World Bank, Publication No: 62470, 2010

<https://openknowledge.worldbank.org/bitstream/handle/10986/2561/624700PUB0Cost00Box0361484B0PUBLIC0.pdf?sequence=1.pdf>.

²⁸ Albania and Belgium have similar land areas, 28,000 km² and 30,000 km² respectively. Albania has higher water resource endowment (8,700 m³ per capita) with low level of development, but Belgium has moderate level of water resource endowment (2,700 m³ per capita) with populations of 3 million and 11 million in Albania and Belgium, respectively. Hence, in addition to the size of the countries being similar, the total water resource endowments of the two countries are quite comparable, hence justifying the benchmarking exercise.

²⁹Water Affordability, Aqua Publica Europea, page 9,

https://www.aquapublica.eu/sites/default/files/document/file/ape_water_affordability_final_0.pdf.



correction for the removal of value added tax (VAT), and the financial cost remained as is. As noted, the Albanian lek appreciated against the euro by about 12 percent, hence generating some loss in the actual purchasing power of the loan funds.

25. **NRW.** NRW is a vital indicator for the DWU’s financial and technical sustainability. NRW was assumed at different levels in existing project documents depending on the source as shown in table 4.3.

Table 4.3. NRW at Different Levels in Existing Project Documents

Source	Context	Without Project (%)	With Project (%)	Comment
PAD	Economic analysis assumption	58	28	
	Results Framework - Billing ratio	32	50	Billing ratio and NRW relationship is $NRW = 100 - \text{Billing ratio}$ or
	Results Framework - Implied NRW	68	50	
Latest Project Restructuring	Billing ratio	22	35	Billing ratio = $100 - NRW$
	Implied NRW	78	65	

26. **Physical losses and NRW.** One of the key assumptions driving this analysis is related to the level of physical losses (for economic analysis) which are assumed to decline from an initial value of 25 percent to 7 percent in 10 years in increments of 2 percentage points. Likewise, NRW is assumed to decline from 50 percent to 20 percent in 15 years, in increments of 2 percentage points annually. Hence, the target NRW for the utility is assumed to be 20 percent, of which 7 percent would be physical losses and 13 percent would be commercial losses. This assumption highlights the critical role of NRW control capability which the utility has acquired under the project and is able to sustain for a long period.

27. **Infrastructure completion.** The core investment under Component 1 was assumed to be built over the first two years and completed in project year 3, and the utility was expected to generate sufficient income to remain self-sufficient and service its debt, with the end-of-project FWR being 0.85. These assumptions were overoptimistic and were hence violated because the main investment could not be completed as envisioned.

28. **Opportunity cost of capital (OCC).**³⁰ This was assumed at 6 percent, given the general downward trend for interest rates worldwide. The OCC remains unchanged for the updated analysis.

29. **Relationship between electricity cost and overall O&M costs.** Analysis of DWU financial data revealed that there was a fixed ratio of 0.45 between the electricity cost and overall O&M cost. In other words, electricity cost accounted for 45 percent of the total O&M cost. This relationship was utilized to estimate the total O&M cost without resorting to detailed calculations.

30. **Planning horizon.** The new bulk water system is assumed to serve for 30 years with the routine O&M without requiring major periodic maintenance.

Part III: Project Efficiency Parameters and Their Re-estimation

³⁰ OCC does not affect the ERR. It only has a bearing on the financial analysis.



Analyses Found in the PAD

31. Two types of analyses were offered in the PAD:(a) an Economic and Financial CBA for Component 1 and (b) a Partial Financial Analysis for the Metering Investment.

32. An economic CBA was carried out using with/without project assumptions with an economic price of US\$0.90 per m³ attributed to water supply over a planning horizon of 2019–2030. At the time, it was unclear in which currency the loan would be denominated. Therefore US dollars was used in measuring the costs and benefits. Only the water supply incremental costs and benefits were considered in this analysis which yielded an ERR of 11 percent, NPV of US\$22.71 million, and BCR of 1.26. The analyses showed that the hurdle rate of the cost of capital (estimated at 10 percent) was exceeded.

33. The financial CBA was based on two scenarios. Using conservative billing and collection ratios, the FRR was estimated at 9.8 percent with an NPV of US\$1.6 million. A more conservative scenario was also carried out whereby the collection ratio was adjusted downward by 5 percent, which yielded a 7.98 percent FRR.

34. With regard to the analysis on the metering investment, the PAD stated that collection rates for metered accounts stood at 82 percent, while unmetered accounts yielded only 35 percent of billings. Comparing with/without project impacts, incremental improvements in collections due to metering under the project were estimated to yield an IRR of 31 percent.

Updated Economic and Financial Analysis

Investment Costs

35. This economic and financial analysis has focused on the water supply side of the investment and did not deal with the sanitation (sewerage part). The investment cost details are shown in table 4.4.

Table 4.4. Albania WSIP Bulk Water Supply and Related Costs

Description	Final Cost (€)
Bulk water supply pipeline (BWSP), production wells, and elevated reservoirs in Durres City	40,363,992
Supervision BWSP, production wells, and elevated reservoirs	1,341,849
Universal metering system in Durres service area	1,223,325
Instalation of fittings, armatures, and flow meters	940,156
Archaeological test pits for network optimization	250,196
Consultancy services for Durrës water supply network optimization	717,442
Totals	44,836,960

Treatment of Contingencies and Loan Value Losses Due to Exchange Rate

36. The exchange rate in 2013 was lek 140 per €, but in June 2019, the rate had declined to lek 123 per € corresponding to a real loss in the purchasing value of the loan funds by about 12 percent. Yet,



despite this rather significant loss in the value of the loan funds which were denominated in euros, the project was able to complete the planned investments without exceeding the initial budget. For this reason, no adjustments were made for price and physical contingencies, but taxes were removed to perform the economic analysis.

Table 4.5. Exchange Rates against the Euro 2009–2019 €1 = national currency

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Bulgarian lev (BGN)	1.9558	1.9558	1.9558	1.9558	1.9558	1.9558	1.9558	1.9558	1.9558	1.9558	1.9558
Czech koruna (CZK)	26.435	25.284	24.590	25.149	25.980	27.536	27.279	27.034	26.326	25.647	25.670
Danish krone (DKK)	7.4462	7.4473	7.4506	7.4437	7.4579	7.4548	7.4587	7.4452	7.4386	7.4532	7.4661
Croatian kuna (HRK)	7.3400	7.2891	7.4390	7.5217	7.5786	7.6344	7.6137	7.5333	7.4637	7.4182	7.4180
Hungarian forint (HUF)	280.33	275.48	279.37	289.25	296.87	308.71	310.00	311.44	309.19	318.89	325.30
Polish zloty (PLN)	4.3276	3.9947	4.1206	4.1847	4.1975	4.1843	4.1841	4.3632	4.2570	4.2615	4.2976
Romanian leu (RON)	4.2399	4.2122	4.2391	4.4593	4.4190	4.4437	4.4454	4.4904	4.5688	4.6540	4.7453
Swedish krona (SEK)	10.6191	9.5373	9.0298	8.7041	8.6515	9.0985	9.3535	9.4689	9.6351	10.2583	10.5891
Pound sterling (GBP)	0.89094	0.85784	0.86788	0.81087	0.84926	0.80612	0.72584	0.81948	0.87667	0.88471	0.87777
Swiss franc (CHF)	1.5100	1.3803	1.2326	1.2053	1.2311	1.2146	1.0679	1.0902	1.1117	1.1550	1.1124
Icelandic króna (ISK)	172.67	161.89	161.42	160.73	162.38	154.86	146.30	133.59	120.54	127.89	137.28
Norwegian krone (NOK)	8.7278	8.0043	7.7934	7.4751	7.8067	8.3544	8.9496	9.2906	9.3270	9.5975	9.8511
Albanian lek (ALL)	132.06	137.79	140.33	139.04	140.26	139.97	139.74	137.36	134.15	127.59	123.01
Macedonian denar (MKD)	61.276	61.519	61.529	61.532	61.585	61.624	61.611	61.596	61.575	61.512	61.506
Serbian dinar (RSD)	93.952	103.043	101.950	113.128	113.137	117.306	120.733	123.118	121.337	118.272	117.852
Turkish lira (TRY)	2.1631	1.9965	2.3378	2.3135	2.5335	2.9065	3.0255	3.3433	4.1206	5.7077	6.3578
Chinese renminbi-yuan (CNY)	9.5277	8.9712	8.9960	8.1052	8.1646	8.1857	6.9733	7.3522	7.6290	7.8081	7.7355
Japanese yen (JPY)	130.34	116.24	110.96	102.49	129.66	140.31	134.31	120.20	126.71	130.40	122.01
US dollar (USD)	1.3948	1.3257	1.3920	1.2848	1.3281	1.3285	1.1095	1.1069	1.1297	1.1810	1.1195

Source: https://ec.europa.eu/eurostat/statistics-explained/index.php/Exchange_rates_and_interest_rates#Exchange_rates.

Note : The currency of Bosnia and Herzegovina is fixed to the euro at 1.95583. Montenegro and Kosovo ⁽¹⁾ both use euro as their currency.

⁽¹⁾ This designation is without prejudice to positions on status and is in line with United Nations Security Council Resolution 1244/1999 and the International Court of Justice (ICJ) Opinion on the Kosovo Declaration of Independence.

Characterization of Project Benefits

37. The project can be characterized as a judicious blend of modernization, renewal, expansion, and rehabilitation as it embodies features of all of these types of interventions. Due to the pre-existing infrastructure, the usual very high efficiency parameter values do not apply, which would normally be expected if the water supply project was entirely new and without a precedent.

38. The intricate nature of the water supply system in Durres service area obscures the calculation of the quantity of water received at the city gate. This is also acknowledged by the DWU in the Water Balance study of 2013. Avoided technical loss—much of which occurs along the existing pipeline—is one of the most significant project benefits which this annex tries to quantify using assumptions. While unauthorized access to the existing pipeline has been commonplace, it is very hard to tamper with the new pipeline, because it follows the road and is highly visible. Hence, the new pipeline will certainly increase the water delivery to Durres as it will be dedicated only to the city. As a result of the project, several immediate changes are expected to be observed. First, NRW at Durres City gate will decline from 75 percent to 50 percent. Likewise, water production costs will decline. Second, there will be 24-hour water supply to the citizens. In the longer term, due to the institutional strengthening efforts funded under the WISP, NRW will be significantly reduced, and the DWU will emerge as a good example for other utilities to follow.

39. Third, the financial sustainability of the utility will be enhanced, and it will start experiencing an FWR lower than unity immediately, starting with 0.7 and reaching 0.5 in 10 years. Currently, the urban



service zone is cross subsidizing the rural zones because of huge water losses in the latter. As stated, this is because in hydrological terms, Durres City is located downstream of the water source in Fushe Kuqe, and hence Durres residents have to cope with upstream water losses in terms of reduced service hours and unreliable supply while they contribute the bulk of the revenues to the DWU. The situation will likely improve with Milot becoming operational and there appears to be a long-term opportunity to reduce the tariffs because lower tariffs would be sufficient to keep the DWU afloat.

40. Finally, the tourism industry will receive a boost, as the sector is a significant consumer of water, which may be three times the usual level used in projecting the water demand.

41. Meanwhile certain project benefits could not be quantified due to lack of data. In this connection, the benefits accruing to the wastewater investments could not be quantified as most of these benefits would be environment and health related. Also, institutional strengthening benefits were not quantified in a direct manner. It has been assumed that the DWU has mastered NRW control and will implement it over time. Likewise, avoided leakages from rooftop water storage tanks (estimated at 10 percent of SIV) could not be quantified due to lack of data. Implicitly, the related benefits will be unleashed over time as Durres residents realize that they no longer need a water reservoir backup to cope with intermittent water, because there will be no intermittent water supply.

Table 4.6. CBA Parameters and Assumptions for Economic and Financial Analysis

Fushe Milot and Durres City Key Parameters		Quantity	
Description	Units	Economic	Financial
Electricity needed	kWh/m ³	1.22	1.22
Electricity price	lek/kWh	10.54	12.65
Electricity cost as percentage of O&M	percent	45	45
DWU average tariff	lek/m ³	n.a.	95
Price of water	€/m ³	0.57	0.79
Current exchange rate	lek/€	120	120
Investment cost (water supply only)	€, millions	37.36	44.84
Fushe Milot annual production (SIV)	million m ³	15.00	15.00
Physical losses/NRW	percent	25	50
Annual improvement in physical loss/NRW	percent	2	2
Discount rate	percent	6	6
Albania VAT rate	percent	20	20
Planning horizon	Year	30	30
Target physical loss/NRW	Percent	7	20
Calculation of Economic Price of Water			
Albania per capita GDP	US\$	5,329	
EU per capita GDP	US\$	37,417	
EU benchmarking water price (SPGE)	€/m ³	4.00	
Albania adjusted economic water price	€/m ³	0.57	
Avoided Power Costs - Calculations			
Total volume of water billed	million m ³	8.6	
Water destined to Durres - 75%	percent	6.45	



Fushe Milot and Durres City Key Parameters		Quantity	
Description	Units	Economic	Financial
NRW	percent	74	
Corresponding SIV	million m ³	24.81	
Electricity consumption at Fushe Kuqe	kWh/m ³	1.58	
Cost of production - without project	lek, millions	413	
Cost of production - with project	lek, millions	193	
Annual savings	lek, millions	220	
Annual savings in €	€, millions	1.84	
Electricity Price in Albania https://www.globalpetrolprices.com/Albania/electricity_prices/			

DWU Tariff Structure (2013–2020) and Estimation of Net Water Supply Tariff

42. DWU tariff consists of three parts (the top part of table 4.7 [Durres WSS Tariffs]). There is a variable tariff based on the actual volume consumed. On top of this, there is a fixed charge per connection per month. If the subscriber has access to wastewater service, he then pays a variable tariff that is also based on the volume of water consumed. These three categories of income constitute the core service revenues for the DWU. The lower part of table 4.7. (Average Weight Net Tariff Calculation) shows the details for the calculation of water supply-related average weighted tariff. The share of wastewater was removed from the total revenues, which was then adjusted for the repayment rate. Calculations yielded lek 94 per m³ as the final net financial price for water delivered by the DWU.

Table 4.7. DWU Tariff Structure

Durres WSS Tariffs (lek/m3)										
Service Category	Tariff Type	Type of Connection	Years							
			2013	2014	2015	2016	2017	2018	2019	2020
Water Supply Services	Variable Tariff (lek/m3)	Household	58	58	58	61	70	70	70	70
		Public	110	110	110	115	120	120	120	120
		Private	120	120	120	125	130	130	130	130
	Fixed fee (lek/connection/month)	Household	100	100	100	100	150	150	150	150
		Public	100	100	100	100	150	150	150	150
		Private	100	100	100	100	150	150	150	150
Waste Water Services	Variable Tariff (lek/m3)	Household	35	35	35	37	50	50	50	50
		Public	50	50	50	54	60	60	60	60
		Private	50	50	50	56	60	60	60	60

Average Weighted Net Tariff Calculation							
Total Billed Volumes	M m3	7.32	7.69	7.80	8.22	8.83	10.09
Revenues from Core Services	M lek	709.81	748.91	791.88	991.73	1,142.37	1,310.27
Average Weighted Tariff	lek/m3	97	97	102	121	129	130
Share of Waste Water in Core Revenues	%	21%	20%	19%	22%	23%	21%
Tariff After Removal of WW Share	lek/m3	77	78	82	94	100	102
Collection Rate	%	82%	87%	87%	88%	90%	92%
Net Average Tariff After Corr. For Collection	lek/m3	63	68	71	83	90	94

Source: PIU and DWU Business Plan Update Simplified.



Table 4.8. Economic Analysis

CBA Targeting Durrës City Only (Economic)									
Year	Inv. Cost	Milot SIV	Operating Cost		Phy. Loss	Water Consumption	Econ Price of Water	Econ Benefits	Cash Flow
			Power Cost	O&M Cost					
	Mil. EUR	M m3	Mil. EUR	Mil. EUR	percent	Mil. M3	EUR/m3	Mil. EUR	Mil. EUR
2019	37.36	2.00	0.21	0	25%	1.50	0.57	0.85	-36.51
2020	0	15.00	1.61	3.57	23%	11.55	0.57	6.58	3.01
2021	0	15.00	1.61	3.57	21%	11.85	0.57	6.75	3.18
2022	0	15.00	1.61	3.57	19%	12.15	0.57	6.92	3.35
2023	0	15.00	1.61	3.57	17%	12.45	0.57	7.09	3.52
2024	0	15.00	1.61	3.57	15%	12.75	0.57	7.26	3.69
2025	0	15.00	1.61	3.57	13%	13.05	0.57	7.43	3.86
2026	0	15.00	1.61	3.57	11%	13.35	0.57	7.61	4.03
2027	0	15.00	1.61	3.57	9%	13.65	0.57	7.78	4.20
2028	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2029	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2030	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2031	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2032	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2033	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2034	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2035	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2036	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2037	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2038	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2039	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2040	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2041	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2042	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2043	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2044	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2045	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2046	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2047	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
2048	0	15.00	1.61	3.57	7%	13.95	0.57	7.95	4.37
NPV	35.25	194.21		45.80	7%			97.89	16.84
								ERR	10%
								BCR	1.21

Source: Author calculations

43. A forward-looking approach was used in recalculating the project’s efficiency parameters by assuming that the entire project was actually completed in 2019 and started functioning fully as of 2020. This was a correction for the overoptimistic planning in the design. The re-estimated ERR is 10 percent, with an NPV of €16.84 million and BCR of 1.21, all of which are indicative of a sound investment and largely reconfirming the original analyses in the PAD.



Table 4.9. Financial Analysis

CBA Targeting Durrës City Only (Financial)										
Year	Inv. Cost	Milot SIV	Operating Cost		NRW	DWU Billings	Financial Price of Water	Operating Revenues	Cash Inflow	Fin. Working Ratio
			Power Cost	O&M Cost						
	Mil. EUR	M m3	Mil. EUR	Mil. EUR	percent	Mil. M3	EUR/m3	Mil. EUR	Mil. EUR	No Dim.
2019	44.84	2.00	0.26	0.57	50%	1.00	0.79	0.79	-44.62	
2020	0	15.00	1.93	4.29	48%	7.80	0.79	6.18	1.89	0.69
2021	0	15.00	1.93	4.29	46%	8.10	0.79	6.41	2.13	0.67
2022	0	15.00	1.93	4.29	44%	8.40	0.79	6.65	2.36	0.64
2023	0	15.00	1.93	4.29	42%	8.70	0.79	6.89	2.60	0.62
2024	0	15.00	1.93	4.29	40%	9.00	0.79	7.13	2.84	0.60
2025	0	15.00	1.93	4.29	38%	9.30	0.79	7.36	3.08	0.58
2026	0	15.00	1.93	4.29	36%	9.60	0.79	7.60	3.31	0.56
2027	0	15.00	1.93	4.29	34%	9.90	0.79	7.84	3.55	0.55
2028	0	15.00	1.93	4.29	32%	10.20	0.79	8.08	3.79	0.53
2029	0	15.00	1.93	4.29	30%	10.50	0.79	8.31	4.03	0.52
2030	0	15.00	1.93	4.29	28%	10.80	0.79	8.55	4.26	0.50
2031	0	15.00	1.93	4.29	26%	11.10	0.79	8.79	4.50	0.49
2032	0	15.00	1.93	4.29	24%	11.40	0.79	9.03	4.74	0.48
2033	0	15.00	1.93	4.29	22%	11.70	0.79	9.26	4.98	0.46
2034	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2035	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2036	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2037	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2038	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2039	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2040	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2041	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2042	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2043	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2044	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2045	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2046	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2047	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
2048	0	15.00	1.93	4.29	20%	12.00	0.79	9.50	5.21	0.45
NPV	42.30	194.21		55.50				104.98	7.18	
								FRR	7%	
								BCR	1.07	

Source: Author calculation

44. The re-estimated FRR is 7 percent, with an NPV of €7.18 million and BCR of 1.02, all of which are indicative of an acceptable investment exceeding the hurdle rate of 6 percent. Additionally, the projected FWR is reduced immediately from its existing level down to 0.70 and gradually keeps declining and hits 0.5 in 10 years. It should again be reiterated that this is a partial analysis, and inclusion of other DWU service zones in the full-blown financial statements will affect the FWR, where higher levels of the FWR are expected.

Partial Rate of Return Analysis on Universal Metering Update

45. The project has helped implement the universal water metering program, thus reducing wastewater and helping in adequate billing and enforcement of water tariffs. The analysis on metering was revised and updated using the existing data and considering the three-year delay in the investments under the following assumptions. It was calculated that the metering activity yielded a 20 percent return on the investment, which is an acceptable level for any World Bank-funded project.



Table 4.10. Rate of Return Re-estimation on Metering

Cost of Metering (Econ Analysis in the PAD)	4,231,000	US\$				
Applicable Historical Average Exchange Rate	1.4	US\$/EUR				
Cost of Metering (Econ Analysis in the PAD)	3,022,143	EUR				
Refined Cost of Metering (PAD Cost Table)	2,610,000	EUR				
Realized Cost of Metering (PIU - Final Cost)	1,230,917	EUR				
Durres Utility Cost Sharing Portion	100%	Assumed				
Final Metering Cost	2,461,834	EUR				
Exchange Rate	103	Lek/US\$				

Partial Rate of Return Analysis on Universal Metering (US\$) - Re-Estimation

Years	Metering Investment Cost	Billings	Without Project		With Project		Incremental Collections	Cash Flow
			Collection Rate	Collections	Collection Rate	Collections		
2014		3,729,674	35%	1,305,386	35%	1,305,386	-	-
2015		3,804,267	35%	1,331,494	35%	1,331,494	-	-
2016		3,880,353	35%	1,358,123	35%	1,358,123	-	-
2017	1,723,284	3,957,960	35%	1,385,286	35%	1,385,286	-	(1,723,284)
2018	1,723,284	4,037,119	35%	1,412,992	35%	1,412,992	-	(1,723,284)
2019		4,117,861	35%	1,441,251	40%	1,647,145	205,893	205,893
2020		4,200,218	35%	1,470,076	45%	1,890,098	420,022	420,022
2021		4,284,223	35%	1,499,478	50%	2,142,111	642,633	642,633
2022		4,369,907	35%	1,529,468	55%	2,403,449	873,981	873,981
2023		4,457,305	35%	1,560,057	60%	2,674,383	1,114,326	1,114,326
2024		4,546,452	35%	1,591,258	65%	2,955,194	1,363,935	1,363,935
2025		4,637,381	35%	1,623,083	70%	3,246,166	1,623,083	1,623,083
2026		4,730,128	35%	1,655,545	75%	3,547,596	1,892,051	1,892,051
2027		4,824,731	35%	1,688,656	75%	3,618,548	1,929,892	1,929,892
2028		4,921,225	35%	1,722,429	75%	3,690,919	1,968,490	1,968,490
Assumption: Billings to un-metered connections will grow 2% annually.						Re-estimated IRR	20%	

Source: ICR team estimates

Sensitivity Analysis

46. Because the investment has been completed, a conventional sensitivity analysis, which helps quantify uncertainty, would not apply to all project variables. For instance, parametric variation around the investment cost will be impertinent because such costs are no longer subject to any uncertainty (and hence variation) after project completion. However, possible dispersion can occur around the level of production, NRW, tariffs, and electricity costs which would be worthwhile to explore.

47. Starting with NRW, the scenario of no change in NRW is investigated as against gradual improvements over the next 10 years. The case whereby NRW would actually start rising again is ruled out, as this is highly unlikely. Calculations show that if there is no improvement in the physical losses (25 percent) and NRW (50 percent), the ERR would drop to 7 percent while the FRR would decline to zero. The economic price of water would not change much as it is an internationally benchmarked value. On the other hand, if the average weighted net tariff of the DWU can be increased to lek 120 per m³ (that is, a 25 percent increase over what has been assumed), the FRR will jump to 12 percent with a concomitant improvement in the FWRs. If electricity price is increased to lek 15 per kWh, the ERR would be 8 percent and FRR 5 percent. Hence, the analysis is sensitive to the projected NRW and the price of electricity.



48. A particularly relevant component of the sensitivity analysis is the calculation of the switching values. This is the value that the analyzed variable would have to take for the NPV of the project to become zero (with the ERR and FRR being equal to the discount rate), or more generally, for the outcome of the project to fall below the minimum level of acceptability. The use of switching values in the sensitivity analysis allows making some judgments on the risk of the project and the opportunity of undertaking risk-preventing actions.³¹

49. The switching water production value for the ERR to become 6 percent is 10 million m³ per year as against the assumed value of 15 million m³. Likewise, the switching water production value for the FRR is 13 million m³. The switching value for the economic water price is €0.48 per m³ and it is €0.74 per m³ for the financial water price. This suggests that the financial analysis is very sensitive to the price of water, while the economic analysis is not that sensitive to the economic price of water.

Part IV: Further Dimensions of Efficiency Investigations

Other Efficiency Criteria

50. The World Bank recommends that the efficiency rating should not be solely based on the calculation of an ERR or FRR. Other aspects of design and implementation also may contribute to efficient or inefficient use of resources, as discussed in the following paragraphs.

51. With regard to the comparison of the actual component costs to the estimated component costs at appraisal, there were no divergences. Despite declining lek/euro exchange rates from 2013 to 2020, the project was completed without any cost overruns. This is evidence of efficiency because the same investment project could successfully be delivered for less.

52. With regard to the comparison of actual administrative costs (of the borrower and implementing agency) to expected costs, there were no divergences that could have an impact on efficiency.

53. With regard to Additional Financing(s) or loan cancellations, there were none.

54. With regard to time overruns (project extensions), the project had a no-cost 18-month extension. This had an impact on efficiency. The extension seems to have stemmed from an overoptimistic construction schedule, as most documents studied by this consultant suggested that the construction would actually take five or six years, suggesting that the initial scheduling was an administrative oversight, but not a technical flaw. Therefore, the time extension was inevitable.

55. High task team leader (TTL) turnover may produce inefficiency because of the steep learning curve in understanding the project and building relationships with the counterpart which might introduce delays in implementation. However, this did not happen in this project because the change in task team leadership was at the beginning of the project and the old TTL continued to oversee project implementation as of his new career.

56. The new bulk water supply from Fushe Milot will largely displace water from Fushe Kuqe which has higher operating costs due to obsolescence. The estimated annual savings in energy costs will be in

³¹ EU, Guide to Cost-Benefit Analysis of Investment Projects
https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf.



the order of lek 220 million (refer to table 4.10 for the calculation). This will have an impact on all of the DWU’s performance indicators, allowing it to improve its FWR to 0.7 immediately and to 0.5 in 10 years (2031). This is another case of efficiency enhancement expected to be generated by the investment.

ERRU Key Performance Indicators and Summary of Results from the Project Results Framework

57. The achievement of the PDO and intermediate results indicators was largely contingent upon the realization of the bulk water supply system. In fact, of all the indicators, one stands out as the most significant one which drives all the other indicators, and this is the NRW indicator. Without a massive improvement in NRW, it was normal for the remaining indicators to lag or reflect limited progress. This aspect was not well captured in the project’s Results Framework and M&E, which suggested that some targets were not being achieved or the progress levels were not quite satisfactory. Notwithstanding this caveat, evidence of good progress was still observed in the listed indicators by the PIU and the corresponding ones being tracked by the ERRU in its annual utility performance reports. There are some discrepancies between these two systems, but that should not diminish their validity or utility. Surprisingly, the ERRU indicators on O&M cost coverage and metering (101 percent and 94 percent in 2019) are better than those of the PIU’s (75 percent and 85 percent), while collection efficiency seems somewhat overstated by the PIU (91 percent versus 73 percent). The PIU did not have matching coverage for two of the ERRU indicators: total cost coverage and sewerage coverage. Staff efficiency and hours of water supply are higher by PIU figures. Meanwhile, there is a good concordance between the NRW estimates by the PIU and ERRU. The ICR team conducted inquiries about the underlying reasons for these discrepancies, but the answers received were inconclusive. Following the completion of the key infrastructural investment (Component 1), if 2020 could be properly tracked, there will certainly be an important leap in all performance indicators regardless of the data source, as explained earlier.

Table 4.11. Comparison of ERRU and PIU Performance Indicators

ERRU KPI Data Extracted from Various Annual Reports							
Key Performance Indicators (KPI)	Durres						
	2013	2014	2015	2016	2017	2018	2019
O&M Cost Coverage	65%	90%	65%	88%	80%	107%	101%
Total Cost Coverage	61%	63%	55%	76%	73%	94%	85%
Collection Efficiency	73%	67%	77%	77%	68%	74%	73%
Staff efficiency (*)	5.1	5.5	5.4	5.24	5.33	5.08	3.89
Non-Revenue Water	71%	73%	72%	72%	71%	74%	73%
Metering Ratio	70%	80%	85%	87%	90%	93%	94%
Hours of Water Supply	7.5	7.5	7	4	3	5	8
Sewerage Coverage	44%	45%	46%	49%	50%	53%	60%
	Baseline						
WSIP PIU Results Framework (RF) - Observed Value							
PDO or Intermediate Results Indicators	Albania WSIP M&E System						
	Baseline	2014	2015	2016	2017	2018	2019
O&M Cost Coverage	59%	62%	62%	68%	69%	101%	75%
Total Cost Coverage	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Collection Efficiency	74%	81%	87%	86%	86%	98%	91%
Staff Efficiency	7.3	8.07	7.96	8.1	N/A	N/A	N/A
Non-Revenue Water	68%	73%	72%	72%	71%	74%	74%
Metering Ratio	35%	76%	79%	81%	82%	82%	85%
Hours of Water Supply	6	6	6	6	6	8	12
Sewerage Coverage	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: PIU Results Framework and ERRU WSS Utility Performance Report 2013–2019.



ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

The Borrower agreed with the report context and findings and did not provide comments.



ANNEX 6. SUPPORTING DOCUMENTS

Strategic Documents:

- IBRD/IFC Country Partnership Strategy (CPS) for Albania (R2010-0175 [IDA/R2010-0249, IFC/R2010-0263]). 2010.
- IBRD FY15-FY20 Country Partnership Framework (CPF)

Project Papers

- Project Appraisal Document (November 25, 2013), Report No: 58809-AL
- Restructuring Paper (May 26, 2017), Report No. RES27214
- Project Extension letter (February 21, 2019).

Financing Agreements

- Loan Agreement No. 8323-AL (January 16, 2014)

Additional Documents

- Project Implementation Status and Results Reports
- Project Safeguards Documents