



# Report and Recommendation of the President to the Board of Directors

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Project Number: 53395-001  
June 2021

## Proposed Loan and Administration of Grant Democratic Republic of Timor-Leste: Water Supply and Sanitation Investment Project

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**Asian Development Bank**

## **CURRENCY EQUIVALENTS**

The currency unit of Timor-Leste is the United States dollar.

## **ABBREVIATIONS**

ADB	–	Asian Development Bank
CEMP	–	construction environmental management plan
COVID-19	–	coronavirus disease
DED	–	detailed engineering design
DGAS	–	Directorate General for Water and Sanitation
EMP	–	environmental management plan
GDP	–	gross domestic product
GEF	–	Global Environment Facility
GRM	–	grievance redress mechanism
IEE	–	initial environmental examination
MPW	–	Ministry of Public Works
O&M	–	operation and maintenance
PAM	–	project administration manual
REGDP	–	resettlement and ethnic group development plan
SMASA	–	Serviços Municipais de Água, Saneamento e Ambiente (Municipal Water, Sanitation, and Environment Services)
WUS	–	water and other urban infrastructure and services

## **NOTE**

In this report, “\$” refers to United States dollars.

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<sup>a</sup> Outposted to the Timor-Leste Resident Mission.

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## PROJECT AT A GLANCE

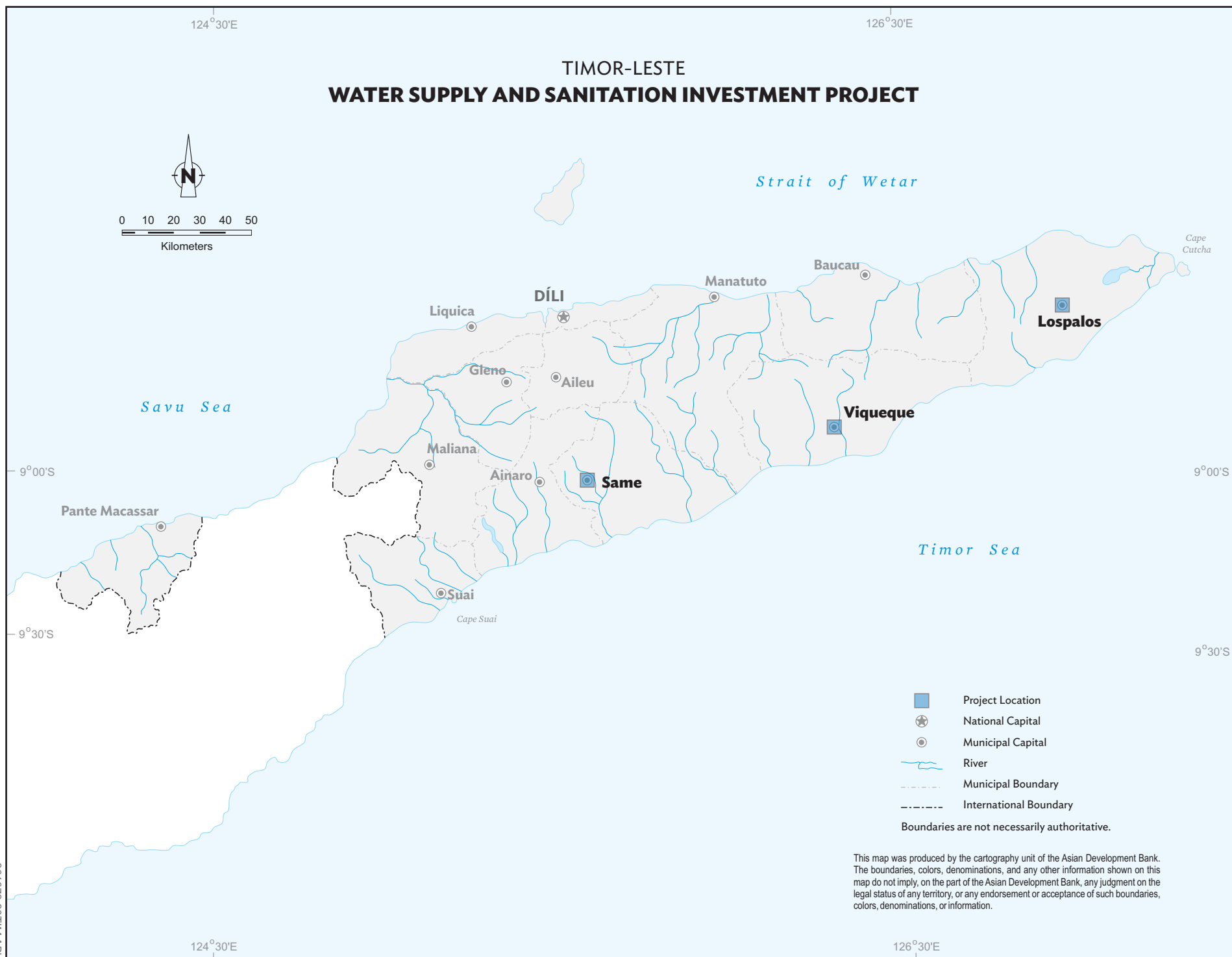
1. Basic Data		Project Number: 53395-001	
Project Name	Water Supply and Sanitation Investment Project	Department/Division	SERD/SEUW
Country Borrower	Timor-Leste, The Democratic Republic of Timor-Leste	Executing Agency	Council for Administration of the Infrastructure Fund (also Conselho Administrativo do Fundo Infraestrutura)
Country Economic Indicators Portfolio at a Glance	<a href="https://www.adb.org/Documents/LinkedDocs/?id=53395-001-CEI">https://www.adb.org/Documents/LinkedDocs/?id=53395-001-CEI</a> <a href="https://www.adb.org/Documents/LinkedDocs/?id=53395-001-PortAtaGlance">https://www.adb.org/Documents/LinkedDocs/?id=53395-001-PortAtaGlance</a>		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Urban sanitation		3.00
	Urban water supply		44.00
		Total	47.00
3. Operational Priorities		Climate Change Information	
✓ Addressing remaining poverty and reducing inequalities		GHG reductions (tons per annum)	0.000
✓ Accelerating progress in gender equality		Climate Change impact on the Project	Medium
✓ Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability			
✓ Making cities more livable		ADB Financing	
✓ Strengthening governance and institutional capacity		Adaptation (\$ million)	3.45
		Mitigation (\$ million)	0.00
		Cofinancing	
		Adaptation (\$ million)	3.00
		Mitigation (\$ million)	0.00
Sustainable Development Goals		Gender Equity and Mainstreaming	
SDG 1.4, 1.5		Effective gender mainstreaming (EGM)	✓
SDG 5.a			
SDG 6.1, 6.2		Poverty Targeting	
SDG 13.a		General Intervention on Poverty	✓
4. Risk Categorization:	Low		
5. Safeguard Categorization	Environment: B	Involuntary Resettlement: B	Indigenous Peoples: B
6. Financing			
Modality and Sources		Amount (\$ million)	
ADB		47.00	
Sovereign Project (Concessional Loan): Ordinary capital resources		47.00	
Cofinancing		3.00	
Global Environment Facility Grant - Project grant (Full ADB Administration)		3.00	
Counterpart		12.50	
Government		12.50	
Total		62.50	
Currency of ADB Financing: US Dollar			

# TIMOR-LESTE

## WATER SUPPLY AND SANITATION INVESTMENT PROJECT



0 10 20 30 40 50  
Kilometers



## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Democratic Republic of Timor-Leste for the Water Supply and Sanitation Investment Project. The report also describes the proposed administration of a grant to be provided by the Global Environment Facility (GEF), and if the Board approves the proposed loan, I, acting under the authority delegated to me by the Board, approve the administration of the grant.

2. The project will support the Government of Timor-Leste to provide safe, reliable, and affordable water supply and sanitation to about 62,000 people in three project cities of Lospalos, Viqueque, and Same.<sup>1</sup> It will (i) finance the construction of new facilities for water supply and sanitation services; and (ii) strengthen the regulatory and institutional capacity of both the Ministry of Public Works (MPW); the Municipal Water, Sanitation, and Environment Services (SMASAs); and the newly established state-owned water utility, Bee Timor-Leste (BTL), in service delivery, planning, financial management, and operation and maintenance (O&M). The project is aligned with the Timor-Leste Strategic Development Plan, 2011–2030 (SDP) and will contribute to the country's response to the coronavirus disease (COVID-19) pandemic by improving the overall health and hygiene of the population of the project cities.<sup>2</sup>

## II. THE PROJECT

### A. Rationale

3. **Economic outlook.** Timor-Leste's non-oil gross domestic product (GDP) growth averaged 7.9% during 2007–2013. The economy grew at 3.6% in 2014–2016 due to slowdown in public spending and contracted in 2017–2018 due to the political deadlock resulting in non-passage of the state budget, causing a large fall in public expenditure, which had been the major driver of growth in the country. Oil has been a major component of GDP, but oil production has been falling in recent years. In 2019, non-oil GDP was \$1.7 billion (versus \$2 billion including oil) while non-oil GDP per capita was \$1,295 (versus \$1,561 including oil).<sup>3</sup> The contraction of the economy in 2020 is estimated at 7.9%, due to the state-of-emergency measures to contain the COVID-19 pandemic and the 8-month delay in approval of the budget. Economic growth is expected to recover to 3.4% in 2021, leveraged by public expenditure financed through revenues from oil and gas production and returns on the Petroleum Fund.<sup>4</sup> With production from existing oil fields forecast to end in 2022–2023, Timor-Leste urgently needs to diversify its economy.

4. **Poverty.** With a population of 1.3 million people, the proportion of Timorese living under the national poverty line fell from 50.4% in 2007 to 41.8% in 2014.<sup>5</sup> Poverty levels are estimated to have risen by 5%–7% points in 2020 since 2014.<sup>6</sup> Urban population under the national poverty line is estimated at 24% in Lospalos, 33% in Viqueque, and 43% in Same.<sup>7</sup>

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<sup>1</sup> Timor-Leste comprises 13 municipalities. Lospalos, Viqueque, and Same are the capitals of Lautem, Viqueque, and Manufahi municipalities, respectively. The population in the project cities is estimated to be 62,000 by 2028.

<sup>2</sup> Government of Timor-Leste. 2011. *Timor-Leste Strategic Development Plan, 2011–2030*. Dili. The national targets for water supply and sanitation is to achieve 100% service coverage in urban areas by 2030.

<sup>3</sup> General Department of Statistics. 2020. *National Account 2000–2019*. Dili.

<sup>4</sup> ADB. 2021. [Asian Development Outlook 2021: Financing a Green and inclusive Recovery](#). Manila.

<sup>5</sup> World Bank. 2016. *Timor-Leste Survey of Living Standards 2014*. Dili and Washington, DC. Fall in rural poverty was 47.1% to 28.3% in the same period.

<sup>6</sup> World Bank. 2020. *Timor-Leste Economic Report: Towards A Sustained Recovery*. Washington, DC. Figures are in comparison to 2014. Poverty has affected people in rural areas to a greater extent

<sup>7</sup> Purnamasari, R, B.A. Wirapati, H. Alatas, and M. Nasiir. 2020. *Estimating Small Area Poverty and Welfare Indicators in Timor-Leste using Satellite Imagery Data*. World Bank. Washington DC.

5. **Urbanization.** The urban population has grown at an annual rate of 4.2% since 2008 and represented about 30% of the total population at the end of 2015.<sup>8</sup> Urban development will increase employment, wages, and living standards, thereby reducing poverty. Currently, most of the urban population is concentrated in and around the capital city of Dili. However, population is increasing in secondary cities such as Lospalos, Viqueque, and Same.

6. **Policy framework.** The government has identified the need, among others, to address the growing demand for public services, including infrastructure. The SDP prioritizes investing in critical infrastructure for water supply and sanitation and developing the capacity of the public sector and promoting good governance for the delivery of government services, with a long-term goal of providing safe water and sanitation to all municipalities by 2030. The government's Economic Recovery Plan (ERP), developed in response to the socioeconomic impacts of the COVID-19 pandemic, aims to ensure basic sanitation and water supply throughout the country.<sup>9</sup>

7. **Urban development and planning constraints.** With increasing urbanization, the government has recognized the need for long-term land use and urban planning. The 2017 Timor-Leste Law on Land Ownership sets out the broad requirements for issuance of ownership titles, usage, and dispute resolution; however, lack of regulations has stalled its implementation, with urban sprawl remaining largely unregulated. The lack of long-term urban planning for infrastructure, coupled with limited capital investments, unpredictable fund flows, and a failure to budget accurately, has led to ad-hoc, reactive, and unsustainable interventions.

8. **Access to water supply and sanitation services in urban areas.** While about 91% of the urban population had access to improved water supply in 2015 and about 34% had access to a piped water supply network, water is non-potable and supply remains unreliable.<sup>10</sup> Wastewater networks are nonexistent and about 81% of the urban population had access to only basic sanitation, mainly in the form of improved toilet facilities connected via a septic system.<sup>11</sup> In the three project cities, 20% of the households practice open defecation and 34% use unhygienic toilets.<sup>12</sup> Increasing women's access to water services is important in improving household health and hygiene while freeing up time for more economically productive pursuits.<sup>13</sup>

9. **Water quality.** Growing population is increasing pressure on existing water sources and supply services, already operating beyond capacity. Excessive leakage in the dilapidated water supply network and operational issues such as a lack of chemical treatment have resulted in coliform bacteria and excess calcium in the water. Poor sanitation has led to microbiological contamination of shallow groundwater, resulting in disease outbreaks. In 2015, 11% of children under 5 years contracted diarrhea attributable to poor water, sanitation, and hygiene.<sup>14</sup>

10. **Water quality and health during the pandemic.** The COVID-19 pandemic has highlighted how water shortages and poor quality adversely affect health and hygiene in communities. Access to safe and reliable water will be fundamental to curbing the spread of COVID-19, addressing future health emergencies, and overcoming the disproportionate burden on women and girls with respect to water collection and management.

<sup>8</sup> Government of Timor-Leste. 2015. *Timor-Leste Population and Housing Census 2015*. Dili.

<sup>9</sup> Government of Timor-Leste. 2020. *Economic Recovery Plan*. Dili.

<sup>10</sup> Improved water supply refers to sources that are mainly pipe in dwelling, public taps, boreholes, protected dug wells, and improved rainwater collection.

<sup>11</sup> Improved toilets refer to septic tank and pit latrines with slab.

<sup>12</sup> Unhygienic toilets refer to very basic on-site sanitation systems e.g. pit latrines in outhouses.

<sup>13</sup> *Development Asia Policy Brief*. 2018. [How Timor-Leste can Achieve Universal Access to Water](#). September.

<sup>14</sup> Government of Timor-Leste. 2016. *Timor-Leste Demographic Household Survey*. Dili.



11. **Water availability and sensitivity to climate change.** Climate change and weather phenomena such as El Niño and La Niña make Timor-Leste highly susceptible to water insecurity. Climate change will likely increase the frequency and severity of rainfall and the length and severity of droughts, placing additional burden in areas where access to safe water is already limited. Monitoring water resources, both groundwater and surface water, and improving access to water supply systems are critical, including in the project cities under the proposed project.

12. **Institutional arrangements.** Responsibilities for water supply and sanitation in Timor-Leste are fragmented, leading to structural and operational weaknesses. In urban areas such as the project cities, the Directorate General for Water and Sanitation (DGAS) under the MPW was responsible for capital investments. The responsibility for capital investments in rural areas and day-to-day O&M in both urban and rural areas was with the SMASAs, housed within each municipal administration under the Ministry of State Administration. The SMASAs, however, have limited autonomy in decision making, other than for basic operational matters.

13. To address these organizational weaknesses, in September 2020, the government established (i) a state-owned water utility, BTL, to be responsible for the provision of water supply and sanitation services in urban areas under Decree-law No. 41, and (ii) a regulatory authority responsible for policy development and oversight of BTL and SMASAs under Decree-law No. 38. An installation committee prepared the transition of DGAS and SMASAs' urban water services into the newly established BTL. The DGAS has ceased to exist when the BTL commenced operation in February 2021, and BTL is now responsible for both capital investments and O&M services in urban areas. The SMASA under each municipal administration continues to be responsible for capital investments and O&M services in rural areas.<sup>15</sup>

14. **Project area.** The selection of the three project cities of Lospalos, Viqueque, and Same is based on their economic potential, location in key agriculture and tourism zones, and contribution to the development of the oil and gas industry. Viqueque and Same are identified as petrochemical industrial clusters. All three cities are urban nodes along transport routes, receiving support through Asian Development Bank (ADB) transport investments and are expected to experience further development with improved connectivity.<sup>16</sup>

15. **Service delivery in the project area.** Access to urban services in the project cities is very limited, which affects their ability to function as economic development centers. The population of the three cities is estimated at 47,204 (7,600 households) in 2020 and is expected to reach 62,000 (10,164 households) by 2028. Table 1 provides an overview of the state of urban infrastructure and services in these cities.

**Table 1: Status of Urban Infrastructure and Services**

City	Population (2020)	Piped Water Supply (% population covered)	(hours/day)	Household Water Connections (number)	Hygienic Toilets (% population)	Unhygienic Toilets and Open Defecation (% population)
Lospalos	19,096	28.1	2–3	925	43.0	57.0
Viqueque	12,883	60.7	4–6	1,300	50.0	50.0
Same	15,225	23.6	1–6	920	44.0	56.0

Source: Asian Development Bank. 2016. *Second District Capitals Water Supply and Sanitation Masterplan*. Manila.

<sup>15</sup> Until the transfer to BTL of the O&M responsibilities for urban areas is completed, the SMASAs will continue to be responsible for O&M of the water supply and sanitation infrastructures, including in the three project cities.

<sup>16</sup> ADB. 2013. [Road Network Upgrading Sector Project](#). Manila; and ADB. 2018. [Baucau to Viqueque Highway Project](#). Manila.

16. **Financial capacity.** Full cost recovery on water supply and sanitation facilities and related assets has been limited mainly because of the weak tariff structures. Neither the DGAS nor the SMASAs had the ability to implement the tariffs set by Ministerial Diploma No. 1/2004 of the Ministry of Transport, Communication, and Public Works, and there is no billing system and no mechanism for payment.<sup>17</sup> All three project cities rely on the central government transfers to cover recurrent costs.

17. **ADB experience in the sector.** ADB has supported the government in improving the performance of the water and other urban infrastructure and services (WUS) sector through (i) the introduction of institutional reforms to promote the sustainability of the DGAS and SMASAs, and (ii) rehabilitation of water supply systems in Dili and two secondary cities.<sup>18</sup> ADB recognizes the need for continued support in O&M, financial management and reporting, and tariff review to facilitate the transitioning of urban water services from the DGAS and SMASAs to BTL. There is a need to develop the capacity of BTL to (i) report on the performance of its urban water services; (ii) promote financial planning with a focus on long-term asset management; (iii) improve sector planning to address water demand and quality issues; and (iv) continue promoting gender equality by providing opportunities to train and support women to take on jobs in the WUS sector. An ADB-financed ongoing technical assistance project is supporting DGAS' transition to BTL.<sup>19</sup>

18. **Strategic alignments.** The project is aligned with the SDP to provide clean water and improved sanitation for all citizens by 2030 and the Sustainable Development Goals 1, 5, 6 and 13. It is also aligned with ADB's country partnership strategy for Timor-Leste, 2016–2020 and the enhanced country operations business plan, 2021–2023, which identify support for inclusive and sustainable growth through the improvement of water services in urban centers as a priority.<sup>20</sup> The ERP emphasizes water security and basic sanitation and this will remain a priority area for ADB's operations. Table 2 summarizes the project's alignment with ADB's Strategy 2030.<sup>21</sup>

**Table 2: Alignment with Strategy 2030**

Strategy 2030 Priority	Project Interventions
Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability	Design and implement water supply solutions that are more resilient by adopting a balance between surface water (springs) and groundwater sources; develop capacity-building programs with a focus on environmental sustainability, climate resilience, disaster risk management, and contingency planning.
Making cities more livable	Implement infrastructure solutions that provide improved and resilient water services, including treatment solutions through chlorine and Calgon dosing, slow sand filtration, looped water distribution networks, and septage treatment plants.
Strengthening governance and institutional capacity	Enhance governance and operational capacity of BTL and SMASAs to improve water services and promote financial sustainability and efficiency in operations.
Accelerating progress in gender equality	Increase women's participation in planning and delivery of water services, as well as their access to training and jobs in technical fields in the WUS.
Addressing remaining poverty and reducing inequalities	Provide access to reliable and safe water and sanitation to women, poor, and vulnerable groups through pro-poor initiatives such as free water connections.

MPW = Ministry of Public Works; SMASA = Municipal Water, Sanitation, and Environment Services, WUS = water and other urban infrastructure and services.

Source: Asian Development Bank.

<sup>17</sup> The Ministerial Diploma establishes the water supply tariffs for public consumption.

<sup>18</sup> ADB. 2007. *Dili Urban Water Supply Sector Project*. Manila; and ADB. 2011. *District Capitals Water Supply Project*. Manila.

<sup>19</sup> ADB. 2019. *Implementing Reforms for Growth and Competitiveness*. Manila.

<sup>20</sup> ADB. 2016. *Timor-Leste Country Partnership Strategy, 2016–2020*. Manila; and ADB. 2020. *Timor-Leste Country Operations Business Plan, 2021–2023*. Manila. The ADB's country partnership strategy for Timor-Leste, 2016–2020 has been extended through the enhanced country operations business plan, 2021–2023.

<sup>21</sup> ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

19. **Development partner coordination.** ADB has been the primary development partner in the WUS sector in Timor-Leste, helping the government expand water supply coverage and improve water services. The Japan International Cooperation Agency is an active partner and has provided substantial financing for the sector as well as advisory support to MPW. The Japan International Cooperation Agency's work in the sector complements ADB's projects (footnote 18) in building institutional capacity to efficiently implement infrastructure projects and provide O&M.

## B. Project Description

20. The project is aligned with the following impact: 100% water supply and sanitation service coverage by 2030 (footnote 2). The project will have the following outcome: inclusive and sustainable access to water supply and sanitation services in project cities achieved.<sup>22</sup>

21. **Output 1: Regulatory environment improved.** The project will support the project cities in developing a socially and gender-inclusive institutional development road map that will guide the transfer of urban water supply and sanitation functions of the SMASAs to BTL, the newly established state-owned utility.<sup>23</sup> The road map will identify information and communication technology and other digital solutions to improve efficiency in public service management. At the sector level, the project will support BTL in establishing service delivery guidelines on water supply and preparing a sanitation action plan for citywide inclusive sanitation.<sup>24</sup>

22. **Output 2: Water supply and sanitation infrastructure improved.** The project will improve access to inclusive water supply and sanitation infrastructure in the three project cities through (i) construction of 14 water supply storage and 7 treatment facilities; (ii) rehabilitation and expansion of 130 km of water supply distribution network and formation of district metered areas; (iii) installation of meters for 10,000 household connections; and (iv) construction of 12 public toilets and 3 seepage treatment facilities, including seepage collection and transport facilities.

23. **Output 3: Institutional effectiveness improved.** To ensure that infrastructure created under the project deliver services efficiently, the project will enhance the capacity of BTL and SMASAs to plan, deliver, operate, and maintain water supply and sanitation infrastructure over the long term. Women's participation in the sector will be encouraged, including through enhanced job skills training for both female and male water services employees. To monitor institutional effectiveness, the project will develop and implement customer service feedback and complaint mechanism that ensures accessibility and responsiveness to the specific needs of both male and female customers. Improved O&M arrangements will also be developed to enhance the sustainability of the project assets and services.

24. **Key lessons incorporated.** The key lessons incorporated in the project include (i) the development of a flexible and adaptive project design, accounting for the country's fragile and conflict-affected situation (FCAS) status and weak institutional capacity; and (ii) continued institutional strengthening to support the transition of the DGAS into BTL, including O&M procedures to ensure sustainability of the infrastructure.

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<sup>22</sup> The design and monitoring framework is in Appendix 1.

<sup>23</sup> The institutional development road map will cover key aspects of planning, service delivery, and financial management, and identify solutions that will be implemented over the project period.

<sup>24</sup> Citywide inclusive sanitation aims to achieve the following: (i) everyone in the city has access to, and benefits from, sustainable sanitation services, and (ii) human waste is safely managed along the whole sanitation service chain.

### C. Value Added by ADB

25. The ongoing ADB transport projects in the project areas (footnote 16) will amplify the development impact of the proposed project and create synergies to foster economic development in the three project cities. ADB will support the government in demonstrating good practices of integrated development to make cities more livable, including further institutional capacity strengthening of the Timorese public sector.

26. In view of Timor-Leste's FCAS status, the project will take a differentiated approach in terms of comprehensive consultation, extended implementation period, and flexible procurement methods. It will consider and address FCAS-related factors such as weak governance and institutional capacity, lack of legal and regulatory framework for land use, high vulnerability to climate change and natural hazards, and low quality of basic services. The project will employ feasibility and risk management mechanisms based on lessons from previous projects and existing sectoral studies, and the project's scope, timeline, and capacity development activities will address the low capacity of the public and private sectors. Building on existing support, ADB will target good governance and human capacity in Timor-Leste's infrastructure management systems, including those of BTL, to ensure that development impacts are fully realized.

### D. Summary Cost Estimates and Financing Plan

27. The project is estimated to cost \$62.5 million (Table 3). Detailed cost estimates by expenditure category and by financier are included in the project administration manual (PAM).<sup>25</sup> The major expenditure items include civil works, equipment, and consulting services.

**Table 3: Summary Cost Estimates**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Output 1: Regulatory environment improved	1.2
2. Output 2: Water supply and sanitation infrastructure improved	47.7
3. Output 3: Institutional effectiveness improved	1.7
<b>Subtotal (A)<sup>c</sup></b>	<b>50.6</b>
<b>B. Contingencies<sup>c</sup></b>	<b>9.5</b>
<b>C. Financial Charges During Implementation<sup>d</sup></b>	<b>2.4</b>
<b>Total (A+B+C)</b>	<b>62.5</b>

<sup>a</sup> Includes taxes and duties of \$1.54 million to be financed by the government in cash. Such amount does not represent an excessive share of the project cost.

<sup>b</sup> In mid-2020 prices as of October 2020.

<sup>c</sup> Includes physical and price contingencies, and a provision for exchange rate fluctuation.

<sup>d</sup> Includes interest on all sources of financing.

Source: Asian Development Bank estimates.

28. The government has requested (i) a concessional loan of \$47.0 million from ADB's ordinary capital resources; and (ii) a grant not exceeding \$3.0 million from the GEF to help finance the project. The loan will have a 25-year term, including a grace period of 5 years; an interest rate of 2.0% during the grace period and thereafter; and such other terms and conditions set forth in the draft loan agreement. The government will contribute \$12.5 million for civil works, land acquisition and compensation cost, O&M, and taxes and duties.

29. The summary financing plan is in Table 4. ADB will finance the expenditures in relation to civil works, equipment, consultancy and training, and audit. GEF will provide grant cofinancing of

<sup>25</sup> Project Administration Manual (accessible from the list of linked documents in [Appendix 2](#)).

up to \$3 million, to be fully administered by ADB, for expenditures related to equipment and consulting services for strengthening the project climate resilience such as control systems and water meters. Climate adaptation is estimated to cost \$6.45 million, of which ADB will finance \$3.45 million and GEF, \$3 million.<sup>26</sup> Details are in the PAM (footnote 25).

**Table 4: Summary Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	47.0	75.2
Global Environment Facility <sup>a</sup> (grant)	3.0	4.8
Government of Timor-Leste	12.5	20.0
<b>Total</b>	<b>62.5</b>	<b>100.0</b>

<sup>a</sup> Fully administered by the Asian Development Bank.  
Source: Asian Development Bank estimates.

## E. Implementation Arrangements

30. Implementation arrangements are summarized in Table 5 and described in detail in the PAM. All procurement of goods, civil works, and consulting services will follow the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). As GEF will cofinance the project, universal procurement will apply.<sup>27</sup>

**Table 5: Implementation Arrangements**

Table of Implementation Arrangements			
Aspects	Arrangements		
Implementation period	October 2021–September 2028		
Estimated completion date	30 September 2028 (including a 2-year operation and maintenance contract period)		
Estimated loan/grant closing date	31 March 2029		
Management			
(i) Oversight body	Council of Administration of Infrastructure Fund		
(ii) Implementation unit	Project management unit established by Ministry of Public Works		
(iii) Executing agency	Council of Administration of Infrastructure Fund		
(iv) Key implementing agency	Ministry of Public Works		
Procurement	Open competitive bidding (internationally advertised)	3 contracts	\$40.52 million
	Request for quotation	4 contracts	\$0.23 million
Consulting services	Quality- and cost-based selection	1 contract 776 person-months	\$6.24 million
	Least-cost selection	1 contract 7 person-months	\$0.35 million
	Individual consultant selection	4 contracts 273 person-months	\$1.10 million
Advance contracting	Advance contracting for the project supervision consultant will commence in the second quarter of 2021.		
Retroactive financing	Not applicable		
Disbursement	Disbursement of the loan and grant proceeds will follow ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

Source: Asian Development Bank.

<sup>26</sup> Climate Change Assessment (accessible from the list of linked documents in [Appendix 2](#)).

<sup>27</sup> ADB. 2015. [Enhancing Operational Efficiency of the Asian Development Bank](#). Manila.

### III. DUE DILIGENCE

#### A. Technical

31. MPW is preparing the detailed engineering designs (DEDs) for water supply and sanitation infrastructure for the project cities. The technologies selected are appropriate for local conditions in terms of robustness and the nature of O&M for the newly constructed assets, including slow sand filtration treatment plants with chlorine and Calgon dosing, gravity distribution networks and septage treatment plants. The project is designed to benefit about 92,000 people in the three cities by 2040, which represents 100% of the projected population of these cities. The project will have first priority for raw water from the proposed water sources. Technical due diligence has confirmed that abstraction of water from the bores, springs, and surface catchments is unlikely to have any adverse impacts on water resources or on other users.<sup>28</sup>

32. **Climate change and environmental provisions.** The DEDs consider community vulnerabilities to climate change impacts such as deterioration of water quality, increasing water scarcity, increasing temperatures, and intense weather events. The National Water Resource Management Policy (2020) will guarantee a minimum environmental flow to ensure that the freshwater ecology is not affected by the project infrastructure.<sup>29</sup>

33. **Working safely during the pandemic.** The impact of COVID-19 is evolving. Project implementation will be responsive and flexible in meeting emerging construction needs. The project will incorporate best construction practices to manage COVID-19 risk and will follow guidance notes from the government and ADB on safe working under COVID-19 conditions.<sup>30</sup>

#### B. Economic and Financial Viability

34. Economic and financial analyses for the project were carried out in accordance with ADB guidelines.<sup>31</sup> The project economic internal rate of return is estimated at 11.9%, which is above the minimum required threshold of 9% for water projects. The project's economic benefits will derive mainly from increased access to safe, reliable, and affordable water supply and sanitation, which will reduce the direct and indirect costs of obtaining water and prevent waterborne diseases. Sensitivity analyses indicated that the project's economic viability is robust against negative scenarios.

35. Financial due diligence for the project evaluated the financial sustainability of operating the newly constructed infrastructure. The analysis showed that revenues from the project in all three project cities are consistently less than the O&M costs over the 25-year period of useful life of the assets and, consequently, the water supply and sanitation operations would need continuous financial support from the government.

<sup>28</sup> Other users include farmers who use water for irrigation and fish farming, and communities near the sources that use it for drinking water.

<sup>29</sup> The MPW resolution *Approves the National Water Resource Management Policy* (23 October 2020) guides the provision of water for all purposes, prioritizing water for domestic consumption and ensuring a minimum environmental flow.

<sup>30</sup> ADB. 2020. [Protecting the Safety and Well-Being of Workers and Communities from COVID-19](#). Manila.

<sup>31</sup> Financial Analysis and Economic Analysis (accessible from the list of linked documents in [Appendix 2](#)).

## C. Sustainability

36. The financial sustainability of the project will depend on the government's O&M budget allocation to each project city's SMASA, since tariff revenue is not ring-fenced and MASAs have no other sources of income. The government has given assurances that it will allocate sufficient O&M budget to the MASAs, and later to BTL, the newly established state-owned water utility, to ensure the project's financial sustainability. The project will support the design of an institutional development road map for each project city (para. 21). The road maps will cover O&M, training, tariff reform, billing systems, and financial management to build the operational capacity of local staff and guide the transition of urban water services to the new state-owned water utility.

## D. Governance

37. **Procurement.** MPW is experienced in ADB-financed projects but has no experience using the ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The national procurement system does not meet international standards. The pre-mitigation procurement risk is rated *high*. The procurement risk assessment concluded that the project management unit would require support to improve its understanding of the procurement framework, including contract management and administration. The strategic procurement planning process has supported the project. Value for money will be delivered through (i) the preparation of DEDs by a qualified water utility firm, (ii) a single package with three lots, each including water supply and sanitation for the three cities, and (iii) the appointment of a qualified project supervision consultant to ensure the quality of the works and ensure that future O&M requirements are met.

38. **Financial management.** The pre-mitigation financial management risk is *substantial* because of the poor financial management capacity of MPW, as evidenced by (i) a shortage of staff skilled in financial management, (ii) weak capacity of the internal audit function, (iii) frequent external audit process delays and low quality of audited project financial statements, and (iv) absence of accounting software and financial data backup systems. A time-bound action plan has been agreed between ADB and Council of Administration of Infrastructure Fund and MPW to mitigate these risks. Measures include (i) capacity building and training for financial management staff of MPW; (ii) ensuring that the government's internal audit department audit the project annually; (iii) supporting MPW with developing an internal audit manual and providing training in internal audit requirements and procedures; (iv) outsourcing the external audit service, and (v) installation of accounting software and implementation of a regular backup system.

39. **Anticorruption.** ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, the Ministry of Finance, and MPW. The specific policy requirements and supplementary measures are described in the PAM.

## E. Poverty, Social, and Gender

40. **Poverty targeting.** The primary beneficiaries of the project's improved services will be women and girls, and poor households. Targeted interventions will result in public sanitation facilities, free water supply connections, and subsidized tariffs for vulnerable households and households headed by women. Works contracts will require compliance with core labor standards and national labor laws. Local men and women will be hired for at least 50% of unskilled jobs and 30% of skilled jobs in each project city.



41. **Gender features.** The project is categorized *effective gender mainstreaming* and a gender action plan has been prepared.<sup>32</sup> The project's gender features will include developing a socially and gender-inclusive institutional development roadmap for each of the project cities that will ensure (i) equitable access to employment and training for both men and women, (ii) development and monitoring of customer service feedback and complaint procedures, (iii) strengthened community capacity in water use and conservation, and (iv) customer service and service delivery protocols that respond to the needs and concerns of both male and female clients. Project implementation will be supported by social and gender specialists within the project supervision consultant team and a gender focal point at the MPW.

## F. Safeguards

42. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows:<sup>33</sup>

43. **Environment (category B).** Three initial environmental examinations (IEEs) and corresponding environmental management plans (EMPs) have been prepared for the project in accordance with ADB's Safeguard Policy Statement (2009) and government laws and regulations.<sup>34</sup> These were disclosed on ADB's website. The IEEs and corresponding EMPs were based on preliminary outcomes of the DEDs. Stakeholder consultations were conducted during project preparation. It is expected that the three project sites will experience short-term, localized impacts during construction, which will be site-specific and reversible,<sup>35</sup> and can be avoided, minimized, or mitigated to an acceptable level with good construction practices and mitigation measures as defined in the EMPs and the corresponding site-specific construction EMPs (CEMPs) to be prepared and implemented by the contractors. The EMPs will be included in the bidding documents, and respective CEMPs will be prepared accordingly. Civil works will commence only after domestic national environmental clearances have been secured.

44. **Involuntary resettlement (category B).** A resettlement and ethnic group development plan (REGDP) has been prepared for each project city in accordance with ADB's Safeguard Policy Statement (2009) and government laws and regulations and disclosed on ADB's website.<sup>36</sup> The project will acquire land (customary, residential, and government-owned). It will also impact secondary structures and productive assets such as fruit trees and crops of 22 affected households in the three project cities, with one household severely affected. A socioeconomic survey of all affected persons was carried out and a detailed inventory of loss was developed. No economic displacement is anticipated. Appropriate construction methodologies will minimize disturbances and contractors will be responsible for reinstatement of any damages during construction. The upgraded REGDPs based on the DED, approved by the government and cleared by ADB, shall be included in the bidding documents and disclosed prior to contract award. Compensation and allowances shall be provided prior to the commencement of works.

<sup>32</sup> Gender Action Plan (accessible from the list of linked documents in [Appendix 2](#)).

<sup>33</sup> ADB. [Safeguard Categories](#).

<sup>34</sup> Initial Environment Examination: Lospalos City; Initial Environmental Examination: Same City; Initial Environmental Examination: Viqueque City; Environmental Management Plan: Lospalos City; Environmental Management Plan: Same City; and Environmental Management Plan: Viqueque City (accessible from the list of linked documents in [Appendix 2](#)).

<sup>35</sup> Potential environmental impacts include temporary disruption of roads and access to properties, increase in dust concentration, increase in noise levels, sediment runoff, solid waste generation and disposal, and occupational and community health and safety.

<sup>36</sup> Resettlement and Ethnic Group Development Plan: Lospalos City; Resettlement and Ethnic Group Development Plan: Same City; and Resettlement and Ethnic Group Development Plan: Viqueque City (accessible from the list of linked documents in [Appendix 2](#)).



45. **Indigenous peoples (category B).** The majority of the population of Timor-Leste is indigenous. Although differences exist across the many different cultural and language groups in Timor-Leste, people do not self-identify as being indigenous. However, the communities have deep spiritual connections with land and water, and customary laws are acknowledged. The grievance redress mechanism (GRM) and land acquisition will be conducted in a culturally appropriate manner, with understanding of and respect for these customary agreements. To ensure that these factors are fully addressed and integrated into project implementation, specific measures to develop customary water management plans for the three project cities will be taken, details of which are included in the REGDPs. The REGDPs were disclosed on ADB's website.

46. **Grievance redress mechanism and meaningful consultation.** The project team undertook field visits; held meaningful consultations, focus groups, and participatory discussions with the project beneficiaries including the poor, potentially affected households, community leaders, city authorities, and civil society organizations; and disseminated information on the GRM. Details of the consultations are in the REGDPs and IEEs. Consultations will continue throughout project implementation.<sup>37</sup> The GRM has been defined in the REGDPs and IEEs, to be established in accordance with relevant government regulations and ADB's Safeguard Policy Statement (2009) to address any project-related complaints.

## G. Summary of Risk Assessment and Risk Management Plan

47. Significant risks and mitigating measures are summarized in Table 6 and described in detail in the risk assessment and risk management plan.<sup>38</sup>

**Table 6: Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigation Measures</b>
Lack of government support to implement the institutional development road map	The PMU will monitor progress of project activities under the government-approved road map and will coordinate activities to improve the capacity of the SMASAs, with support from the PSC.
MPW has limited understanding of the procurement framework, including contract management and administration	The PSC will include a procurement specialist experienced in ADB's Procurement Policy (2017, as amended from time to time). Procurement training will be provided to MPW during project implementation.
Failure to implement water tariff reforms results in limited cost recovery and unsustainable water services	An ongoing ADB technical assistance project will support the new regulatory authority to determine the right tariff structure to ensure a trend of cost recovery during the useful life of the new assets <sup>a</sup> A 2-year O&M component will be included in the civil works contract. A customer billing and collection system will be implemented in the SMASAs during the 2-year O&M period.
Capacity of project cities to operate and maintain water supply and sanitation infrastructure is weak	On-the-job training and targeted training programs to promote knowledge transfer and increase staff skills will be developed and implemented throughout the 2-year O&M component by the civil works contractor. The project will design an institutional development road map for each project city. The road maps will cover O&M, training, tariff reform, billing systems, and financial management to build the operational capacity of local staff and guide the transition of urban water services to the new state-owned water utility.
Weak project financial management systems of implementing agencies	The PMU will set up project financial management systems to record, document, and report project financial data, and appoint an external auditor to periodically audit such data as required by ADB, separate from those required under government regulations.
Shortage of staff skilled in financial management	An international financial management specialist will be recruited as part of the PSC to assist the PMU. ADB will provide training on ADB financial requirements and disbursement guidelines to the PMU.

<sup>37</sup> Consultation and Participation Plan (accessible from the list of linked documents in [Appendix 2](#)).

<sup>38</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in [Appendix 2](#)).

<b>Risks</b>	<b>Mitigation Measures</b>
Weak capacity of the Office of Internal Audit	The international financial management specialist of the PSC will develop an internal audit manual and provide training in audit control and procedures. The MPW will ensure that the government internal audit department includes the project in its annual internal audit program.
Delay of external audit process and low quality of audited project financial statement	External auditor for the project financial statement will be outsourced. The terms of reference of the external auditor will be confirmed by ADB.
Absence of accounting software and weak financial data backup systems	MPW will install an accounting software package and provide training to PMU. PMU will undertake regular backups of all financial, accounting, and project-related data to be safely secured.

ADB = Asian Development Bank; MPW = Ministry of Public Works; O&M = operation and maintenance; PMU = project management unit; PSC = project supervision consultant; SMASA = Municipal Water, Sanitation, and Environment Services.

<sup>a</sup> ADB. 2019. *Technical Assistance to the Democratic Republic of Timor-Leste for Implementing Reforms for Growth and Competitiveness*. Manila.

Source: Asian Development Bank.

#### **IV. ASSURANCES**

48. The government and the MPW have assured ADB that implementation of the project shall conform to all applicable ADB requirements, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, financial management, and disbursement as described in detail in the PAM and loan documents.

49. The government and the MPW have agreed with ADB on certain covenants for the project, which are set forth in the draft loan agreement and grant agreement.

#### **V. RECOMMENDATION**

50. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of \$47,000,000 to the Democratic Republic of Timor-Leste for the Water Supply and Sanitation Investment Project, from ADB's ordinary capital resources, in concessional terms, with an interest charge at the rate of 2.0 % per year during the grace period and thereafter; for a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Masatsugu Asakawa  
President

2 June 2021



Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
3. Institutional effectiveness improved	<p>2b. 130 km of water supply distribution network newly constructed and operational (2019 baseline: 0 km) (OP 4.1.2)</p> <p>2c. Water meters in 10,000 households installed and operational (2020 baseline: 0) (OP 2.4.1, OP 4.1.2)</p> <p>2d. 12 public toilets newly constructed and operational (2020 baseline: 0) (OP 2.4.1, OP 4.1.2)</p> <p>2e. Three septage treatment facilities with a total capacity of 8.7 m<sup>3</sup>/d newly constructed and operational (2020 baseline: 0) (OP 4.1.2)</p> <p>3a. O&amp;M system established and implemented in each project city (2020 baseline: None) (OP 6.2.1)</p> <p>3b. At least 50 staff (at least 8% women)<sup>e</sup> of SMASA trained in planning, project management, asset management, O&amp;M, financial management, and tariff collection (2020 baseline: 0) (OP 6.2.1, OP 2.1.1)</p> <p>3c. At least 75% of customers (at least 50% of whom are women) confirm accessibility to, responsiveness of, and satisfaction with the new customer service feedback and complaint procedures (2020 baseline: 0) (OP 2.1.4, OP 6.2.1)</p>	3a.–3c. Project progress report, PCR, training records, annual reports	<p>contract management and administration.</p> <p>R: SMASAs' capacity to operate and maintain water supply and sanitation infrastructure is weak.</p>

<b>Key Activities with Milestones</b> <b>1. Regulatory environment improved</b> 1.1 Conduct sector and regulatory review by Q2 2023. 1.2 Develop a socially and gender-inclusive institutional development road map by Q3 2023. 1.3 Implement institutional development road map by Q4 2025. <b>2. Water supply and sanitation infrastructure improved</b> 2.1 Complete construction of civil infrastructure by Q2 2026. <b>3. Institutional effectiveness improved</b> 3.1 Develop O&M regime by Q4 2026. 3.2 Implement O&M regime, services, and training program by Q2 2028. 3.3 Customer service feedback and complaint procedures developed and implemented by Q4 2026.
<b>Project Management Activities</b> Recruitment of project supervision consultants by Q4 2021 Project management and supervision by Q2 2028 Implementation of the gender action plan by Q2 2028 PCR by Q3 2028
<b>Inputs</b> ADB: \$47,000,000 (loan) Global Environment Facility: \$3,000,000 (grant) Government of Timor-Leste: \$12,500,000

ADB = Asian Development Bank; km = kilometer; m<sup>3</sup>/day = cubic meters per day; MPW = Ministry of Public Works, O&M = operation and maintenance; OP = operational priority; PCR = project completion report; Q = quarter; R = risk; SMASA = Municipal Water, Sanitation, and Environment Services.

<sup>a</sup> Government of Timor-Leste. 2011. *Timor-Leste Strategic Development Plan, 2011–2030*. Dili.

<sup>b</sup> At least 62,000 residents are expected to benefit from the project by the end of the first year of full operations of the new water supply facilities. During the 25 years of the useful life of the assets, it is estimated that 92,000 residents will benefit from the project.

<sup>c</sup> The project will support the project cities to develop and endorse a socially and gender-inclusive institutional development roadmap, to ensure equitable access to employment opportunities including: nondiscrimination in recruitment and hiring practices; equal pay for work of equal value; training and awareness-raising on gender-based violence, sexual exploitation, abuse, and harassment; and a client outreach mechanism to ensure accountability and effective service delivery by responding to the needs and experiences of men and women.

<sup>d</sup> Socially and gender-inclusive planning and service delivery guidelines for water supply and sanitation management will provide for regular gender and social analysis, to establish tariff-setting mechanisms and revenue collection targets for each municipality based on the socioeconomic composition of the households.

<sup>e</sup> 8% reflects the limited participation of women in water supply and sanitation sector in Timor-Leste and ensures a realistic and ambitious target for women's participation in training activities.

#### **Contribution to Strategy 2030 Operational Priorities**

Expected values and methodological details for all OP indicators to which this operation will contribute results are detailed in Contribution to Strategy 2030 Operational Priorities (accessible from the list of linked documents in [Appendix 2](#) of the report and recommendation of the President).

Source: Asian Development Bank.

**LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=53395-001-3>

1. Loan Agreement
2. Grant Agreement
3. Sector Assessment (Summary): Water and Other Urban Infrastructure and Services
4. Project Administration Manual
5. Financial Analysis
6. Economic Analysis
7. Summary Poverty Reduction and Social Strategy
8. Risk Assessment and Risk Management Plan
9. Contribution to Strategy 2030 Operational Priorities
10. Climate Change Assessment
11. Gender Action Plan
12. Initial Environmental Examination: Lospalos City
13. Initial Environmental Examination: Same City
14. Initial Environmental Examination: Viqueque City
15. Resettlement and Ethnic Group Development Plan: Lospalos City
16. Resettlement and Ethnic Group Development Plan: Same City
17. Resettlement and Ethnic Group Development Plan: Viqueque City

**Supplementary Documents**

18. Environmental Management Plan: Lospalos City
19. Environmental Management Plan: Same City
20. Environmental Management Plan: Viqueque City
21. Consultation and Participation Plan
22. Climate Risk and Vulnerability Assessment
23. Strategic Procurement Plan
24. Financial Management Assessment