



Report and Recommendation of the President to the Board of Directors

INTERNAL

Project Number: 53417-002
August 2024

Proposed Grant and Administration of Grants Tuvalu: Funafuti Water Supply and Sanitation Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 17 July 2024)

Currency unit	–	Australian dollar/s (A\$)
A\$1.00	=	\$0.67
\$1.00	=	A\$1.49

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
FIRR	–	financial internal rate of return
GEF-LDCF	–	Global Environment Facility-Least Developed Countries Fund
IEE	–	initial environmental examination
km ²	–	square kilometer
m	–	meter
m ³	–	cubic meter
MFAT	–	Ministry of Foreign Affairs and Trade (New Zealand)
MPI	–	Multidimensional Poverty Index
MPWIDW	–	Ministry of Public Works, Infrastructure Development, and Water
NGO	–	nongovernment organization
O&M	–	operation and maintenance
OP	–	operational priority
PACOC	–	public awareness and community outreach campaign
PIAC	–	project implementation assistance consultant
PMU	–	project management unit
PRF	–	project readiness financing
PWD	–	Public Works Department
SIDS	–	small island developing state
STP	–	sewage treatment plant
UNDP	–	United Nations Development Programme
WASH	–	water, sanitation, and hygiene

NOTE

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

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PROJECT AT A GLANCE

1. Project Data			
Project number	53417-002	Project name	Funafuti Water Supply and Sanitation Project
Country	Tuvalu	Executing or implementing agency	Ministry of Finance and Economic Development / Ministry of Public Works, Infrastructure Development, and Water
Borrower	Tuvalu		
Sector office	Water and Urban Development Sector Office	Geographical location	Country
Sector	Water and other urban infrastructure and services	Subsector	Urban water supply
Country economic indicators	https://www.adb.org/Documents/Links/Docs/?id=53417-002-CEI	Portfolio at a Glance	https://www.adb.org/Documents/Links/Docs/?id=53417-002-PortAtaGlance
Operational priorities	OP1: Addressing remaining poverty and reducing inequalities OP2: Accelerating progress in gender equality OP3: Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability OP4: Making cities more livable OP6: Strengthening governance and institutional capacity	Sustainable Development Goals	SDG 6.1, 6.3, 6.4 SDG 13.a
Lending modality	Project grant		
2. Financing			
ADB Financing		Amount (\$ million)	
Asian Development Fund grant		7.34	
Cofinancing		Amount (\$ million)	
GEF-Least Developed Countries Fund - Project grant (Full ADB Administration)		4.59	
Government of New Zealand - Project grant (Full ADB Administration)		4.30	
Counterpart		Amount (\$ million)	
Government		0.30	
Total		16.53	
{ADB Climate Financing}			
ADB			
Adaptation		5.72	
Mitigation		0.94	
Cofinancing			
Adaptation		7.50	
Mitigation		0.66	
Total		14.83	
3. Climate Change			
Absolute GHG emissions (tCO₂e per year)		39	
Relative GHG emissions (tCO₂e per year)		-25	
Climate change risk on the project without adaptation measures		High	
4. Private Sector Development			
Private capital mobilized (\$):			

PSD Classification:		No-PSD	
5. Safeguards			
Category	Environment:	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI
	Involuntary resettlement:	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI
	Indigenous peoples:	<input type="checkbox"/> A <input type="checkbox"/> B	<input checked="" type="checkbox"/> C <input type="checkbox"/> FI
6. Gender Equality			
Category	<input type="checkbox"/> GEN (gender equity theme)	<input checked="" type="checkbox"/> EGM (effective gender mainstreaming)	
	<input type="checkbox"/> SGE (some gender elements)	<input type="checkbox"/> NGE (no gender elements)	
7. Poverty Targeting			
Category	<input type="checkbox"/> General intervention	<input type="checkbox"/> Individual or household (TI-H)	
	<input checked="" type="checkbox"/> Geographic (TI-G)		

Source: Asian Development Bank
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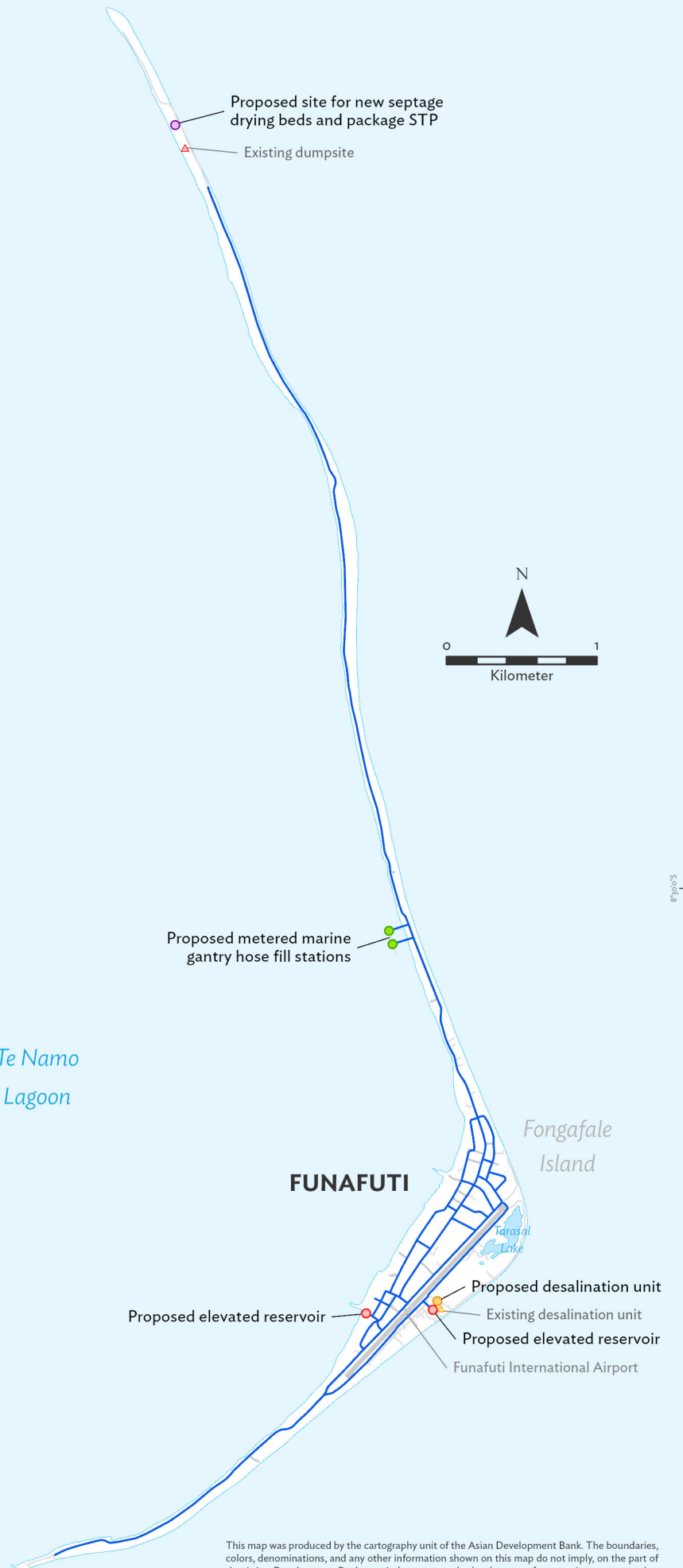
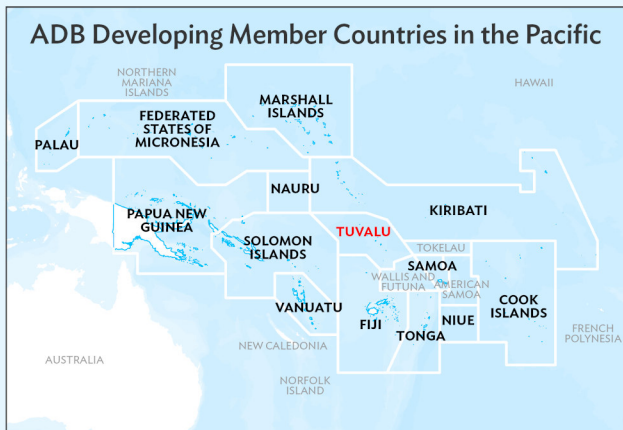
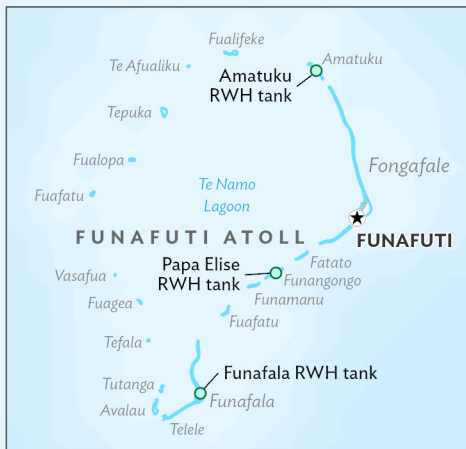
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FUNAFUTI WATER SUPPLY AND SANITATION PROJECT

Proposed Water Supply and Sanitation Infrastructure

Legend

- ★ National Capital
 - Proposed water supply tower tank
 - Proposed marine vessel water fill station
 - Proposed sewage treatment plant
 - Proposed desalination unit
 - Proposed rainwater harvesting tanks
 - △ Existing desalination unit
 - △ Existing dumpsite
 - Proposed water supply piped network
 - Road
- RWH rainwater harvesting
STP sewage treatment plant



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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed grant to Tuvalu for the Funafuti Water Supply and Sanitation Project. The report also describes the proposed administration of a grant to be provided by the Global Environment Facility-Least Developed Countries Fund (GEF-LDCF) and of a grant to be provided by New Zealand's Ministry of Foreign Affairs and Trade (MFAT) for the Funafuti Water Supply and Sanitation Project, and if the Board approves the proposed grant, I, acting under the authority delegated to me by the Board, approve the administration of the GEF-LDCF and MFAT grants.

2. The project has the dual objectives of (i) enhancing the well-being and quality of life for the residents of Funafuti atoll by providing improved drinking water supply and sanitation services; and (ii) building the resilience of Funafuti residents to the projected impacts of climate change. For the first time, Tuvalu will construct a reticulated water supply network, which will benefit more than half of the country's population. The network will improve households' access to desalinated water, build resilience to droughts and relieve the burden of households to meet their basic water supply needs. Sanitation facilities and services will be improved through upgraded facilities in schools and health centers, a pilot for septage containment tanks, and a new package primary sewage treatment plant (STP) with associated ocean outfall and drying beds. The improved sanitation will promote marine ecosystem health, contribute to community well-being, and create opportunities for the use of the biosolids in local agriculture projects to encourage a more circular economy. Finally, the project will build institutional capacity for and public awareness of climate-resilient and inclusive water, sanitation, and hygiene (WASH) systems through the continuation of a public awareness and community outreach campaign (PACOC) that began in October 2023 under the ongoing Preparing the Funafuti Water and Sanitation Project (project readiness financing [PRF]).¹

II. THE PROJECT

A. Rationale

3. **Country context.** Tuvalu is an isolated small island developing state (SIDS) made up of six atolls and three islands spread over an oceanic area of 1.3 million square kilometers (km²), of which only 26.0 km² are land. With a residential population of about 11,200, Tuvalu has the second highest population density among the Pacific island small states after Nauru.² As of 2017, more than 60% of Tuvalu's inhabitants live in the capital, Funafuti, an atoll of 29 islets spanning 2.8 km².³ With a population of about 6,300 people in 850 households, Fongafale, Funafuti's largest islet, has a population density exceeding 2,250 people per km². Funafuti's population grew by an average of 3.0% per year from 2012 to 2017, and the outer island population declined by an average of 4.3% per year. It is projected that 85% of the national population could live in Funafuti by 2050, bringing the capital's population to about 14,500.⁴

4. Under the fragile and conflict-affected situations criteria, the Asian Development Bank (ADB) has classified Tuvalu as fragile since 2008.⁵ Tuvalu has few natural resources and limited opportunities for local economic development. Its economy is also highly vulnerable to external

¹ ADB. *Project Readiness Financing: Preparing the Funafuti Water and Sanitation Project (formerly Integrated Urban Resilience Project) in Tuvalu*.

² World Bank. [World Development Indicators](#) (accessed 10 March 2024).

³ Government of Tuvalu, Central Statistics Division. *2017 Census*. Funafuti.

⁴ ADB. Funafuti Water Supply and Sanitation Feasibility Study. Consultant's report. Unpublished (Grant 6301-TUV).

⁵ ADB. 2021. [Fragile and Conflict-Affected Situations and Small Island Developing States Approach](#).

shocks and income volatility because of its exposure to climate change, geographical remoteness, dependence on imports, and reliance on revenue from overseas. Private sector growth is constrained by the small-scale economy, the high costs of doing business, and the country's dispersed population. Hence, the public sector dominates and accounts for more than 90% of economic activities.⁶ As of 2017, women accounted for 49% of the total population of Tuvalu, and at least 78% of the working population of women were in the informal subsistence economy (footnote 3). Because of limited technical skills and economic opportunities, women are highly susceptible to economic shocks and climate change impacts.

5. **Vulnerability to climate hazards.** The average altitude of Tuvalu is 1.83 meters (m) above mean sea level, which means that any substantial rise in sea level or wave action poses a risk to basic infrastructure and may contaminate fresh groundwater lenses via saltwater intrusion. Since 2011, Tuvalu has been struck by at least four major disasters linked to climate change. Two prolonged droughts triggered state of emergency declarations in September 2011 and November 2022. While economic impact estimates are unavailable, the 2011 drought resulted in water rationing, food shortages, financial losses in the fishing industry, and school closures. The 2022 drought had similar impacts,⁷ prompting the Government of Tuvalu to report that Funafuti had only enough water reserves to sustain the islands' population for 7 days, at 30 liters per person per day.⁸ Tropical cyclones Pam (March 2015) and Tino (January 2020) also caused substantial damage and losses to infrastructure and agriculture. Losses and damages from Cyclone Pam are estimated at about 8% of Tuvalu's gross domestic product;⁹ and while an official assessment of losses and damages caused by Cyclone Tino is unavailable, the storm's flooding, storm surge waves (up to 8 m), and king tides were considerably greater than those of Cyclone Pam. The impacts of these events were widespread, and economic impacts alone do not express the impacts on health and hygiene of residents or on the environment as wave action and flooding carry fecal contamination and debris into the ocean.

6. **Inadequate water supply and sanitation services.** Funafuti faces many urban challenges, particularly inadequate water supply and sanitation services, and an increasingly high rate of communicable diseases. Since it is an atoll, the only naturally available water resources are rainwater and limited groundwater; the groundwater is unsuitable for drinking because the porous soils and high water table make it vulnerable to saltwater intrusion and anthropogenic contamination. Rainwater harvesting is the primary source of drinking water all over the country. Despite high average annual rainfall (about 3,500 millimeters), Funafuti frequently experiences short dry periods. Dry periods longer than 10 days typically result in water shortages, which require desalinated water to be delivered via trucks to household and community tanks.¹⁰ A reverse osmosis desalination plant is operated by the government through the Public Works Department (PWD), a division under the Ministry of Public Works, Infrastructure Development, and Water (MPWIDW). The desalination plant's capacity cannot meet the demand during severe droughts, and the current water storage capacity limits resilience to prolonged drought. Private sector engagement is limited, and the PWD has been leading the interventions to date. Weak sector

⁶ International Monetary Fund, Asia and Pacific Department. 2018. [Tuvalu: 2018 Article IV Consultation4Press Release; Staff Report; and Statement by the Executive Director for Tuvalu.](#)

⁷ ADB provided a \$4 million emergency grant to help fund drought relief efforts under the regional [Pacific Disaster Resilience Program \(Phase 3\)](#), which was approved in December 2020.

⁸ United Nations Children's Fund Pacific Islands. 2023. [Consolidated Emergency Report 2022.](#)

⁹ United Nations Office for the Coordination of Humanitarian Affairs, Regional Office for the Pacific. 2015. *Tuvalu: Tropical Cyclone Pam - Situation Report No. 1* (as of 22 March).

¹⁰ The PWD delivers desalinated water to community tanks as well as households on order. Residents can collect from community tanks for free, while households are charged A\$13.50 per 500 gallons (A\$8.16 per cubic meter [m³]) for delivery. The government subsidizes the delivery of water to households since the production cost is A\$27.00 per 500 gallons. The commercial rate for water is A\$0.04 per liter (A\$90.92 per 500 gallons or A\$40 per m³).

coordination and operational capacity, and insufficient investment and planning contributed to the inadequacy of services. In anticipation of the project, the National Water and Sanitation Steering Committee was reestablished to support national and external partner coordination in WASH matters. The PRF supported the preparation of master plans and a three-stage investment strategy to improve both water supply and sanitation services, which the government endorsed.¹¹

7. Most households rely on on-site sanitation facilities since Funafuti has no centralized sewer system. About 86% of households have flush toilets with septic tanks, 7% have pour-flush pit latrines, and 3% have composting toilets.¹² However, most septic tanks are poorly constructed and not regularly desludged—causing leakage that contributes to groundwater contamination—and are breached during flood events. The PWD charges A\$60 to empty household septic tanks and an average of A\$240 for commercial septic tanks.¹³ The septic trucks typically discharge untreated sewage directly offshore or into pits at the north end of Fongafale islet. Open defecation occurs in Funafuti because some households have limited or no access to sanitation facilities. These practices have impacted the water quality of Te Namu Lagoon, and this is thought to have contributed to the degradation of the near-shore marine systems. These coastal areas are a major source of local livelihoods and contain marine biodiversity of conservation value; the impacts are likely to worsen as Funafuti continues to urbanize. Inadequate water and sanitation services—particularly in public buildings such as health centers, government offices, and schools—limit the day-to-day mobility and productivity of working women and girls, further marginalizing their access to skilled and decent employment.¹⁴

8. In 2023, Funafuti faced simultaneous outbreaks of typhoid and dengue fever.¹⁵ A WASH survey completed under the PRF conveyed that there is recognition within the Funafuti community of the importance of WASH and personal protection against disease. But Funafuti residents' desire to maintain good hygiene behaviors is undermined by the lack of adequate water and sanitation facilities. The report concluded that more interventions, such as awareness programs, are required to promote sustained hygiene awareness and behavior, and the safety of drinking water. Women, the primary caregivers in households, are disproportionately burdened by the frequent outbreaks of communicable diseases since the additional caregiving increases their time poverty and limit their participation in leisure and economic activities.

9. **Alignment with government and ADB strategies.** The Government of Tuvalu has requested ADB's assistance, in the form of a stand-alone project grant, to support water supply and sanitation in Funafuti. The project is aligned with Tuvalu's National Strategy for Sustainable Development, 2021–2030 and the National Climate Change Policy, 2021–2030 by providing increased access to clean water and sanitation.¹⁶ The project will contribute to goals 6 and 13 of

¹¹ ADB. Funafuti Sanitation Investment Options. Consultant's Report. Unpublished (Grant 6301-TUV); ADB. Funafuti Sanitation Master Plan (2022–2042). Consultant's Report. Unpublished (Grant 6301-TUV); ADB. Funafuti Water Supply Investment Options. Consultant's Report. Unpublished (Grant 6301-TUV); ADB. Funafuti Water Supply Master Plan (2022–2042). Consultant's Report. Unpublished (Grant 6301-TUV); and ADB. Water Supply Investment Options and Strategic Plan. Consultant's Report. Unpublished (Grant 6301-TUV).

¹² Government of Tuvalu. 2012. *Population and Housing Census*. Funafuti.

¹³ The costs are estimated based on the fee of A\$30 per worker per septic tank.

¹⁴ Government of Tuvalu, United Nations Children's Fund, United Nations Population Fund, and Pacific Community. 2021. [Multi-Indicator Cluster Survey \(MICS\)](#).

¹⁵ The Ministry of Health and Social Welfare, in its Tuvalu Typhoid Situation Report #5 – Epidemiological week 10 (6–12 March 2023), stated that 519 individuals had been tested for presumed cases of typhoid fever since the outbreak was declared on 9 January 2023. As of 12 March 2023, 146 were positive (28.1%). Additionally, from 3 February 2023 until 3 March 2023, there was a countrywide shortage of serological tests for typhoid fever. Findings are consistent with enteric bacteria found in water testing.

¹⁶ Government of Tuvalu. 2020. [Te Kete: Tuvalu's National Strategy for Sustainable Development 2021–2030](#); and Government of Tuvalu. 2020. [Te Vaka Fenua o Tuvalu National Climate Change Policy 2021–2030](#).

the Sustainable Development Goals by ensuring access to water and sanitation for all and mobilizing financing to support climate action in developing countries. It also aligns with ADB's Strategy 2030 on the differentiated approach for SIDS and fragile and conflict-affected situation countries, and with the following operational priorities (OPs): addressing remaining poverty and reducing inequalities (OP1); accelerating progress in gender equality (OP2); tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability (OP3); making cities more livable (OP4); and strengthening governance and institutional capacity (OP6).¹⁷ The project also aligns with ADB's Pacific Approach, 2021–2025, which emphasizes stronger service delivery to reduce vulnerability to shocks; ADB's Pacific Urban Development, Water and Sanitation Sector Roadmap, 2021–2025; ADB's Strategy 2030 Water Sector Directional Guide; ADB's Healthy Oceans Implementation Plan, 2022–2024; and ADB's Climate Change Action Plan, 2023–2030, which aims to prepare five type 2 adaptation projects in the sector by 2025.¹⁸

B. Project Description

10. The project is aligned with the following impacts: (i) access to clean water and sanitation increased; (ii) management of household and communal water supplies improved; and (iii) awareness and knowledge of water-related issues—including water conservation, water quality, and operation and management of water and sanitation infrastructure—increased (footnote 16). The project will have the following outcome: improved drinking water supply and sanitation services that are climate-adapted, affordable, and resilient provided in Funafuti.¹⁹ The three outputs²⁰ are:

11. **Output 1: Climate-resilient and inclusive drinking water supply services provided.** Output 1 will provide Tuvalu's first reticulated water supply system to supplement household rainwater harvesting, including piped household water supply connections. This will include the construction and/or installation and commissioning of (i) a reverse osmosis seawater desalination plant with a capacity of about 200 cubic meters (m³) per day, a water pump station, and supply pipelines to elevated reservoirs; (ii) two elevated potable water storage reservoirs with a combined capacity of at least 480 m³; (iii) a piped water distribution network (about 17 kilometers), and at least 400 metered household water connections across the seven villages of Funafuti; (iv) a metered marine gantry hose fill station; (v) a water supply and plumbing service vehicle, connection field testing equipment, and water quality testing equipment; and (vi) about 94 rainwater harvesting tanks and pipes for settlements on outer islets.²¹ The project will ensure that a gender-inclusive communication strategy is developed and adopted during the design and construction of the drinking water supply infrastructure. The project will also encourage women's employment through on-the-job training and access to capacity development programs.²²

12. **Output 2: Adapted, resilient, and safely managed sanitation services provided.** Output 2 will include the (i) upgrade of toilets and sanitation facilities with gender-friendly design features in at least 60 selected government buildings (including health centers and schools) to

¹⁷ ADB. 2018. Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific.

¹⁸ ADB. 2021. [Pacific Approach, 2021–2025](#); ADB. 2021. [Pacific Urban Development Water and Sanitation Sector Roadmap, 2021–2025](#); ADB. 2022. [Strategy 2023 Water Sector Directional Guide](#); ADB. 2022. [Healthy Oceans Implementation Plan, 2022–2024](#); and ADB. 2023. [Climate Change Action Plan, 2023–2030](#).

¹⁹ The design and monitoring framework is in the Appendix.

²⁰ The project components under outputs 1 and 2 will be linked to the electricity grid of Tuvalu Electric Corporation, which is currently implementing the ADB-funded [Tuvalu: Increasing Access to Renewable Energy Project](#). The incorporation of solar power to meet or supplement the project's energy requirements is under consideration.

²¹ Improved rainwater harvesting interventions will be on Amatuku, Funafala, and Papaelise islets.

²² More details on access to capacity development programs are in Gender Assessment and Action Plan (Annex 5).

the benefit of all staff and students, but particularly women and girls; (ii) procurement of a septage vacuum truck; (iii) installation of about 30 household septage containment tanks on a pilot basis;²³ (iv) installation of a packaged primary STP, with about 5 m³/day capacity, and construction of an outfall manifold pipe that safely discharges treated effluent into the ocean; and (v) construction of about 10 septage drying beds.²⁴ The STP would enable the safe use of biosolids in local agriculture projects to encourage a circular economy.²⁵

13. Output 3: Institutional capacity for and public awareness of climate-resilient and inclusive WASH systems strengthened. Output 3 will focus on building capacity for (i) the resilient and sustainable operation and maintenance (O&M) of services; (ii) asset management; (iii) legislative and regulatory improvements; (iv) operational and financial management (such as accounting upgrades, metering and billing review, and tariff review); and (v) gender-inclusive human resources policies. The capacity-building activities will be structured to meet both short-term and long-term needs. The tariff review will aim to promote financial sustainability for the PWD.²⁶ A legislative and regulatory review was completed under the PRF, which identified the key changes needed to improve coordination in WASH matters and enable the PWD to sustainably operate the investment. The PACOC aims to build understanding and support for the project activities and encourage improved health and hygiene practices among communities across Funafuti. It includes content promoting gender-fair division of labor in households. Special attention will be given to gender-specific WASH issues, and the benefits of the project for the community's resilience to change, for public health, and for the environment. Project implementation assistance consultant (PIAC) team will provide support to the project management unit (PMU) and the PWD; and a nongovernment organization (NGO) will implement the PACOC.

C. ADB Value Addition

14. ADB technical assistance and the PRF created a suitable platform to attract cofinancing so that the investment can be delivered at a scale and coverage area that will be more impactful.²⁷ The relatively large cofinancing from GEF-LDCF and MFAT will allow a transformational 90% increase in access to improved sanitation facilities and services in Funafuti. Close collaboration ensures that the project meets the objectives of all cofinanciers, including but not limited to strengthening cross-sector mechanisms to mainstream climate adaptation and resilience (LDCF objective 2.1.1), and providing communities (including women and girls) with more equitable and inclusive access to secure water and sanitation services, which will enable them to better support their own health and well-being. The project design reflects key lessons from previous sector operations funded by ADB and development partners in other Pacific developing member countries. First, extensive community participation and awareness programs during project design and implementation are essential to build the community knowledge and ownership

²³ Pilot locations and selection criteria are being prepared by the ongoing PRF.

²⁴ The project incorporates citywide inclusive sanitation, aiming to ensure that everyone has access to safely managed sanitation by promoting a range of solutions. ADB. 2021. [What is Citywide Inclusive Sanitation and Why Is it Needed?](#)

²⁵ The European Union-funded PAC Waste Plus: Tuvalu Sustainable Waste Management Programme has expressed interest in utilizing the dried septage sludge from the project in its composting program.

²⁶ The marine vessel industry is a current high-use customer of PWD desalinated water, so a dedicated, metered, and monitored filling station will be provided at the Funafuti port wharf for this purpose. Commercial and domestic users will be encouraged to use the desalinated water as a secondary system after rainwater harvesting. The project will work with the government to ensure that a "lifeline" tariff is available for lower-income households to ensure that all households receive water supply to cover their basic needs.

²⁷ ADB. 2020. [Technical Assistance for Strengthening WASH Practices and Hygiene Behavioral Change in the Pacific.](#)

required to secure the improved utilities. Second, the investment should be focused to avoid the dilution of resources.²⁸

15. In terms of climate change, this project can be categorized as *type 2A* because it is clearly a development project explicitly designed to reduce vulnerability over the long term and steer development in a resilient direction.²⁹ To assist the Government of Tuvalu and the Water and Sanitation Department in developing climate-change-sensitive planning, the project was designed to decrease the vulnerability of Tuvalu to the impacts of climate change, and to improve the resilience and adaptive capacity of the community.

D. Summary Cost Estimates and Financing Plan

16. The project is estimated to cost \$16.53 million (Table 1).

Table 1: Summary Cost Estimates
(\$ million)

Item	Amount ^a
A. Base Cost^b	
Output 1: Climate-resilient and inclusive drinking water supply services provided	8.40
Output 2: Adapted, resilient, and safely managed sanitation services provided	2.24
Output 3: Institutional capacity for and public awareness of climate-resilient and inclusive WASH systems strengthened	2.93
Subtotal (A)	13.57
B. Contingencies^c	2.74
C. Financial Charges During Implementation^d	0.22
Total Project Cost (A+B)	16.53

WASH = water, sanitation, and hygiene.

^a Excludes exempted taxes and duties of \$0.93 million and other in-kind contributions.

^b In March 2024 prices.

^c Includes physical and price contingencies and a provision for exchange rate fluctuation.

^d Includes the Asian Development Bank service fee for the Ministry of Foreign Affairs and Trade (New Zealand) grant.

Source: Asian Development Bank estimates.

17. The government has requested a grant not exceeding \$7.34 million from ADB's Special Funds resources (Asian Development Fund [ADF]) to help finance the project.³⁰ The GEF-LDCF

²⁸ ADB. 2023. [Federated States of Micronesia: Omnibus Infrastructure Development Project Completion Report](#); Global Environment Facility. 2014. [Integrated Sustainable Wastewater Management \(EcoSan\) for Tuvalu Final Report](#); J.D. Hill. 2013. [Shit and miss: The challenge of achieving sustainable sanitation in Funafuti, Tuvalu](#); and United Nations Population Fund. 2011. [Tuvalu Population and Housing Census 2012 Migration, Urbanisation and Youth Monograph](#).

²⁹ Type 2 categorization in this document is based on guidance found in ADB's [Mainstreaming Water Resilience in Asia and the Pacific](#). Type 2 projects support climate-resilient outcomes and type 2A projects are those that may be justified even in the absence of climate change, though the approach to project design may be different than if there were no climate change. In this case, not only are the project outputs resilient, but the project outcome explicitly steers development toward long-term resilience of the wider system in which the project is located. ADB. 2022. [Mainstreaming Water Resilience in Asia and the Pacific](#).

³⁰ ADB obtained consensus of the Asian Development Fund (ADF) donors on a one-time reallocation of \$80 million during the ADF 13 period (2021–2024) from the partial cancellation of uncontracted balances of projects in Afghanistan that have reached their grant closing dates, to projects to be carried out in the Pacific SIDS that will

project grant is \$4.59 million. The MFAT grant is \$4.30 million. The government will contribute \$0.30 million to finance the expenditure on, land leases, audit fees, office space for the PMU, and utility costs such as electricity and water expenses.

18. The summary financing plan is in Table 2. The ADB, GEF-LDCF, and MFAT grants will finance the expenditures in relation to civil works, goods (plant and/or equipment), and consulting services. Both the GEF-LDCF and MFAT grants will be fully administered by ADB. All components will be jointly financed in agreed-upon proportions, and all eligible expenditures will be disbursed on a pro-rata basis.

Table 2: Summary Financing Plan

Source	Amount^a (\$ million)	Share of Total (%)
Asian Development Bank		
Asian Development Fund	7.34	44.41
Global Environment Facility-Least Developed Countries Fund ^b	4.59	27.75
Ministry of Foreign Affairs and Trade (New Zealand) ^c	4.30	26.02
Government of Tuvalu ^d	0.30	1.82
Total	16.53	100.00

^a Excludes \$0.93 million to be financed by the government in exempted taxes.

^b Excludes agency fees.

^c Includes Asian Development Bank service fee.

^d Comprises land leases (\$0.23 million) and audit fees (\$0.07 million).

Source: Asian Development Bank estimates.

19. Total climate finance for the project is \$14.83 million, with an estimated \$1.60 million in mitigation costs and \$13.23 million in adaptation costs. The ADF grant will finance \$0.94 million of the mitigation costs and \$5.72 million of the adaptation costs. GEF-LDCF will finance \$4.59 in adaptation costs; and the Government of New Zealand will finance \$0.66 million in mitigation costs and \$2.91 million in adaptation costs.

E. Implementation Arrangements

20. The implementation arrangements are summarized in Table 3 and described in the project administration manual.

Table 3: Implementation Arrangements

Aspects	Arrangements
Implementation period	September 2024–September 2030
Estimated completion date	30 September 2030
Estimated grants closing date	30 March 2031
Management	
(i) Oversight body	National infrastructure steering committee Cochairs: Ministers of MFED and MPWIDW Key members: Acting secretary, MFED; acting secretary, MPWIDW; assistant secretary, MHSW; director, lands department; director, environment; acting director, local government; acting director, budget and planning; project manager, Preparing the Funafuti Water

provide urgently needed financing for these SIDS, which are highly vulnerable to climate change. The indicated amount of ADF grant resources allocated for the project includes \$2 million from such one-time reallocation.

Aspects	Arrangements		
	Supply and Sanitation Project (project readiness financing); and acting director of PWD		
(ii) Executing agency	MFED		
(iii) Key implementing agency	MPWIDW		
(iv) Implementation unit	Project management unit housed within PWD		
Procurement	Open competitive bidding (internationally advertised)	1 contract	\$9.23 million
	Request for quotations (national)	3 contracts	\$0.45 million
	Request for quotations (international)	5 contracts	\$0.86 million
Consulting services	Firm, QCBS (90:10)	1 contract	\$2.00 million
	Firm, SSS	1 contract	\$0.15 million
	ICS (5)	145 person-months	\$0.75 million
	Individual, SSS (2)	6 person-months	\$0.14 million
Advance contracting	Advance action is proposed for the civil works package, and for the goods packages that include rainwater harvesting materials and supplies, and a four-wheel-drive vehicle with service body.		
Disbursement	Disbursement of the grant proceeds, including the GEF-LDCF and MFAT grant proceeds, will follow ADB's <i>Loan Disbursement Handbook</i> (2022, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank; ICS = individual consultant selection; GEF-LDCF = Global Environment Facility-Least Developed Countries Fund; MFAT = Ministry of Foreign Affairs and Trade (New Zealand); MFED = Ministry of Finance and Economic Development; MHSW = Ministry of Health and Social Welfare; MPWIDW = Ministry of Public Works, Infrastructure Development, and Water; PWD = Public Works Department; QCBS = quality- and cost-based selection; SSS = single source selection.

Source: ADB.

III. DUE DILIGENCE

A. Technical

21. The project design represents a technically, socially, environmentally, financially, and economically viable approach to improving accessibility, resilience, and sustainability of water supply and sanitation services in Funafuti. The engineering designs are built on comprehensive studies with due consideration of aspects such as climate hazards and risks, social inclusion, and the environment; and incorporate least-cost and appropriate design principles to ensure sustainability. To build resilience to ongoing and future water stress from climate change, the project will (i) enhance water conservation management, including the installation of water meters; (ii) expand water production capacity; and (iii) mainstream climate resilience into maintenance and infrastructure, and water resources planning and budgeting. The improved sanitation services will reduce environmental contamination and boost public health outcomes.

22. A climate risk and vulnerability assessment was undertaken for the project. The largest risks to the water supply infrastructure could be (i) increased exposure to erosion from localized flooding because of overwhelming local drainage capacity; and/or (ii) increased impact of storm surges because of sea level rise and more intense cyclones. The largest risk to the sanitation component is the increased exposure to damage to the septage beds from localized flooding and inundation by salt water. Toward the end of the design life of the project infrastructure, coastal erosion will become more likely and will present a greater risk. Based on these key climate risks,

the project is considered to be at high climate risk. Following the Joint Multilateral Development Bank Methodological Principles for Assessment of Paris Agreement Alignment of New Operations, the operation has been assessed as aligned with the goals of the Paris Agreement.³¹

B. Safeguards

23. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.

24. **Environment (category B).** In accordance with Tuvalu's laws and regulations and ADB's Safeguard Policy Statement, the initial environmental examination (IEE) for the project was completed and includes the environmental management plan (EMP) to mitigate foreseen risks of proposed works to be financed under the project. The IEE and EMP outline all assessed risks and impacts, including mitigating actions to be undertaken in line with the management, monitoring, and reporting requirements for environmental compliance of the overall project. The project's overall impacts will be site-specific, largely related to construction activities, and are not anticipated to have significant or irreversible negative environmental impacts. The conditions for awarding civil works contracts are that (i) the Department of Environment has granted final approval of the updated IEE, indicating whether environmental permits are required; (ii) the EMP's requirements and provisions for environmental management are incorporated into the construction contracts; and (iii) MPWIDW has obtained ADB's clearance of the IEE based on the final design, and is in compliance with ADB's 2018 Access to Information Policy and consultation requirements. The PMU's environmental management capacity will be supported by the PIAC team engaged to support environmental management, monitoring, and reporting of the project and contractors' EMPs.

25. **Involuntary resettlement (category B).** The resettlement plan for the project has been prepared. Project land is either publicly owned or, for a small number of plots, a memorandum of understanding has been signed between the community, Kaupule Community Council, and the government, which underpins land leases. The Kaupule Community Council is supporting community consultation, land approvals, and negotiations, and has indicated full support for the project. The Tuvalu land leasehold system is robust, and some due diligence was already undertaken to confirm that payments are made regularly and appropriately. Leases for land adjacent to the existing dumpsite, which is proposed as the site for the new STP and associated facilities, have been agreed with land owners, and the documents are being executed with the Department of Lands. Impacts on recreational activities in this area also need to be assessed, but are expected to be readily offset and manageable. A grievance redress mechanism will be established under the project.

26. **Indigenous Peoples (category C).** The project does not require an Indigenous Peoples plan since the criteria for vulnerability or distinctiveness are not triggered as per the Safeguard Policy Statement.

C. Economic and Financial Viability

27. Economic analysis was undertaken for the water and sanitation components and for the overall project. The project will produce environmental benefits that are difficult to quantify but will have a lasting impact, particularly regarding soil and water pollution control as part of the sanitation component; therefore, the 6% discount rate was used to recognize broad environmental

³¹ ADB. 2023. [MDBs Agree Principles for Aligning Financial Flows with Paris Agreement Goals](#). News release. 20 June.

and social benefits of the project.³² The overall estimated economic internal rate of return (EIRR) for the water supply subproject is 8.07%, and the EIRR of the sanitation subproject is 6.10%, confirming the project's economic viability. The EIRR for the overall project is 7.64%. Sensitivity analysis against various adverse scenarios shows that the EIRR remains robust, exceeding the 6% threshold discount rate except for scenarios where overall benefits decrease by 20% and the combined adverse scenario. The benefit distribution and poverty impact analysis showed that the total benefit accruing to the poor is estimated to be about A\$1.38 million. The poverty impact ratio is calculated as 36% against the multidimensional poverty rate in Tuvalu which is 38.2%. It can be concluded that a significant share of the project benefits will accrue to the poor.

28. Financial analysis was undertaken using with-project and without-project scenarios over a 25-year period, with no residual value assumed at the end of this period. Costs include consultancy services as well as recurrent replacement costs of capital equipment but exclude price contingencies. The overall financial internal rate of return (FIRR) for the project is estimated at 1.0%, which is less than the weighted average cost of capital of 2.40%. The cash flow generated from the water supply subproject has an FIRR of 1.8% and a financial net present value of minus A\$1.4 million, indicating that the water supply subproject is not financially viable on a stand-alone basis. The sanitation subproject FIRR is estimated at -2.2% and the financial net present value is minus A\$2.4 million. Significant tariff increases for both water and sanitation services would be required for full cost recovery. The sensitivity analysis indicates that MPWIDW's future price path would be a major factor in financial performance. Tariffs are the best way to capture payments from the users for cost recovery, while effectively managing demand and conservation principles. However, raising tariffs to full cost recovery levels may often be publicly unacceptable, unaffordable, and thus not feasible. Achieving at least O&M cost recovery through efficiency gains that reduce the target cost recovery level and win public support is a path to financial viability and the sustainable improvement of water and sanitation systems. Therefore, the project consultants and the NGO will assist the government in developing, strengthening, and implementing the O&M cost recovery model, based on extensive public consultations and with all possible combinations of tariffs, taxes, and/or predictable transfers. The government has agreed to ensure that the cost recovery model is implemented effectively, and to allow predictable budget transfers if the tariffs are not adequate for O&M cost recovery, to make the services sustainable.

D. Gender Equality

29. The project is categorized as *effective gender mainstreaming*. A gender assessment and action plan was prepared for the project. The executing and implementing agencies will be responsible for the implementation of the plan with the support from the PMU's gender officer (national) and the social safeguard and gender specialists included in the international PIAC team.

30. Key gender actions and/or targets for the project were established. First, 36% of households have access to a safe and resilient piped-water supply system, including 50% of households headed by women. Second, 90% of households in Fongafale have access to improved sanitation facilities, including 50% of households which are headed by women. Third, community consultations (with at least 40% of attendees being women) are being held at all project sites to ensure that communities' concerns and needs are addressed during the design and construction of water supply infrastructure. Fourth, during construction, the PWD, PMU, and contractor conduct at least three awareness and training events for all project staff, contract workers, and communities—discussing topics such as WASH; HIV/AIDS; gender-based violence; prevention of sexual exploitation, abuse, and harassment; and child labor—prior to or upon

³² ADB. 2017. [Guidelines for the Economic Analysis of Projects](#) (para. 194).

mobilization and during each project civil works contract. Fifth, women receive on-the-job training in technical fields related to the water supply infrastructure. Sixth, women receive on-the-job training in environmental health management related to the sanitation services. Seventh, the PWD prepares and adopts a gender-inclusive human resources policy. Eighth, WASH communication and outreach plans must have a strong focus on promoting gender-fair division of labor in households and on improving people's understanding of gender issues, such as menstrual hygiene management and related aspects. Finally, pre- and post-knowledge, attitude, and practice surveys are undertaken to inform about the gender impacts of the WASH awareness campaign.

31. During project preparation, multiple consultations were held with community-based organizations such as women's groups, the Tuvalu national women's council, NGOs, and other organizations (private sector, churches, and service providers). The Tuvalu Red Cross was hired under the PRF for the implementation of the WASH awareness raising and project communication strategy, which will ensure the inclusion of vulnerable groups. The grievance redress mechanism to be established under the project will be inclusive and accessible for the communities.

E. Poverty and Social Dimensions

32. According to the Multidimensional Poverty Index (MPI) of the United Nations Development Programme (UNDP), 2.1% of Tuvalu's population is multidimensionally poor.³³ The intensity of deprivations in Tuvalu, which is the average deprivation score among people living in multidimensional poverty, is high at 38.2%.³⁴ Tuvalu is very susceptible to climate change, which further exacerbates the existing poverty and inequalities. The country is also challenged by inadequate water and sanitation infrastructure, which disproportionately affects the poor and low-income groups. Water shortages and inadequate hygiene practices directly contribute to an increase in women's time poverty and household care burden.

33. Classified as *general intervention on poverty*, the project will indirectly contribute to poverty reduction through increased access to reliable piped-water supply and improved sanitation for the people of Tuvalu. Direct beneficiaries will be the 6,300 people living in Funafuti who will benefit from reticulated and resilient water supply and sanitation systems. During construction, the project will offer employment opportunities for skilled and unskilled workers from the local communities, including women. The capacity development component of the project will help upgrade the skills of PWD staff and local communities, including the poor and low-income groups, with a focus on O&M. A comprehensive health and hygiene awareness strategy developed and implemented under the PRF will be extended to the ensuing project, which will ensure the participation of and consultations with all segments of the population. Poverty implications related to the cost recovery structure, including tariff policies, will be informed by the affordability survey that is under preparation.

³³ The MPI captures the percentage of households in a country that are deprived along three dimensions of well-being—monetary poverty, education, and basic infrastructure services, including access to safe drinking water and sanitation—to provide a more complete picture of poverty. The MPI complements the international \$2.15 a day poverty line by identifying who is multidimensionally poor and shows the composition of multidimensional poverty. UNDP 2023. [2023 Global Multidimensional Poverty Index \(MPI\): Unstacking Global Poverty: Data for High Impact Action](#).

³⁴ UNDP. 2023. [Briefing Note for Countries on the 2023 Multidimensional Poverty Index: Tuvalu](#).

F. Procurement, Financial Management, and Integrity

34. A financial management assessment evaluated the financial management arrangements of the Ministry of Finance and Economic Development as the executing agency and the MPWIDW as the implementing agency, including funds flow, staffing, accounting policies and procedures, financial reporting and monitoring, internal and external auditing arrangements and financial information systems, and the adequacy of the financial management arrangements for implementing the project.

35. The assessed pre-mitigation financial management risk is *moderate* mainly because (i) internal control is weak, which could result in incomplete supporting documentation and inadequate review prior to processing the payment of invoices; (ii) assets are not insured, which could result in losing them because of unforeseen events; and (iii) several of the auditor general's findings and recommendations in Tuvalu's whole-of-government financial statements remain outstanding. The main actions to mitigate the identified risks require recruiting project financial management staff and providing training; maintaining and updating a separate asset register for the project; embedding a financial covenant in counterpart funds; establishing a separate project accounting system; and addressing the auditor general's recommendations.

36. **Procurement.** The pre-mitigated procurement risk is assessed as *substantial* while the post-mitigated risk is *moderate*. The pre-mitigated risk assessment reflects the limited capacity of the government in procurement, the distance of Tuvalu from supply markets, and vulnerability to external shocks. The identified procurement risks will be mitigated through enhanced market engagement, provision of hands-on support to the implementing agency, close oversight during project implementation, as well as allocation of sufficient bidding time for complex packages (main civil works). Based on the strategic procurement planning exercise undertaken, procurement packaging options were assessed to select an arrangement that supports project sustainability priorities, such as minimizing environmental impact and supporting local participation. Since the project receives cofinancing, universal procurement will apply.³⁵ Since the implementation periods for the PRF and the project will overlap by at least 14 months, PRF support will also be maximized for the roles and responsibilities relating to project management and procurement (including delegated consultant recruitment), support to be provided by the technical assistance consultant, advance procurement, and merit point evaluation criteria for the main civil works package. Advance procurement will be undertaken for most civil works and equipment packages—including rainwater harvesting materials and supplies, and a vehicle with a service body—and the recruitment of the PIAC firm. The draft procurement plan and the joint responsibility matrices are included as appendixes to the project administration manual.

37. **Anticorruption.** No significant integrity risks were identified. ADB's Anticorruption Policy (1998, as amended from time to time) and relevant guidelines and procedures were explained to and discussed with the government, the Ministry of Finance and Economic Development, and MPWIDW.

G. Sustainability

38. The key risk to the project's sustainability is the PWD's potential inability to cope with the increased cost of operations because of the project, which also significantly adds to the workload of the technical, finance, and accounting staff. The PWD and PMU will need to progressively build

³⁵ ADB. 2013. [Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources.](#)

adequate staffing, ensure the maintenance of critical spares, and take steps toward cost recovery. Key performance indicators of the PWD are reflected in the covenants of the financing agreement of the ongoing PRF and will continue to be closely monitored and assessed.

39. To ensure the technical sustainability of the project, the infrastructure will be designed and built using climate-proofed approaches and integrated O&M contracts. The project design will boost households' climate resilience through rainwater harvesting. Projected climate change impacts are considered, including more frequent droughts, sea level rise, and increased rainfall variability, both seasonally and annually. The installation of household water meters and network monitoring equipment will enable water conservation. In parallel, to ensure sustainability from the customer or user perspective, a program to encourage better transparency, good hygiene practices, water conservation, reporting of leaks, and the importance of paying tariffs will be delivered through the project. Overall, the project's financial sustainability will be ensured by (i) promoting rainwater harvesting as the primary source for household water, (ii) improving PWD's operational efficiency to minimize operating costs, (iii) expanding the PWD's customer base to increase revenues, and (iv) promoting a regulated water and sanitation tariff to ensure service affordability.

H. Summary of Risk Assessment

40. The key assessed pre-mitigation risks and mitigating measures are summarized in Table 4.

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigation Measures
Deterioration of national economic conditions decreases the ability to provide sufficient operation and maintenance resources.	Pursuant to agreed recovery plans, the Government of Tuvalu will provide subsidies or predictable budget transfers for any shortfall in tariffs to ensure adequate operation and maintenance financing, if applicable. Project consultants will support the adoption and implementation of tariffs.
Impacts of natural hazards exceeding climate change projections damage infrastructure constructed by the project.	Project infrastructure will incorporate resilient designs. Collaboration with environmental experts will ensure ongoing monitoring.
There is no internal audit for the project during implementation. The Ministry of Finance and Economic Development's Internal Audit Division is understaffed and cannot provide internal audit services to the project.	The government will engage a firm to conduct audits and this forms part of the government contribution to the overall project financing. Project consultants and the Asian Development Bank review missions will regularly meet with and support the auditor general and all entities involved in understanding and complying with the Asian Development Bank's requirements. Project accountant will receive additional support through technical assistance resources.
Construction and operation activities may negatively impact marine ecosystems.	Rigorous environmental impact assessments will be implemented. Adherence to sustainable construction practices will be ensured and ongoing monitoring of construction activities will take place.
Inadequate sanitation facilities during the project may lead to health issues.	Interim sanitation measures will be implemented during construction. Health awareness campaigns will be conducted

Risks	Mitigation Measures
	regularly. Collaboration with local health authorities for continuous monitoring will take place.
Overall (combined) risks	Moderate

Source: Asian Development Bank.

IV. ASSURANCES

41. The government has assured ADB that the implementation of the project shall conform to all applicable ADB requirements, including those concerning anticorruption measures, safeguards, gender equality, procurement, consulting services, financial management, and disbursement, as further mentioned in the grant documents.

42. The government has agreed with ADB on certain covenants for the project, which are set forth in the draft grant agreements.

V. RECOMMENDATION

43. I am satisfied that the proposed grant would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the grant not exceeding \$7,340,000 to Tuvalu from ADB’s Special Funds resources (Asian Development Fund) for the Funafuti Water Supply and Sanitation Project, on terms and conditions that are substantially in accordance with those set forth in the draft grant agreement presented to the Board.

Masatsugu Asakawa
President

14 August 2024

DESIGN AND MONITORING FRAMEWORK

Impacts the Project is Aligned with^a			
<p>Access to clean water and sanitation increased (Te Kete: Tuvalu's National Strategy for Sustainable Development, (2021–2030)^a)</p> <p>Management of household and communal water supplies improved; and awareness and knowledge of water-related issues—including water conservation, water quality, and operation and management of water and sanitation infrastructure—increased (Te Vaka Fenua o Tuvalu National Climate Change Policy 2021–2030)^b</p>			
Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
<p>Outcome</p> <p>Improved drinking water supply and sanitation services that are climate-adapted, affordable, and resilient provided in Funafuti</p>	<p>By 2031:</p> <p>a. At least 36% of households have access to safe and resilient piped-water supply system, including 50% of households headed by women (2023 baseline: 0) (OPs1.3.1, 2.4.1, 4.1.2)</p> <p>b. 90% of households in Fongafale have access to improved sanitation facilities, including 50% of households headed by women (2023 baseline: NA) (OPs1.3.1, 4.1.2, 4.3.1)</p>	<p>a.–b. Government statistical yearbooks; ADB mission reports, quarterly project progress reports; and project completion report</p>	<p>R: Deterioration of national economic conditions decreases the ability to provide sufficient O&M resources.</p> <p>A: Partner financing from the Ministry of Foreign Affairs and Trade (New Zealand) and the Global Environment Facility is made available in advance of project expenditures.</p>
<p>Outputs</p> <p>1. Climate-resilient and inclusive drinking water supply services provided</p>	<p>By 2031:</p> <p>1a. One reverse osmosis desalination plant (about 200 m³/day) installed and commissioned (2023 baseline: NA) (OP4.1.2)</p> <p>1b. Two elevated potable water storage reservoirs with a combined capacity of about 480 m³ constructed and commissioned (2023 baseline: 0) (OP4.1.2)</p> <p>1c. About 400 metered household water connections installed. (2023 baseline: NA) (OP4.1.2)</p> <p>1d. About 94 rainwater harvesting tanks installed and operated on the outer islets of Funafuti (2023 baseline: NA) (OP4.1.2)</p>	<p>1a.–1e. ADB mission reports, quarterly project progress reports, project completion report</p>	<p>R: Impacts of natural hazards exceeding climate change projections damage infrastructure constructed by the project.</p>

Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
	1e. On-the-job training for at least two women in technical fields related to water supply infrastructure. (2023 baseline : NA) (OP2.1.1)		
2. Adapted, resilient, and safely managed sanitation services provided	<p>2a. Sanitation facilities in about 60 government buildings (including health centers and schools) are upgraded, and sex-disaggregated data is available on beneficiaries (2023 baseline: NA) (OPs2.4.1, 4.1.2)</p> <p>2b. About 30 septage containment tanks installed and operated (2023 baseline: NA) (OP4.1.2)</p> <p>2c. One packaged primary sewage treatment plant, (about 5 m³/day capacity) and a piped treated sewage effluent ocean outfall installed and commissioned (2023 baseline: NA) (OP4.1.2)</p> <p>2d. On-the-job training for at least two women in environmental health management related to sanitation services (2023 baseline: NA) (OPs1.2.3, 2.1.1)</p>	2a.–2d. ADB mission reports, quarterly project progress reports	
3. Institutional capacity for and public awareness of climate-resilient and inclusive WASH systems strengthened	<p>3a. At least 2,800 residents (50% are women) are reached directly or indirectly by WASH and climate change awareness programs that use gender-sensitive materials^c (2023 baseline: 0%) (OPs1.1.1, 2.5.2, 3.2.2)</p> <p>3b. Gender-inclusive human resources policy developed and adopted by the Public Works Department^d (2023 baseline: NA) (OP2.3.2)</p>	3a.–3c. ADB mission reports, quarterly project progress reports, survey results	

Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
	3c. Service improvement plans for the infrastructures developed under the project, with climate-resilient and gender-responsive O&M strategy, institutional arrangements, and responsibilities finalized and operational (2023 baseline: NA) (OPs3.2.5, 6.2.1)		

Key Activities with Milestones

1. Climate-resilient and inclusive drinking water supply services provided

- 1.1 Commence tendering for works contracts (Q3 2024).
- 1.2 Complete land acquisition (easements) for water supply infrastructure (Q4 2024).
- 1.3 Complete civil works and equipment contract procurement (Q4 2026).
- 1.4 Complete all works, including defects liability period (Q4 2030).

2. Adapted, resilient, and safely managed sanitation services provided

- 2.1 Commence tendering for works contracts (Q3 2024).
- 2.2 Complete land acquisition (easements) for sewage treatment plant (Q4 2024).
- 2.3 Complete civil works and equipment contract procurement (Q4 2026).
- 2.4 Complete all works, including defects liability period (Q4 2029).

3. Institutional capacity for and public awareness of climate-resilient and inclusive WASH systems strengthened

- 3.1 Mobilize project implementation assistance consultants (Q4 2024).
- 3.2 Reengage public awareness nongovernment organization under new contract arrangement (Q4 2024).
- 3.3 Commence capacity building to improve the Public Works Department's asset management and network operations (Q4 2024).
- 3.4 Reengage project management unit consultants under new contract arrangements (Q2 2025).
- 3.5 Conduct sex-disaggregated awareness survey (Q4 2027).

Project Management Activities

Mobilize the project implementation assistance consultants firm (Q1 2025).

Implement capacity-building activities to strengthen the capacity of the project management unit in procurement, accounting, and O&M (Q1 2025).

Prepare routine project progress report; monitor and evaluate project implementation, including to collect primary data; prepare project financial statements with an agreed accounting system; facilitate the timely completion of the audit of project financial statements (Q1 2025).

Inputs

ADB: \$7,340,000 (grant)

Government of Tuvalu: \$300,000^e

Global Environment Facility-Least Developed Countries Fund: \$4,587,000 (grant)^f

Ministry of Foreign Affairs and Trade (New Zealand): \$4,300,000 (grant)^g

A = assumption; ADB = Asian Development Bank; m³ = cubic meter; NA = not applicable; O&M = operation and maintenance; OP = operational priority; Q = quarter; R = risk; WASH = water, sanitation, and hygiene.

^a Government of Tuvalu. 2020. [Te Kete: Tuvalu National Strategy for Sustainable Development 2021–2030](#).

^b Government of Tuvalu. 2020. [Te Vaka Fenua o Tuvalu National Climate Change Policy 2021–2030](#).

- ^c Gender-sensitive materials for WASH communication: to avoid gender stereotypes and promote shared responsibility, by men and women, for water collection, sanitation, and hygiene practices, and caring for children and the sick, developed in consultation with women's groups and networks to ensure that women and girls' needs and concerns are addressed. Awareness and education materials related to women and girls' needs, such as menstrual health and hygiene, are included and shall be disseminated via communication channels that are accessible to women and girls.
- ^d Gender-Inclusive Human Resource Policy: To recognize gender differential needs of the staff, adopt gender-inclusive approaches for recruitment, access to training opportunities, provisions to ensure gender-fair work environment, include measures to investigate any breaches of code of conduct while paying special attention to incidents related to sexual harassment, and act in a timely and sensitive manner.
- ^e Excludes \$0.93 million in in-kind contributions in the form of exempted taxes and duties by the government, which follows cash-basis accounting. The government will contribute \$0.30 million to finance land leases (\$0.23 million) and audit fees (\$0.07 million).
- ^f Excludes agency fees.
- ^g Includes ADB service fees.

Source: ADB.