



Climate Resilient Urban Development in the Pacific

Part I: Program Information

GEF ID

10173

Program Type

PFD

Type of Trust Fund

LDCF

Program Title

Climate Resilient Urban Development in the Pacific

Countries

Regional, Kiribati, Solomon Islands, Tuvalu, Vanuatu

Agency(ies)

ADB,

Other Executing Partner(s)	Executing Partner Type
Ministry of Infrastructure and Sustainable Energy (Kiribati); Ministry of Finance and Treasury (Solomon Islands); Ministry of Public Utilities and Infrastructure (Tuvalu); Ministry of Finance and Economic Management (Vanuatu)	Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Climate Change, Climate Change Adaptation, Disaster risk management, Livelihoods, Sea-level rise, Private sector, Climate resilience, Least Developed Countries, Community-based adaptation, Strengthen institutional capacity and decision-making, Influencing models, Convene multi-stakeholder alliances, Private Sector, Stakeholders, Civil Society, Community Based Organization, Type of Engagement, Consultation, Participation, Beneficiaries, Local Communities, Communications, Awareness Raising, Gender Equality, Gender results areas, Capacity Development, Gender Mainstreaming, Women groups

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 2

Duration

60 In Months

Agency Fee(\$)

1,444,954

Program Commitment DeadlineSubmission Date

12/14/2020

4/4/2019

Impact ProgramIP-Food-Land-Restoration **No**IP-Sustainable Cities **No**IP-Sustainable Forest Management Amazon **No**IP-Sustainable Forest Management Congo **No**IP-Sustainable Forest Management Drylands **No**Other Program **Yes**

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Expected Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	1.1. Technologies and innovative solutions piloted or deployed to reduce climate related risks and/or enhance resilience	LDCF	13,552,000	116,480,000
CCA-2	2.1 Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience	LDCF	2,503,046	29,260,000
Total Program Cost (\$)			16,055,046	145,740,000

B. Indicative Project description summary

Program Objective

Increased resilience of critical urban areas and urban services in the Pacific

Program Component	Financing Type	Program Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Facilitating climate resilient urban planning and development	Technical Assistance	<p>Urban planning and development increasingly resilient in four countries</p> <p><u>Illustrative activities (details provided in 1.a.4 below and Child project PIFs).</u></p> <p>Technical capacity building (e.g. Solomon); Institutional capacity building (e.g. Kiribati); Awareness raising (e.g. Kiribati, Solomon); Modifying norms, standards and infrastructure designs to achieve resilience (e.g. Tuvalu); Develop climate change integration incentive measures (e.g. Vanuatu).</p>	LDC F	2,311,645	28,060,000
2. Demonstrating/deploying climate resilient urban services: water supply, sanitation and disaster reduction.	Investment	<p>Resilient and adapted technologies and practices rolled out in four urban areas in the Pacific.</p> <p><u>Illustrative activities (details provided in 1.a.4 below and Child project PIFs).</u></p> <p>Local and community based rainwater harvesting (Kiribati, Solomon) Climate proofing of school water supplies (Kiribati); Climate proofing of waste water management infrastructure (Tuvalu); Catchment protection (Solomon); Construction of small-scale community based adaptation infrastructure in response to community identified priorities (Vanuatu).</p>	LDC F	12,979,401	112,580,000
			Sub Total (\$)	15,291,046	140,640,000
Program Management Cost (PMC) ⓘ					
			LDCF	764,000	5,100,000
			Sub Total(\$)	764,000	5,100,000

Total Program Cost(\$)

16,055,046

145,740,000

C. Co-Financing for the Program by Source, by Name and by Type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	ADB	Grant	Investment mobilized	69,300,000
Others	GCF	Grant	Investment mobilized	28,630,000
Donor Agency	World Bank	Grant	Investment mobilized	21,000,000
Donor Agency	EU	Grant	Investment mobilized	15,000,000
Government	Government of Kiribati	In-kind	Recurrent expenditures	4,450,000
Government	Government of Solomon Islands	In-kind	Recurrent expenditures	
Government	Government of Tuvalu	In-kind	Recurrent expenditures	
Government	Government of Vanuatu	In-kind	Recurrent expenditures	1,500,000
Beneficiaries	Community on Vanuatu	In-kind	Recurrent expenditures	500,000
Others	Solomon Water (SOE)	Grant	Investment mobilized	5,360,000
			Total Program Cost(\$)	145,740,000

Describe how any "Investment Mobilized" was identified

ADB and other investments were identified through (i) consultation with partner governments; as articulated in the country partnership strategies (CPS); (ii) priority pipelines in country operation business plans (COBP)

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
ADB	LDCF	Kiribati	Climate Change	NA	4,587,156	412,844	5,000,000
ADB	LDCF	Solomon Islands	Climate Change	NA	4,587,156	412,844	5,000,000
ADB	LDCF	Tuvalu	Climate Change	NA	4,587,156	412,844	5,000,000
ADB	LDCF	Vanuatu	Climate Change	NA	2,293,578	206,422	2,500,000
Total GEF Resources(\$)					16,055,046	1,444,954	17,500,000

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Core Indicators

Although not a requirement for climate adaptation projects financed solely through LDCF, the core indicators/targets are summarized as follows: 1. Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation Number of direct beneficiaries KIR - Total: 62,298; Female: 32,034 SOL - Total: 100,000; Female: 50,000 TUV - Total: 6,000; Female: 3,000 VAN - Total: 81,712; Female: 40,153 Total: 250,010; Female: 125,187 Area of land under climate resilient management (has):N/A 2. Mainstream climate change adaptation and resilience for systemic impact Number of policies, plans or development frameworks that mainstream climate resilience KIR - 1 SOL - 0 TUV - 2 VAN - 0 Total: 3 3. Foster enabling conditions for effective and integrated climate change adaptation Number of people with enhanced capacity to identify climate risk and/or engage in adaptation measures KIR - Total: 250; Female: 185 SOL - Total: 100; Female: 50 TUV - Total: 50; Female: 25 VAN - Total: 0; Female: 0 Total: 400; Female: 260

Part II. Programmatic Justification

1a. Program Description

1.a.1. The Global Adaptation Problem to be Addressed: The Urban Sector, Urban Services and Water Supply and Sanitation on the Pacific Islands

Introduction to the sector and challenges other than climate change.

The Pacific small island developing states (Pacific SIDS) are scattered across the Pacific Ocean and are home to approximately eight million people, with a wide diversity of languages, land use practices, and socio-economic conditions. Almost all the Pacific SIDS are highly urbanized^[1] and continue to experience rapid urbanization rates. In some cases, regional urbanization rates are triple the global rate. The factors driving this urbanization include internal migration, natural population growth, economic pressures and climate change.^[2]

This urbanization has undoubtedly brought many benefits, such as greater access to social services and infrastructure, economic opportunities, and enhanced food security. However, urbanisation has also helped create the conditions for many social, economic and ecological challenges across the Pacific. These include air and water pollution, over-stretched and failing transport systems, unreliable water supply and sanitation (WSS) services, growing risks of climate and other disasters, increasing civil unrest, and rising crime rates.

One notable trend in the region is the growth of informal settlements. These often adjoin the main cities and in some cases have an even greater population than the formal settlements they adjoin. These have become a permanent feature of the urban landscape around many Pacific towns and cities. These informal settlements are often particularly affected by inadequate levels of basic services and infrastructure, such as water supply, sanitation, and waste disposal. Further, in general, utility providers often have no obligation to provide services to the informal settlements. Finally, insecure land tenure further hinders efforts to improve services to residents.

The dense urban populations in many Pacific SIDS contribute to public health risks. This is reflected in statistics for the high prevalence of diseases related to poor water, sanitation, and hygiene, such as diarrhea, dysentery, conjunctivitis, tinea, and ringworm. The average household size in the Pacific is relatively large, which is a further factor in the high likelihood of communicable diseases being transmitted. In addition, households often expand without making the corresponding improvements in basic water and sanitation facilities. Finally, inadequate water supply and sanitation (WSS) infrastructure also undermine sustainable tourism growth in the tourism-oriented Pacific economies.

With specific regards to WSS, the water supply for a large proportion of the Pacific SIDS is often highly dependent on rainwater harvesting, which is vulnerable to natural variability in precipitation patterns and changes in storm tracks. Islands with higher altitudes (i.e. parts of Fiji, Papua New Guinea, Solomon Islands, and Vanuatu) do have surface water sources, but on low islands and atolls any surface water is often brackish and not usable as a freshwater resource. Groundwater, where available, is increasingly under threat of degradation due to population growth in urban areas, human contamination and the impacts of climate change. This particularly applies to the fragile freshwater lenses that have traditionally provided water in many low-lying atolls.

With regards to sanitation, only a small percentage of the population has access to centralized systems in urban areas in the Pacific SIDS. Where they do exist, these centralized systems are often overloaded, dilapidated and only provide limited treatment. Outside of areas served by centralized systems, the population depend often on septic pits, sometimes individual, sometimes communal, often poorly managed. As population pressure rises these septic pits are

increasingly a poor option. Further, these pits are regularly threatened by rain flooding, sea storm surges overtopping and sea level rise.

Kiribati. The capital city of Kiribati is South Tarawa. South Tarawa's population of approximately 62,000 is highly urbanized – the average population density is 4,000 persons per km².^[3] High fertility rates and inward migration from Kiribati's outer islands have resulted in an estimated population growth rate of 2.3% per annum over the past decade. As a consequence, South Tarawa faces many urban challenges, notably overcrowding, inadequate WSS, and solid waste. Energy supply and mobility are also a challenge. As an illustration, a progressive increase in the incidence of diarrhea cases was observed over 2002 - 2016. Children under-five are also becoming more vulnerable – for example the under-five mortality rate is amongst the highest in the Pacific at 55 per 1,000 live births.

Although the reticulated network reaches most areas and houses, water supply is particularly challenging in South Tarawa. For those connected, water supply is currently limited to 2 hours in every 48 hours on average, and some areas receive no water. Non-revenue water (NRW) has been estimated at 89%. Although the main transmission lines were recently rehabilitated, much of the distribution network is dilapidated and this accounts for the vast majority of physical losses.

The principal source of freshwater for drinking water production are the Bonriki and Buota groundwater lenses. These are currently protected from pollution. However, most calculations indicate they hold insufficient water to meet projected demands. Finally, as for all Kiribati, South Tarawa faces significant challenges due to its exposure to sea and climate hazards.

Solomon Islands. Urban development in Solomon Islands presents a number of challenges, including: (i) a rapid urban growth rate of 4.7% that is more than double the national population growth; (ii) rapid expansion of informal settlements; and (iii) decreasing rates of access to urban services such as electricity, reticulated water supply and sanitation, solid waste collection and drainage. Notably the rapid population growth rate in informal settlements presents a huge challenge to water service providers. Solomon Islands has a high incidence of waterborne disease: diarrheal diseases are the sixth most common cause of deaths in Solomon Islands, accounting for 4.1% of deaths (or 28.1 deaths per 100,000 people). The high incidence of waterborne disease will continue unless access to safe water and improved sanitation increases and hygiene behaviors change.

Honiara is the capital city of the Solomon Islands. The Greater Honiara Area comprises the whole of Honiara City and some defined areas of urban sprawl immediately to the east, west and south of Honiara City. Greater Honiara had an estimated population of approximately 100,000 in 2015. This is projected to grow to as much as 200,000 by 2030, and some estimates project that the Greater Honiara population will surpass 300,000 within the next 30 years. Much of the population already live in informal settlement zones, and much of the projected population growth will be into these informal settlement zones.

The existing public water network draws water from various springs, small rivers and wells, mostly to the south and west of the City centre. The existing reticulated network delivers water to about 55% of the current Greater Honiara population, almost exclusively within Honiara city. NRW is high, as are extra-legal connections. With regards to sanitation, the centralized sewerage network reaches less than 10% of the residential population, and although collection services of non-connected households are organized, much of the population currently has no support.

Tuvalu. Funafuti is the capital of Tuvalu and the most populated island. It is an atoll with a population of over 6,000, having over 50% of the nation's population and a population density of at least 2,500/km². The National Strategy for Sustainable Development, 2016 – 2020 (NSSD)^[4] notes that Funafuti faces many of the urban challenges faced by urban areas across the world: poor housing, poor transportation services, poor water supply and sanitation services, sustainably managing solid waste, and health and education challenges. It has a high and growing rate of communicable diseases; high unemployment rates, especially for women, along with high dependence on the state as an employer, and; high dependence on household rainwater harvesting, often with low tech and damaged infrastructure.

Official data for Tuvalu note that 95% of the population have an improved supply. In most cases the water source is a hand dug well and/or rainwater collection tanks on-roof. There is little monitoring of quality. Official data for Tuvalu place sewerage coverage at 0%, i.e. no households on Tuvalu have access to a centrally organized sewerage system.^[5] Currently, most households use pit latrines or septic tanks. These are often poorly constructed and not well managed and not resistant to flooding from rainfall, tidal overtopping or storm surges. As a result, domestic solid and water waste play an increasing role in polluting waters and contributes to health issues. This is particularly true on Funafuti with its high population pressure.

Vanuatu. Port Vila is the economic hub and capital city of Vanuatu. It is located on Mele Bay, on the southwest coast of Efate island in the Shefa Province situated roughly in the centre of the archipelago. According to the 2016 Mini Census, the population of Greater Port Vila was 81,712.

About 75% of Vanuatu's entire urban population is in Port Vila, and the city continues to experience rapid urbanization as rural residents relocate in search for jobs and a safer life. Such rapid urbanisation puts significant pressure on the city's infrastructure. The city already faces multiple challenges, including inadequate water supply and sanitation services, insufficient solid waste management, poor drainage, and transportation bottlenecks.

These issues are particularly problematic in the city's fringe, where a number of informal settlements are growing with an influx of migrants from the outer islands. Some of these peri-urban areas, which are growing at an average annual rate of 2.6%, are located in flood-prone areas.

This rapid rate of growth and expansion is expected to continue, with pronounced rural to urban migration and the further expansion of informal settlements. This will escalate the stress on the integrity of ecosystems, which the communities of Port Vila rely upon. Addressing these challenges will require more effective development control and a focus on sustainable land management.

Climate change and the impact on urban services and WSS

The Pacific SIDS are highly at risk to climate change and natural hazards. For example, according to the World Risk Report (2016), in addition to Vanuatu being the most 'at risk' country in the world, four other Pacific countries are in the top 15^[6]. All climate hazards are increasing. The region's vulnerability to these risks is generally great, due to region's remoteness, fragile economies and other factors.

According to the World Bank "*The Pacific region is known to be one of the most exposed to natural hazards and climate change in the world. Pacific Island Countries (PICs) are exposed to a wide variety of natural hazards, including cyclones, droughts, earthquakes, electrical storms, extreme winds, floods, landslides, storm surges, tsunami and volcanic eruptions. Some of these hazards will be exacerbated by climate change. Average ocean and land temperatures are increasing, and the seasonality and duration of rainfall is changing. Over the coming decades, tropical cyclones are expected to increase in intensity, though not necessarily in frequency, and to move closer to the equator. Because of higher ocean temperature and ice sheet melt, sea level is rising, thereby worsening coastal erosion and saline intrusion and increasing the severity of storm surges. All these impacts adversely affects agriculture, fisheries, coastal zones, water resources, health, and ecosystems and thus threaten entire communities and economies. The mere existence of low-lying atoll island nations like Kiribati, Tuvalu and the Marshall Islands is threatened by sea level rise and storm surges, since they are only 1-3m above sea level.*"^[7]

The region's leaders are very aware of this, as they have collectively stated that the region is "*highly exposed to a range of natural hazards of hydro-meteorological origin (such as cyclones, droughts, landslides and floods) and geological origin (including volcanic eruptions, earthquakes and tsunamis). Climate change is increasing the risks from weather related disasters and posing new impacts to the region. Climate change impacts also cause progressive long-term degradation to the natural environment, to critical ecosystems (e.g. coral reefs), and to social and economic systems, resulting in loss and damage to the system upon which Pacific Island communities depend for their subsistence and livelihoods*".^[8]

Urban areas all lie close to the ocean and so are all exposed to climate and meteorological hazards. Population growth has undermined traditional coping mechanisms and adaptation approaches. As climate change takes hold, the population in the urban areas becomes increasingly vulnerable. The vulnerability is exacerbated notably by the high population density and prevalent socio-economic challenges, mean.

The details of the increasing climate hazards are site specific. For some parameters at some sites, where there is sufficient historical data, a climate change signal can already be observed. In general, climate change projections for the region suggest that climate change will have the following impacts on urban services:

Increasing strong winds and storm sea surges, in part due to tropical cyclones^[9]. These:

damage urban infrastructure – e.g. the water supply and sanitation canals, pipes, pumping stations, treatment plants and pits etc.;

damage the infrastructure that supports water and sewerage operations (e.g. energy supply systems, roads and ports which facilitate delivery of fuel, chemicals and equipment);

overwhelm existing disaster defenses; contribute to flooding and so indirectly damage all forms of infrastructure and economic activities; Sea level contribute to the salinization of freshwater supply, by overtopping the sea into surface and groundwater; rise, this:

lead to inundation and land loss, affecting all urban activities; exacerbate effects of storm surge;

directly contributes to the salinization of groundwaters; complicates the transmission of waste water to the sea; Precipitation, as:

Increases in extreme events contribute to flooding and cause damage; Increases in extreme events contribute to landslides and cause damage;

Periodic and seasonal decreases lead to drought and water shortage; ENSO

Although projections are not yet reliable, there is some evidence that the frequency of El Nino events will increase, and also that individual ENSO will become more intensive. This would exacerbate many of the effects of climate change, and is likely to exacerbate the impacts of drought;

Climate refugees

As climate events destroy rural infrastructure and infrastructure on outer islands, the affected population is likely to seek temporary or permanent accommodation in urban areas, thereby adding to population growth.

More information on how climate change will impact the urban and WSS sectors in each of the program sites is provided in Annex A. Specific assessments will be prepared as part of the process to design the individual child projects. However, indisputably, climate change threatens to reverse the past urban development gains in the region and threatens to undermine the impact of all future urban development initiatives.

1.a.2. The Baseline Scenario – Baseline Responses and Projects

Despite the challenges and trends described above, urban development issues have not been a top priority for many Pacific SIDS until recently. Although water supply has been of some concern for some time, sanitation and solid waste management in most cases became a key concern only in very recent years, in part due to population growth.

The Asian Development Bank, working in support of governments and other national stakeholders, and working collaboratively with other development partners, operates in 14 countries in the region, all of which are classified as small island developing states (SIDS) and many of which are classified as fragile states (FCAS), and five of which are LDCs (i.e. Kiribati, Solomon Islands, Timor Leste, Tuvalu and Vanuatu). In each country, ADB has a rolling programme of support to infrastructure, hardware, strategy development and planning, and capacity building or policy support. In most countries ADB support covers many sectors and includes actions to improve urban services and/or WSS.

More information on the ADB program of support to urban services and WSS is provided in Annex B.

The urban programs that ADB support in these countries typically covers include all or some of the following:

Improvements to planning and urban management; Improvements to flood control;

Increasing affordable and equitable access to improved water and sanitation; The following sections provide basic information on the baseline and/or Upgrading and rehabilitating water transmission and distribution networks; Basic climate proofing of water and sanitation infrastructure; business as Reducing non-revenue water – through soft and hard interventions; usual scenario related to each of the project intervention sites. More detail, including Reviewing and strengthening governance, policy reform and preparation of water safety plans; information on how climate change is leading to increased Utility reform and strengthening utilities' financial performance; vulnerability and is threatening urban services, is provided in the annexed child project PIF. Hydrological assessments (e.g. identification of available water sources, determination of sustainable usage rates etc); Promoting stakeholder engagement and empowering communities in decision-making; and Strengthening water regulatory frameworks. Kiribati. ADB

has supported a series of projects addressing urban issues in South Tarawa. The recently completed South Tarawa Sanitation Improvement Sector Project (STSISP) contributed to improved health and reduction of chronic water-borne illness and disease among South Tarawa communities. This was achieved through enhanced community engagement in, and public awareness of, hygiene and sanitation; rehabilitation and upgrading of sanitation infrastructure; utility capacity development to improve sector planning, and operation and maintenance of urban water supply and sanitation services.

Building on STSISP, the baseline initiative for the proposed LDCF funding is the proposed South Tarawa Water Supply Project (STWSP). STWSP focusses primarily on ensuring a safe water supply for the growing population of South Tarawa. The proposed Project's expected outcome is *increased access of South Tarawa's population to safe, climate-resilient water supplies*. The proposed STWSP has four outputs:

Output 1: Water supply infrastructure. Notably the construction of a desalination plant with energy consumption offset by solar PV, and rehabilitation of the water supply network.

Output 2: Water supply infrastructure is effectively managed. This will be delivered through long-term operation and maintenance contracts for the desalination plant and water supply network, as well as specialist support to PUB in key result areas and vocational training.

Output 3. Institutional strengthening for water supply management

Output 4: Awareness raised. This will be achieved through the implementation of a comprehensive and intensive 5-year awareness program.

Output 5: Project is managed efficiently and effectively. This will be achieved through support to the government's project management unit.

In the *business as usual* scenario, ADB funding is combined with grant support from the government of Kiribati, World Bank and the Green Climate Fund for a total funding of STWSP of \$58.08 million. As studies show that climate change will impact both water supply from the lenses and water demand (for details see Annex A), the design, composition, approach and scale of all four Outputs has required modification in order to address climate change. In the baseline, GCF are mobilized to address some climate change issues.

Solomon Islands. The Government, with support from ADB, has supported urban development and improving WSS in Solomon Islands, notably Honiara, over the past decade. ADB support recently helped preparation of the following operational planning documents:

- Greater Honiara Urban Development Strategy (GHUDES, 2018). The GHUDES sets out pathways for addressing the challenges that have come to the fore in light of the rapid urban growth being experienced in Honiara City and adjacent areas of Guadalcanal Province;
- The Solomon Water 30 Year Strategic Plan, 2017 - 2047. This Plan, prepared in support of the Solomon Islands Water Authority^[10] (SW), aims specifically to help implementation of SW's vision – *safe water for a healthy nation* – and SW's mission – *to provide reliable and safe water supply and sewerage services within SW's area of operations*.

The next stage, in order to implement many of the key recommendations of the 30 Year Strategic Plan, is the implementation of the Urban Water Supply and Sanitation Sector Project (UWSSSP). The proposed outputs of UWSSSP are:

Output 1 – Secure, safe, and resilient urban water supplies This will lead to an improved water supply. The focus is Honiara, but other smaller towns will also be supported.

Output 2 - Effective, efficient safe, and resilient urban sanitation services This will lead to an improved sanitation service.

Output 3 - Enhanced awareness of hygiene and water issues This will lead to a sustained improved hygiene behaviour.

Output 4 - SW is financially and technically sustainable.

These outputs will result in the following outcome: *efficiency, accessibility and sustainability of safe water and sanitation in urban areas is improved.*

In the business as usual scenario, total funding of UWSSSP is \$70.85 million with proposed financial support from the government of Solomon Islands, the EU, and the World Bank as well as ADB.

As studies show that climate change will impact the water supply, the water demand and options for addressing sanitation (for details see Annex A), the design, composition, approach and scale of all four Outputs requires modification and complementary investments to address climate change. Given the large climate change challenges affecting Greater Honiara, the Government and ADB intend to mobilize funding from GCF to address many of those needs.

Tuvalu. The details of the baseline project are to be determined through the project planning and design process.

The baseline project is to construct a centralized modern waste water treatment system for Funafuti, the main island and capital city of Tuvalu. The baseline will also include significant related capacity building and institutional strengthening.

The baseline intervention is estimated to total \$8.8 million, supported by ADB.

Vanuatu. ADB recently supported preparation of the draft Greater Port Vila Resilient Urban Development Strategy (GPVRUDS). This Strategy aims to provide a strategic roadmap for resilient urban development in Greater Port Vila from 2019 to 2030, based on an agreed Government vision – “Port Vila will be a safe, resilient and vibrant economic hub built on sustainable development.” This integrated strategy focuses strongly on urban resilience and disaster risk reduction.

To support implementation of GPVRUDS, in the baseline scenario, ADB is to support the Port Vila Integrated Urban Improvements Project (PVIUIP) with two anticipated outputs (or components):

- Output 1: Resilience in urban planning and management is strengthened. The project will strengthen the urban sector by focusing on key organizational reforms, sector regulations, institutional strengthening, and asset management;
- Output 2: Resilient urban infrastructure is constructed in Greater Port Vila. The main of this output will be improving the sewerage and wastewater treatment system in the Central Business District of Port Vila.

In the business as usual scenario, PVIUIP will have a total finance of \$8 million, with support from ADB, the Government and some inputs from the beneficiaries.

1.a.3. Barriers to Adapting to Climate Change

Urban management across the region faces several significant challenges, notably the high population growth rate and urban migration. Government institutions currently have limited financial and technical capacity to face these challenges. The challenges are exacerbated at many sites by a growing economy and growing complexity of the economy. This growth places increasing demands on urban services, including on water supply, drainage, sanitation.

Climate change creates an additional challenge and additional vulnerability. Although the details vary from site to site, the barriers to increasing adaptation capacity in response to this climate change threat are the following:

Barrier no. 1: Lack of knowledge of innovative, cost-effective technologies and approaches.

Barrier no. 2: Inadequate and aging infrastructure – for disaster control, water supply, sanitation, etc.

Barrier no. 3: Limited experience of authorities with community mobilization and with working in partnership to overcome challenges, and so communities are not empowered.

Barrier no. 4: Limited capacity to design and establish sustainable urban management systems, notably water supply and sanitation.

Barrier no. 5: Limited capacity to establish sustainable operations and maintenance systems.

Detailed barrier analysis will be undertaken for each child project as part of the detailed project development process.

1.a.4. The Proposed LDCF intervention

Each urban area has specific urban development challenges, exacerbated by climate change. In all cases, baseline finance is lined up to address the urban development challenges – from the ADB, the Government and other partners. In two cases (Kiribati and Solomon Islands), GCF funds have been/are being mobilized to address many of the associated climate change challenges.

LDCF will provide financial support to complement the business as usual ADB and government investments. In each case, ongoing project design discussions will lead to either a modification of the planned baseline activity or to the inclusion of an additional activity – to be supported by LDCF. The modified or additional activity will address climate change threats in order to adapt the sector to climate change, or decrease community vulnerability, or to climate proof the infrastructure – in two cases this will be undertaken in close collaboration with GCF. LDCF funds will contribute to the additional costs associated with adapting urban development and/or WSS to climate change.

LDCF funds will be prioritized to activities and investments that align with the following criteria: (i) responding to urgent climate change issues; (ii) clearly benefit from international cooperation; (iii) respect and align to national priorities and commitments; and (iv) are based on demonstrated evidence that stakeholders are committed to undertaking the proposed approaches.

Annex A summarizes information for the planned LDCF investment for each child project. The details of the activities and investments that LDCF will support will be determined during detailed project design, at the same time as the finalization of the overall baseline project and co-financing. For illustrative purposes, LDCF will support activities selected from the following table (note the table is not comprehensive, other activities will be considered, assuming they target climate change adaptation):

Concerned sub-sector	Potential adaptation/proofing measure
Urban planning	<ul style="list-style-type: none"> · Climate change informed visioning and planning; · Zoning to account for climate risks; · Engage in broad, thorough, all-issues stakeholder dialogues; · Fiscal and/or budgetary measures sensitive to climate change;
Flood and climate disaster risk control	<ul style="list-style-type: none"> · Early warning systems · Enhancing community adaptive capacity · Incremental adaption to climate change · Consideration of retreat from future sea inundation.
Water supply	<ul style="list-style-type: none"> · Demand-side management · Reduction of nonrevenue water, water metering, etc. · Low water use applications · Diversification of water sources, notably using eco-system based approaches and recycling and reuse (circular economy) · Enhancing storage capacity, notably using eco-system based approaches · Water reuse and desalination · Managed Aquifer recharge · Relocation of flooded infrastructure · Impounding reservoir to store freshwater · Awareness campaigns and behavioral change initiatives, including changing individual and business attitudes to the circular economy.
Water treatment and quality	<ul style="list-style-type: none"> · Protection of the water source and treatment of wastewater discharges, notably using eco-system based approaches and developing the circular economy · Integrated water resources management · Prevention of saltwater intrusion into coastal zones, notably using eco-system based approaches.
Wastewater collection	<ul style="list-style-type: none"> · Prevention of sewer overflow · Relocation of flooded sewers · Trade waste management · Efficient wastewater collection and conveyance · Sanitation awareness campaigns and behavioral change initiative · Recovery and recycling - improving efficient waste collection, tracking, management to reduce pressure on collection and treatment systems.
Wastewater treatment	<ul style="list-style-type: none"> · Adjustment of treatment technology to new effluent composition, notably using eco-system based approaches, and, where possible, developing the circular economy · Adjustment of treatment level to revised dilution capacity of discharge point · Relocation of flooded wastewater treatment facilities. · Efficient wastewater treatment and energy recovery from wastewater treatment · Decentralized wastewater treatment

The LDCF support is to be implemented through activities under the two following Program Components:

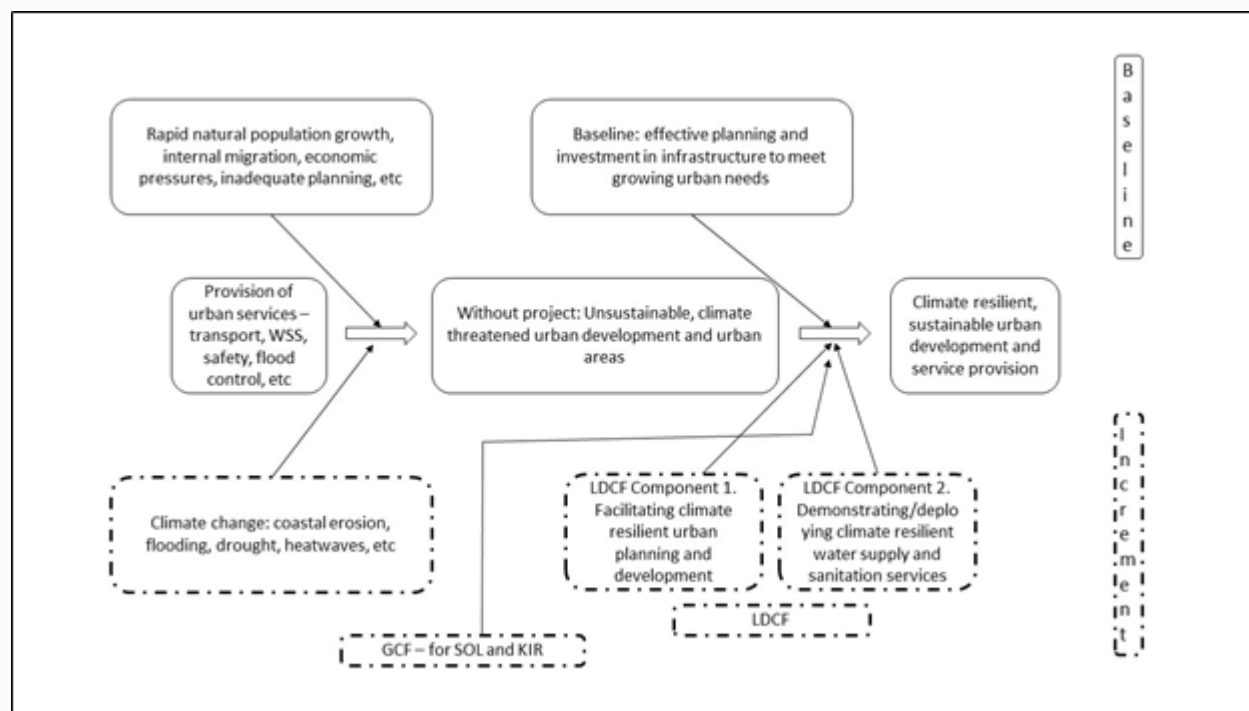
Component 1. Facilitating climate resilient urban planning and development

This includes activities to create the enabling framework, to establish the foundation and to build capacity so that there is the desire and the ability to integrate climate resilience and climate proofing into urban development, into urban services and into water supply and sanitation systems. Note, this is basically aligned the GEF Climate Change Objective 2 (“*Mainstream climate change adaptation and resilience for systemic impact*”).

Component 2. Demonstrating/deploying climate resilient urban services: water supply, sanitation and disaster reduction.

This includes activities and investments to achieve climate resilience and/or climate proofing, thereby demonstrating how to achieve this, how it is feasibility and the benefits. This will notably be in WSS, but also in other urban service sub-sectors as prioritized. Infrastructure is central to this component. In Vanuatu this is to be community-based adaptation focusing on disaster risk management. Note, this is basically aligned the GEF Climate Change Objective 1 (“*Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation*”).

The general theory of change guiding LDCF support to the four countries is illustrated in the following diagram.



The following provides an illustration of the kind and type of activity and measures that LDCF will support through this project – **in complement** to the baseline activities described in the previous section. However, the choice of activity and the details are to be fully determined through the project design process.

Component 1. Facilitating climate resilient urban planning and development

In Kiribati this may include:

- Enhanced institutional and technical capacity to understand and plan for climate change in the water supply and sanitation sector. This will include financial sustainability under climate change and mainstreaming climate change into institutional processes. This will be incorporated into Output 2 and 3 of STWSP, i.e. into water supply management is strengthened and institutional strengthening;
- Enhanced awareness of climate change issues. This will be incorporated into Output 4 of STWSP, i.e. into awareness on climate change, water and health issues is raised.

In Solomon Islands this may include:

- Enhanced awareness of climate change issues. This will be incorporated into Output 3 of UWSSSP, i.e. into enhanced awareness of hygiene and water issues;
- Enhanced technical capacity to understand and plan for climate change in the water supply and sanitation sector. This will be incorporated into Output 4 of UWSSSP, i.e. into SW is financially and technically sustainable.

In Tuvalu this may include:

- Ensuring that the designs of all sanitation and waste management infrastructure is climate resilient;
- Awareness raising on issues such as climate change, health and water conservation, and raising individual and household adaptive capacity on Funafuti;
- Modification of urban sanitation norms and standards in line with the changing climate; and
- Rolling out of a strategy for replicating lessons learnt.

In Vanuatu this will focus on:

- advancing measures and develop incentives to integrate climate change and disaster risk reduction measures into the urban sector. One possibility, to be confirmed, is to explore a program of incentives that will encourage households, businesses and contractors to comply with resilient urban planning and building codes in the CBD area.

Component 2. Demonstrating/deploying climate resilient urban services: water supply, sanitation and disaster reduction.

In Kiribati this may include:

- Schools. There are opportunities to increase impact through schools. LDCF would support: providing climate resilient reticulated water supply to schools, providing in-house water storage at schools, providing health and climate change awareness raising at the school level, and establishing schools as a platform for reaching the wider community.
- Rainwater harvesting(see Box).. LDCF would (i) measure and estimate rainwater harvesting potential at key points on Tarawa that are not already covered by parallel interventions; (ii) provide rainwater capture technology and equipment at sites identified as optimal.
- Replication and scale-up. Based on lessons learned in South Tarawa, this could include the replication and scale-up of approaches to complementing freshwater resources in the outer islands. LDCF would cover the design and small-scale technology needs.
- GCF will focus on provision of a large-scale desalination plant and associated renewable energy to drive the desalinization plant.

Box: Rainwater harvesting – outdated technology or innovative solution?

Rainwater harvesting has traditionally been a major pillar of water supply for many Pacific islands, in particular the islands that experience rainfall almost all year around. However, in some locations, population growth and climate change may make this technology less reliable.

Studies suggest there is still a role for rainwater harvesting in many places, however, it may need to become *smarter* (i.e. with storage capacity and consumption carefully determined to align to forecasted and projected rainfalls) and more *strategic* (used increasingly for drinking/cooking and less for other uses). Further, at many sites, rainwater harvesting will increasingly become one amongst several sources of water, working in synergy with small wells, and/or reticulated networks, and/or emergency supplies or other sources.

The advantages of rainwater harvesting include (these vary from site to site):

- familiarity to all consumers
- lower cost
- better taste
- avoids dependence on external suppliers and maintenance providers, and
- avoids land tenure issues.

In the future, the challenge is to create the optimal role for rainwater harvesting within a multi-source, adaptive management approach to water supply. The details of this approach will vary from site to site. This project will move forward understanding on these issues, generate knowledge and promote good practice.

In Solomon Islands this may include:

- Catchment protection Watershed management programs that protect the new water source. This will ensure that the new water source is protected from flooding, landslips and pollution – all of which are expected to increase with climate change. Without watershed protection, the new source will not be reliable, and so without watershed protection, the water supply for the population will remain highly vulnerable;
- Rainwater harvesting Even after expansion of the reticulated network, some areas will not be reached. In many of these areas, without climate change, small ground wells remain an optimal choice. However, in other areas, ground wells will be damaged by climate change induced flooding and/or sea level rise – these areas are therefore highly vulnerable to climate change. LDCF will help remove this vulnerability, working with individual households and communal tanks.
- GCF will focus on construction of an alternative water supply source from the Lungga River, and water treatment, storage and transportation infrastructure.

In Tuvalu this will include:

- Assessment of how climate change will affect waste water management and solid waste management on Funafuti, looking into rising temperatures, extreme temperatures, flood risk, storm surge and sea level rise;

- Implementation of measures to reduce the exposure of the waste water management infrastructure and system to disaster and climate threats - this will include ensuring that the threats to freshwater supplies from waste water and solid waste are not increased due to climate change. This will include innovative measures to treat waste water and to protect sanitation infrastructure. Measures to help individual households that cannot join into the centralized scheme will be explored;

In Vanuatu this will focus on:

- support Vanuatu government decentralization efforts to bring services closer to the people and encourage their participation;
- build community and government local level planning and implementation skills;
- strengthen local partnerships between communities, local government, and the private sector;
- plan, prioritize, construct and implement small-scale investments; and
- leverage additional resources from the community and others. Proposed interventions will be aligned with the Government's direction on decentralization.
- the vast majority of efforts will invest in small-scale, on-the-ground, physical infrastructure investments that reduce community vulnerability to climate change related hazards. The details are to be determined through a community driven, participatory planning process but are likely to include emergency shelters, small-scale flood protection works and drainage, flood-proof sanitation and coastal protection.

1.a.4. Alignment with the GEF focal area and/or Impact Program strategies;

The project supports LDCF Climate Change Adaptation Objective 1 (*"Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation"*) and Objective 2 (*"Mainstream climate change adaptation and resilience for systemic impact"*) as follows:

Under Objective 1, the project contributes to Outcome 1.1 (*Technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience*) and notably to Output 1.1.1. (*Physical assets made more resilient to climate variability and change*). This is achieved through:

- Solar powered desalination plant in Kiribati replaces vulnerable lens;
- Alternative water source and distribution network in Solomon Islands;
- In Tuvalu, transforming the scope of the baseline investment, ensuring it scope is sensitive to climate change threats. As a result the baseline investment will help urban households and communities to adapt to climate change;
- In Vanuatu, increasing the resilience of local communities to assess their risks and plan and implement small-scale infrastructure works to reduce vulnerability to climate change related hazards.

Under Objective 2, the project contributes to Outcome 2.1 (*Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience*) and notably to Output 2.1.1 (*Development/sector policies and plans integrate adaptation considerations*).

- In Kiribati and Solomon Islands, the baseline and LDCF supported project will increase understanding of the climate, water and economy nexus amongst: (i) decision makers in the concerned sector and; (ii) the public. This will lead into better informed and more practical policies and plans in the near future;

- In Tuvalu, a multi-stakeholder approach will be developed to address waste water which is related to several sectors;
- In Vanuatu, this will support operationalization of the Port Vila Urban Development Strategy and the creation of efficient implementation modalities and mechanisms for Port Vila.

More information on the above is provided in the relevant child project PIFs.

1.a.5. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF and co-financing;

As described above, and as covered in detail in the annexed child project PIFs:

- The business as usual situation is typically one of inadequate, degrading urban infrastructure, facing increased pressure due to demographic changes;
- The baseline funding will address the sustainable development challenges at the four child project sites. This is provided by the ADB, concerned governments and development partners, and in one case the beneficiaries;
- For Kiribati, and potentially for the Solomon Islands, GCF funds address much of the climate change adaptation additional costs, focusing very much on large scale infrastructure and investment;
- LDCF funds, at all four sites, cover the additional costs of adapting to climate change. This includes both soft and hard investments, as described in the above sections.

The following Table summarizes the project co-finance and LDCF contribution to each Output under each specific Child Project. The Table illustrates how the finance under each Child Project Output contributes to each Program Component and to each GEF Objective/Outcome.

Child Project Outputs	GEF (LDC F) Finance	Co-Finance	Co-finance sources
GEF Objective: 1 Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation			
GEF Outcome 1.1 Technologies and innovative solutions piloted or deployed to reduce climate related risks and/or enhance resilience			
Programme Component 2. Demonstrating/deploying climate resilient urban services: water supply, sanitation and disaster reduction.			
Child Project: Kiribati – South Tarawa Water Supply Project			
Outputs 1,2: Water supply infrastructure	\$3.88 million	\$40.38 million	ADB, GCF, WB, Government
Child Project: Solomon Islands – Urban Water Supply and Sanitation Project			
Output 1: Water supply infrastructure	\$3.58 million	\$37.6 million	ADB, EU, WB, SW, Government
Output 2: Sanitation infrastructure	0	\$24 million	ADB, EU, WB, SW, Government
Child Project: Tuvalu - Urban Sanitation Resilience Project			
Output 1: Waste water infrastructure	\$3.49 million	\$7 million	ADB
Child Project: Vanuatu - Port Vila Integrated Urban Improvements Project			
Output 2: Urban resilient infrastructure (a climate resilient sewerage and wastewater treatment system)	0	\$7.5 million	ADB, Government
Output 3: Local partnerships/community adaptation (a series of small-scale infrastructure works, identify	\$2.03 million	0	Government

d and planned by the community, to reduce vulnerability to climate change).	on		
GEF Objective: 2 Mainstream climate change adaptation and resilience for systemic impact			
GEF Outcome 2.1 Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience			
Programme Component 1. Facilitating climate resilient urban planning and development			
Child Project: Kiribati – South Tarawa Water Supply Project			
Output 3: Institutional strengthening	\$0.24 million	\$13.33 million	ADB, GCF, WB, Government
Output 4: Raising awareness and outreach	\$0.25 million	\$2.23 million	ADB, GCF, WB, Government
Output 5: Project and institutional management	0	\$2.15 million	ADB, GCF, WB, Government
Child Project: Solomon Islands – Urban Water Supply and Sanitation Project			
Output 3: Raising awareness	\$0.49 million	\$2 million	ADB, EU, WB, SW, Government
Output 4. Finance management and sustainability	0	\$2.75 million	ADB, EU, WB, SW, Government
Output 5. Project implementation	\$0.3 million	\$4.5 million	ADB, EU, WB, SW, Government
Child Project: Tuvalu - Urban Sanitation Resilience Project			
Output 2: Capacity development and institutional strengthening	\$0.88 million	\$1.8 million	ADB
Child Project: Vanuatu - Port Vila Integrated Urban Improvements Project			
Output 1: Resilience in planning	\$0.15 million	\$0.5 million	ADB, Government
Sub-totals:	\$15.29 million	\$145.74 million	
Project Management Costs	\$0.76	\$5.1 million – already incorporated into the above figures	
Grand Total	\$16.05 million	\$145.74 million	

Note: final figures may differ slightly from actual amounts due to rounding.

As can be seen from the above table:

- For GEF Objective 1 (Program Component 2), co-finance totals almost \$117 million and GEF totals \$12.98 million. This is a ratio of over 8:1.
- For GEF Objective 2 (Program Component 1), co-finance totals over \$29 million and GEF totals \$2.31 million. This is a ratio of almost 12:1.
- For the overall programme, co-finance totals over \$145 million and GEF totals \$16.05 million. This is a ratio of over 9:1.

Each of the countries face many baseline sustainable development challenges. Further, the focus of the baseline projects is urban services and water supply and sanitation, i.e. a strong sustainable development element. Hence the vast majority of the baseline co-financing invests into sustainable development of urban services rather than into climate change adaptation. This includes the co-financing from ADB. Notwithstanding, some co-financing, including from ADB,

will contribute to climate change adaptation, either directly or as a co-benefit. Details of this are provided in the Child Project PIFs and this will be elaborated for the respective Request for CEO Endorsement. Despite the large co-financing, many of the communities and much of the infrastructure will remain vulnerable to climate change. Notably, the water supply or sanitation sector will remain vulnerable. For this reason, climate change financing, such as LDCF funds, is required. The details of this vary from country to country, from project to project.

Synergies with GCF

As stated above, the *Kiribati – South Tarawa Water Supply Project* has secured GCF co-finance, and the *Solomon Islands – Urban Water Supply and Sanitation Project* intends to request GCF co-finance (request scheduled for late 2019). As a result, this proposed regional program aims to demonstrate how to optimize complementarity and synergies between LDCF and GCF during project implementation.

In the case of Kiribati, GCF is to finance large-scale infrastructure and equipment investments that are beyond the scope of LDCF. However, the GCF is not well placed to address many related strategic and capacity development needs, including where more flexible, community-based approaches are necessary. LDCF support focuses into these latter areas. These include: community based rainwater harvesting (through schools), rainwater harvesting in remote sites not on the central water network, strategic planning that will include potential replication to other islands and; technical and/or institutional capacity building to develop and implement multi-measure, adaptive, smart responses to water supply challenges. Both GCF and LDCF are necessary to achieve full adaptation in the water sector, are complementary and mutually supportive.

In the case of Solomon Islands, the GCF is to be requested to finance a large-scale infrastructure to overcome the bulk of the water vulnerability of the future population (i.e. construction of a new water source and water treatment facilities). Should GCF funds not be approved, the Government is fully committed to mobilizing funds from other sources for this new water source. However, even if approved, GCF is not well placed to respond to diverse related challenges, many of which, although small in nature, are either critical or are strategic. LDCF support focuses into these latter areas. These are to include catchment protection of the new water source (without which the new source is undermined), rainwater harvesting in remote areas that will not be reached by the central network, focussed awareness raising and measures to inform policy development.

1.a.6. Adaptation benefits (LDCF/SCCF).

The following Table presents an overview of the types and quantification of the Adaptation benefits of the projects under the program. More details are provided on a project basis in each of the annexed child PIFs.

Country/city	Types of adaptation benefit	Number and identification of beneficiaries
Kiribati, South Tarawa	<p>Access to sustainable, reliable, resilient water source for drinking and cooking (that would not be the case without the project).</p> <p>In addition, as all infrastructure is to be climate proofed through this project, it will be more resilient, and as a result there will be (i) less damage to infrastructure and (ii) less down-time of the systems due to damaged infrastructure. This will lead to the avoidance of substantial economic and social costs. The details are to be determined during project design.</p>	The entire population of South Tarawa benefits. This is estimated to be 62,298 people in 2018 (estimated 32,034 female and 30,264 male), increasing to an estimated 94,501 in 2041 (estimated 48,668 female and 45,833 male, assuming gender ratio remains constant).
Solomon Islands, Honiara		The beneficiaries are the additional population that will reach Greater Honiara and settle/emerge in areas where the current water supply is vulnerable to climate change. This is tentatively estimated to be 100,000 people, of whom approximately 50% are male/female.
Tuvalu, Funafuti		The beneficiaries are the entire population of Funafuti, approximately 6,000 people, of whom approximately 50% are male/female.
Vanuatu, Port Vila		The population of Greater Port Vila, which was 81,712 people (40,153 women) in 2016 and is projected to be nearly 112,000 in 2030.

1.a.7. Innovation, sustainability and potential for scaling up.

Innovation The baseline and co-finance already includes several soft and hard technologies that are new to the region and/or to the concerned country. These notably include:

direct solar powered desalination plant (Kiribati). This has not been successfully practiced at remote sites in the region previously. This is done jointly with GCF;

utility reform (Kiribati, Solomon Islands and Tuvalu). This addresses a major challenge to improved services across the region. This is done jointly with the baseline co-finance, notably the finance from ADB;

The LDCF program include the use of several innovative strategies and technologies. For example:

in Kiribati and on Solomon Islands, the promotion of smarter rainwater harvesting, as part of a multi-source, adaptive management, response strategy; on Solomon Islands, the development of catchment management for water source protection. This has not been successfully addressed for this purpose on the Solomon Islands previously;

Tuvalu, the use of innovative measures to treat waste water and to protect sanitation infrastructure (this done jointly with co-financing);

on all islands, improved financial and fiscal management practices, and supporting software and equipment, to improve water supply coverage, Operations & Maintenance (O&M), reduced Non-Revenue Water (NRW) and consumer satisfaction (although this is mostly covered by co-financing, LDCF will support this, particularly on Kiribati). This addresses a major factor that restricts improved livelihoods across the region;

on Vanuatu, the development of community based and ecosystem-based approaches to disaster risk management, this has not been achieved in urban areas on Vanuatu previously. Also, on Vanuatu, the approach to joint and inclusive approaches to addressing disaster risk management and climate change adaptation is innovative.

Also, the program represents one of the first occasions for LDCF to jointly finance climate change adaptation projects with GCF, and the first such occasion in the Pacific. This regional LDCF program aims to demonstrate how to achieve complementarity and synergies between LDCF and GCF during project implementation, to learn relevant lessons and capture the knowledge.

Overall, all LDCF-funded activities in the program focus on adapting to climate change and LDCF covers the associated incremental costs. In addition, all LDCF funds focus on national priorities. Further, and to the extent possible, LDCF funds support activities that are innovative and/or strategic. That is, LDCF is used to finance the piloting or demonstration of innovative approaches and technologies, that, after being successfully piloted, should be replicated or upscaled through larger investments or through policy interventions. Also, in all four countries, LDCF supports strategic measures that build capacity, influence public opinion, develop policy or accompany reform. Through these joint strategies, LDCF achieves leverage and its impacts are multiplied.

Sustainability. ADB works closely with the concerned ministries of finance and the relevant public utilities in order to forge sustainable management approaches and financial sustainability. In each country, the proposed Child Project has a sub-component addressing institutional support and institutional strengthening. Where necessary, regulatory or legislative reform will also be supported. In each country this will be operationalized as follows:

- **Kiribati.** The Project will directly support the Public Utilities Board (PUB) of Kiribati (under the Ministry of Infrastructure and Sustainable Energy) to fulfil its mandates to provide WSS services in a technically and financially sustainable manner. The project will strengthen PUB institutionally and develop PUB's technical capacity. The project will also roll out awareness raising programs that will build public confidence in PUB;
- **Solomon Islands.** ADB has been providing institutional and managerial support to SW for some time, and this has already contributed to an observed significant improvement in SW's operational and financial performance. The Project will continue to support directly Solomon Waters to fulfil its mandates to provide WSS services in a technically and financially sustainable manner. The project will strengthen SW institutionally and develop SW's technical capacity;
- **Tuvalu.** The Project will directly support the Government and pertinent departments to fulfil their mandates to provide sanitation services in a technically and financially sustainable manner. The project will strengthen the departments institutionally and develop their technical capacity, with an important focus on sustainable O&M models;
- **Vanuatu.** The Project will advance measures to integrate climate change and disaster risk reduction measures into the urban sector in coordination with the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management. It will also strengthen the ability of the Ministry of Internal Affairs and the Port Vila Municipality Council (in cooperation with Shefa Provincial Government Council) to deliver climate resilient urban services in Greater Port Vila.

In addition, in each country the government has committed significant funds to the project success, and to ensuring improved operations and maintenance in the future, thereby demonstrating its commitment to assuring sustainability after the project implementation.

Environmental Sustainability. In line with standard ADB procedures, for each child project, a full environmental risk framework will be prepared, and subsequently an environmental management action plan developed. This will set out the activities to be undertaken during project implementation to ensure all environmental risk is fully managed.

Replication The issues and solutions are broadly replicable to many small islands including across the entire Pacific. Replication will help Pacific SIDS to deal with urban degradation and WSS challenges, in the specific circumstances of remote urban areas in fragile economies that are highly exposed to climate hazards. ADB is well placed to facilitate this replication of practices and technology and infrastructure, through its investment program and its network of partners across the Pacific. ADB has in recent years implemented water supply infrastructure projects in 12 countries in the Pacific and is currently developing water supply and/or sanitation investment projects in many of these. These may provide direct opportunities for sharing some or all of the practices and technologies to be demonstrated in this project.

[1] The regional urbanization rate is approaching 50%.

[2] United Nations University, see: <https://unu.edu/publications/articles/urbanisation-in-pacific-islands.html>

[3] This is greater than New York (estimated at 18000 but significantly lower than Seoul (estimate at over 10,000) source: <http://www.newgeography.com/>

[4] Te Kakeega III, Government of Tuvalu

[5] Source: Pacific Waste and Water Association, <http://www.pwwa.ws/index.php?page=Countries>

[6] Papua New Guinea (ranked 10th), Solomon Islands (6th), Tonga (2nd) and Timor Leste (12th).

[7] Pacific Possible, Climate and Disaster Resilience (2015).

[8] Framework for Resilient Development in the Pacific, An Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP) (2016)

[9] Note: Over the coming decades, tropical cyclones are expected to increase in intensity, though not necessarily in frequency, and to move closer to the equator. Some Pacific urban areas will be negatively affected.

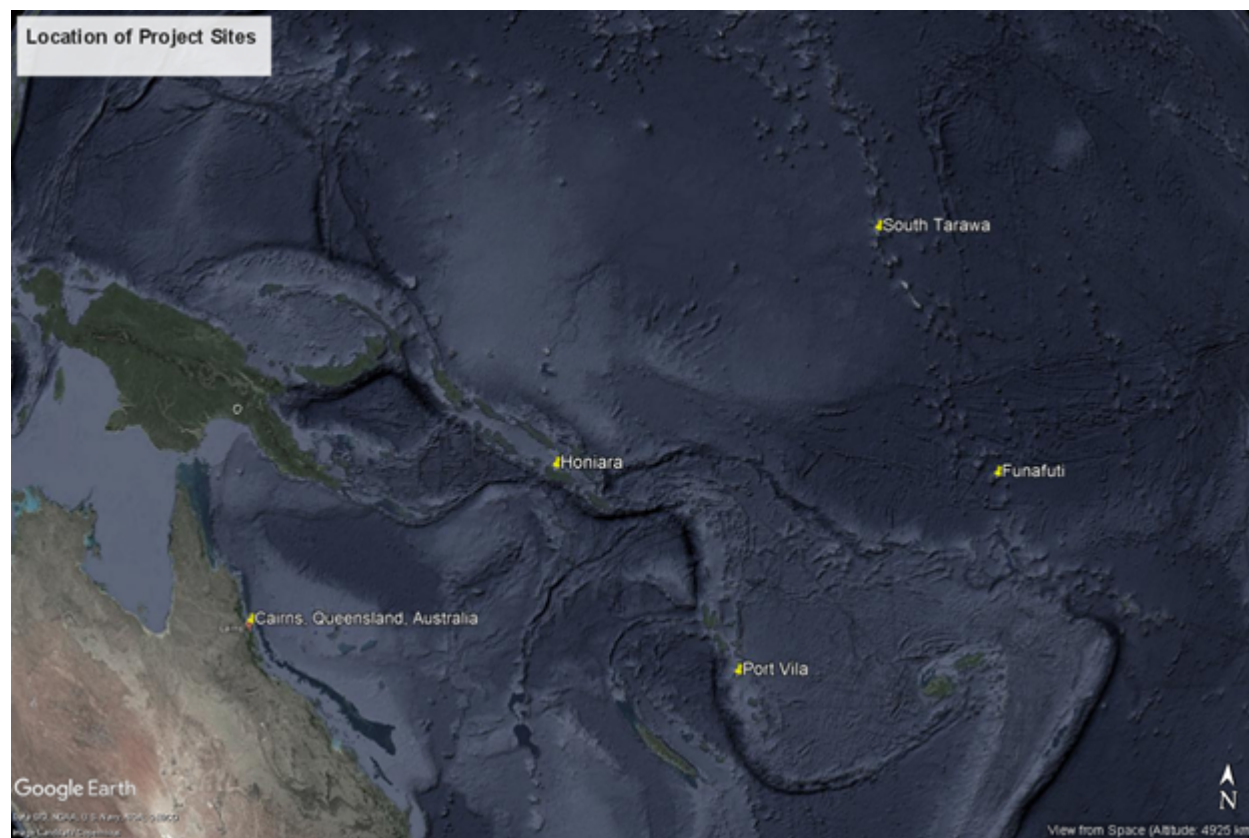
[10] Created under the Solomon Islands Water Act of 1992, SW is the publicly owned utility currently delivering water supply services to approximately 65,000 people in 4 urban centers (Auki, Honiara, Noro, and Tulagi)

1b. Program Map and Coordinates

Please provide geo-referenced information and map where the program interventions will take place.

The project sites are listed in the following table and illustrated in the map below:

Country	Site	Coordinates (approximate)	
		North/South	East/West
Kiribati	South Tarawa	North: 0°	East: 173°
Solomon Islands	Honiara	South: 9°	East: 160°
Tuvalu	Funafuti	South: 9°	East: 179°
Vanuatu	Port Vila	South: 18°	East: 168°



2. Stakeholders

Select the stakeholders that have participated in consultations during the program identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none, please explain why:

In line with ADB procedures, the detailed preparation of each child project will include a thorough and broad consultation process. This process will be led by the national responsible agency and supported financially and technically by the project design consultants. One output of this process will be a detailed plan for stakeholder participation during the project implementation and monitoring. The details will vary from child project to child project and are yet to be determined

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the program preparation, and their respective roles and means of engagement.

The process will include:

The identification of all pertinent stakeholders Child project PIFs provide additional details of previous and planned stakeholder consultation processes.

The participation (or representation) of each stakeholder group at the project concept, design and all subsequent phases;

The participation of all stakeholders in the selection of project sites, in the project design, in the social and poverty analysis, in the impact assessments and preparation of mitigation plans (as needed), and project implementation;

The identification of key stakeholders for successful project implementation and preparation of the engagement plan. In addition to government agencies, expert groups and politicians, key stakeholders are to be identified amongst beneficiaries including community groups, schools and health centers, youth and/or women's groups, NGOs and CSOs, business associations etc. The engagement plan will set out the detailed activities for consultation, communication/information disclosure and participation during the implementation phases of the project, including all activities supported by GEF/LDCF. This will include definition of the tools and protocols to monitor participation.

Creation of disclosure mechanisms;

The preparation of the project's Communications Strategy (including Plan). This Strategy and Plan will be designed to facilitate effective dissemination of the project information and the communication of project-related issues to key stakeholders and the broader, concerned communities;

Where necessary – undertaking of a household survey to determine key technical issues pertinent to project design (e.g. understanding of climate change, prevalent hygiene practices, awareness and perceptions on waterborne disease, etc);

And finally, in line with ADB procedures, when necessary, the preparation of the resettlement framework; the resettlement plans; and the gender action plan.

The preparation of a specific and comprehensive stakeholder analysis, leading to the preparation of consultation and participation plan.

3. Gender Equality and Women's Empowerment

Are gender dimensions relevant to the success of program. Yes

If yes, please provide indicative information on these dimensions and how these will be addressed in the program. If no, please explain why

Women are often amongst the more vulnerable populations within Pacific societies. Women in the Pacific perform multiple roles as household managers, subsistence and cash crop farmers, income earners, and active members of churches and community groups. However, women are typically more vulnerable to climate change impacts and have less adaptive capacity. Hence gender dimensions are integral to the real success of each child project. Further, in order to be successful, all components of the project will require the full and meaningful participation of women, this can only be fully achieved if active steps are taken to ensure it. For all these reasons measures will be taken to ensure women's full involvement.

In order to ensure women's full, meaningful involvement, as for all ADB supported projects, a project and sector-specific gender analysis will be undertaken separately for each child project. Each of these will lead to the identification of partners, the issues, the challenges, the opportunities and the required actions. Next, for each child project, a *Gender Action Plan* will be prepared. This will set out the objectives, indicators, activities, inputs, costs and responsibilities. This will be implemented during Project implementation. This will be financed by the baseline co-finance provided by ADB.

Annexed child project PIFs contain more information related to gender specific issues and planned measures at each proposed project site.

In addition, please also indicate whether the program the program will include gender sensitive indicators in its result framework

Yes

4. Private sector engagement

Will there be private sector engagement in the program?

Yes

Please briefly explain the rationale behind your answer.

The Pacific SIDS economies are small, fragmented, lack diversity, and are highly dependent on imports and highly reliant on revenue from overseas sources. As a result, private sector growth has until now been constrained. The public sector accounts for a large share of the economy and a large share of employment.

The levels of investments needed for Pacific Adaptation and the diverse types of investment mean that there is a need and there are significant opportunities for drawing in the private sector. For example, this could be related to investing in water supply utilities in Solomon Islands or Vanuatu. These opportunities will be explored and scoped further during program and project implementation, and this will be addressed in each child project separately.

In each country, the ADB is supporting a bespoke, strategic process to facilitate the entry of market based principles and private sector stakeholders. For example, in Solomon Islands, ADB has supported SW to become financially sustainable and to operate on market principles, and to competitively provide WSS services. In Kiribati, ADB is supporting the participation of a broad range of private sector entrants in the competitive process to determine service providers. In each country, ADB is supporting procurement reforms that will ultimately facilitate the entry of private sector into the projects.

5. Risks

Indicate risks, including climate change, potential social and environmental risks that might prevent the Program objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Program design (table format acceptable)

Risks	Risk Level *	Programmatic Mitigation measure
<p><u>Limitations with climate data and climate change projections.</u></p> <p>Historical climate data in the Pacific region is incomplete, and in some cases, inaccurate. This is particularly true for Tuvalu and Kiribati; Solomon Islands and Vanuatu do have more data available. Further, the challenging geography – notably small land masses in a large ocean - and limited resources mean that climate change projections are of limited confidence except for the most basic parameters. This is notably true for hilly areas. Downscaling is challenging and previous work limited. These factors mean it is difficult to provide meaningful projections for the type and scale of climate change impacts on water supply, sanitation, drainage and other urban services.</p>	<p>High likelihood, low impact – Medium risk</p>	<p>During 2010 – 2015, the Australian Government (working with each Pacific Government) has prepared best available databases and projections through the Pacific-Australia Climate Change Science Adaptation Planning (PACCSAP) and the Pacific Futures portal. These tools and databases will be used. ADB's Pacific Department is currently actively trying to improve on this.</p> <p>The precautionary principle will be adopted. That is, in each case, a reasonable worst case scenarios will be determined, and project designs and standards will be in line with this case.</p> <p>Win-win options will be sought and prioritized. That is, where the exact nature or scale of the climate change threat is unknown, the measures supported by the project will be of a type that generate benefits in terms of climate resilience, general resilience and also in terms of sustainable development.</p>
<p><u>Human/Technical Capacity Limitations</u></p> <p>The participating countries are restrained by human capacity, notably because the populations are small and so the human resource pools are small. This is particularly true for Tuvalu, given its small population. This leads to the fragmentation of responsibilities of key people across</p>	<p>Medium likelihood</p>	<p>ADB has a policy to incorporate capacity development into all its programs and projects in the region. Further, each child project – with the exception of Tuvalu – builds on significant previous work by the ADB (in terms of analyses, investment development, training, institutional support and [project implementation]) – and ADB has</p>

is small population. This leads to the fragmentation of responsibilities of key people across several sectors" infrastructure, climate change, natural resources and disaster risk reduction. This shortage of human resources can weaken the effective identification, design and implementation of adaptation measures, and can undermine ability to respond and cope with natural disasters and long-term environmental change.

en
ho
od,
m
edi
u
m
im
pa
ct
-
M
edi
u
m
ris
k

at support and project implementation) and ADB has been able to develop capacity through those previous projects.

Further, the use of the programmatic approach will leads to opportunities to pool and exchange human resources across the countries.

South-south collaboration will be promoted through the project as well as technology transfer across the region, using Pacific-based institutes and universities.

Coordination and Institutional Capacity Limitations

Each participating country has several ongoing and planned related development initiatives and several related projects (some supported by GEF but mostly by other development partners such as DFAT, JICA, World Bank etc). These projects may work in isolation, undermining effectiveness, or work in synergy.

Further, although awareness of climate change is high, in sectoral organizations there is limited understanding of just how workplans should be modified in order to address climate change, and in turn the allocation of institutional resources to climate change can be a challenge.

These factors can undermine the effectiveness and efficiency of operations.

Lo
w
li
ke
li
h
oo
d,
m
edi
u
m
im
pa
ct
-
Lo
w-
M
edi

The program will address current urgent and immediate risks related to climate variability, and this should generate attention and capture engagement to the program.

ADB's ongoing experience and presence in the countries and the sectors will mean ADB can facilitate information exchange and coordination amongst partners.

ADB's ongoing experience and presence in the countries and the sectors will also mean it can anticipate challenges and introduce solutions prior to the problems fully developing.

Regular ADB monitoring will follow these issues and lead to recommended action if and when necessary.

	u m ris k	
<p><u>Political commitment</u></p> <p>-</p> <p>All Pacific Island nations recognize the importance of climate change adaptation. However, limited capacity, competing development priorities and natural disasters may affect political will to actually rolling out the program activities. Further, where necessary, the sustainability of political commitment to reforms, including strengthened budget management, state-owned enterprise reform, and asset management can be challenging.</p>	<p>High likelihood, low impact</p> <p>Medium</p> <p>Medium risk</p>	<p>ADB has been working in all countries for several years, is active in a range of sectors, has an established presence, and is constantly engaging in policy dialogue with a range of stakeholders in each country. This has proven to be a useful way to identify and define potential problems, and to determine participatory approaches for defusing the challenges.</p> <p>In line with standard ADB procedures, an assessment of political economy factors that could influence the government's ability to implement the proposed adaptation reforms will provide a basis for monitoring risks.</p> <p>Regular ADB monitoring will follow these issues and lead to recommended action if and when necessary.</p>

6. Coordination

Outline the institutional structure of the program including monitoring and evaluation coordination at the program level. Describe possible coordination with other relevant GEF-financed programs and other initiatives.

Implementation arrangements

In each country the LDCF funds are designed to integrate into and support a baseline project that is co-financed by ADB, government and other partners. The baseline project funds are managed by ADB. The implementation arrangements for LDCF funds will thus be as for the baseline project. The specific arrangements in each country will then be tailored to the country's situation and conditions.

Typically, the concerned government will establish a Steering Committee or Task Force, chaired by a senior government official, with membership from concerned government agencies and other partners. The role of the committee/force will be to provide policy guidance and oversee project preparation and implementation. Details of potential members for each country are provided in each of the annexed child project PIFs.

The project executing agency /partner (EA) will be the sectoral ministry responsible for the baseline project (see each child project PIF for details). The EA is responsible for all interactions with the ADB, for reporting, and for ensuring government counterparts funds are provided. The EA will appoint a senior official as Project Director to be responsible for project development and implementation. Specifically, the EA may be responsible for: due diligence and quality assurance of detailed engineering design and documentation (DEDD) outputs; provision of technical inputs and support to the project management during design and construction to ensure assets delivered through the Project meet the required standards of the Government; and, operations and maintenance of facilities delivered through the project.

The EA will establish a Project Management Unit (PMU) for the baseline project and covering LDCF activities. The PMU is to be staffed with a project manager and other managerial and technical staff including a project accountant. The role of the PMU is to assist the Project Director. The PMU is responsible for the day-to-day management, including contract management, project progress monitoring and reporting, financial reporting, and implementing some activities such as raising public awareness. The PMU, under the supervision of the EA and the Steering Committee/Task Force, will: prepare quarterly and annual workplans; prepare ToR or bidding documents for individual inputs and activities; assess bids; issue contracts; make payments for goods and services.

Given limited capacity, and depending on the country conditions, international consultants will support the PMU with some aspects of Project management – for example the technical preparation of bidding documents, the technical evaluation of bids, and the financial evaluation of bids. In almost all cases the costs will be covered by the baseline project, not LDCF.

All civil works and equipment will be procured according to ADB's Procurement Guidelines (2015, as amended from time to time). All consultants will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).

ADB staff are responsible to support implementation, including compliance with obligations and responsibilities for Project implementation in accordance with ADB's policies and procedures.

Monitoring and Evaluation

Monitoring and evaluation will take place at the program (regional) and project (national) levels. At the program level, ADB's Pacific Department (PARD) will: provide oversight to the implementation of the individual sub-projects, coordinate regional activities, organize program steering committee meetings, track lessons learned, manage the mid-term and final evaluation processes, coordinate with country agencies and project executing agencies, identify capacity constraints and develop targeted capacity support including regional training for country project leaders. The concerned ADB project officers in PARD will provide direct oversight to the implementation to each baseline project as well as to the LDCF components of the projects, with technical support from the PSU and with the support from the ADB-GEF Focal Point in ADB's Environment and Safeguards Division. In addition, ADB maintains a network of country and Pacific Regional Offices, as well as country and sector specialists, who can all be called upon for technical support, negotiation, policy support and trouble-shooting.

For each country, each baseline project will have a specific Design and Monitoring Framework (DMF) setting out objectives, outputs, indicators and targets of the baseline project. LDCF objectives, outcomes and indicators will be integrated into the DMF. The country EA will be responsible for collecting data on indicators and reporting on the DMF (and therefore on the LDCF results framework as necessary).

The detailed project management, oversight, monitoring and coordination arrangements will be fully developed at the CEO endorsement stage.

As required by GEF, a separate mid-term review and terminal evaluation will be undertaken for this program. The mid-term review will take place during the first two years, as per recent GEF policy guidance, and will be designed to identify gaps and constraints which can be addressed during the remainder of the program time-frame.

Coordination

At the regional level, ADB will play a leading role in coordination. ADB is a multilateral development finance institution that provides loans, grants and technical assistance. ADB is composed of 67 members, 48 of which are from the Asia and Pacific region. ADB's clients are its member governments, who are also its shareholders. In addition, ADB provides direct assistance to private enterprises of developing member countries through equity investments and loans. In 2016, loan, grant and technical assistance approvals to ADB's developing member countries amounted to \$17.8 billion, and total co-financing mobilized, with donor support, amounted to \$13.9 billion, bringing total sovereign operations to \$31.7 billion in 2016. Non-sovereign operations for the same year amounted to \$2.5 billion.

ADB has been working with the concerned governments since the early 1970's and has dozens of project approved in each country totalling hundreds of millions of US\$. This includes loans, grant investments and technical assistance projects. The ADB currently operates in 14 developing member countries (DMCs) in the Pacific region, and is implementing (or developing) urban and/or water/wastewater infrastructure projects in the following: Fiji, Kiribati, Marshall Islands, Micronesia, Palau, PNG, Solomon Islands, Timor Leste, Tonga, Tuvalu, and Vanuatu. This includes coordinated investments in water supply, wastewater infrastructure and services and solid waste management.

ADB programming to the four participating countries is through a programming exercise leading to the "*Pacific Approach*" (updated every 3 – 5 years) and the annual country programming exercise, undertaken jointly with the concerned Ministry of Finance and technical implementation agencies. Implementation of the *Pacific Approach* and country programming are tools through which to ensure coordination between this project and all other ADB supported initiatives. ADB, under PARD, has its Headquarters in Manila, with Pacific Liaison Office in Sydney and a Sub-Regional Office in Fiji, and national resident missions in each country, which will collectively support project implementation.

At the level of each country, coordination will be assured through the inputs of the task force, the EA, the Project Director and the PMU.

ADB Technical Assistance ADB is implementing the following regionally focused TA projects, with which collaboration modalities will be established during the project development phase:

- *Strengthening Climate and Disaster Resilience in the Pacific*, started in 2016, total \$3.25 million;

- *Strengthening Urban Infrastructure Investment Planning in the Pacific*. This project aims to build the capacity of Pacific developing member countries to plan and assess priority urban infrastructure investments in order to support more sustainable urban development in Pacific cities and towns. This project started in 2017 with \$0.7 million funds;
- The pipeline *NDC Advance Technical Assistance Project*. This project will aim to support selected Pacific DMCs to update the NDCs, and to ensure direct linkages between NDCs and investment project pipelines, this should have a link to ensuring climate resilient infrastructure across the region;

Finally, ADB PARD is currently developing two additional technical assistance projects, one aiming to specifically support fragile and conflict state with fragility challenges, and one focusing on reducing the overall vulnerability of economies. Coordination with these projects will be further developed at the detailed project development stage.

Coordination with institutional partners

The Pacific Region Infrastructure Facility (PRIF) is a multi-partner coordination, research and technical assistance facility for improved infrastructure in the Pacific. PRIF agency partners include ADB, Australian Department of Foreign Affairs and Trade, European Union, European Investment Bank, Japan International Cooperation Agency, New Zealand Ministry for Foreign Affairs and Trade and the World Bank Group. For example, PRIF undertakes analytical work on behalf of the development partners to assist in planning and coordinating their investments in the water and sanitation subsectors. ADB is active in the governance of PRIF, and, through PRIF, ADB can facilitate cooperation with other partners and can facilitate knowledge management.

The Pacific Water and Wastes Association (PWWA) is a regional association of 27 water and wastewater utilities, with the combined mission to deliver quality water related services that enhance the wellbeing of people throughout the Pacific region. PWWA plays a key role in knowledge exchange between agencies in the region, and conducts annual performance benchmarking that the utilities rely on to continually improve performance. ADB is currently supporting the PWWA by providing expertise to strengthen institutional capacity to facilitate peer-to-peer information exchange, including the preparation and implementation of the PWWA's strategic reform and development plan as well as a new constitution. ADB also provides support for the preparation and mainstreaming of the PWWA's communication strategies. Through PWWA, ADB can facilitate cooperation with other partners and knowledge management.

ADB also cooperates effectively at the project level – and in some instances in policy dialogues at the national or regional level - with the following: the Pacific Community (SPC), the South Pacific Regional Environmental Program (SPREP), World Bank, EU, DFAT, JICA and many others. These partnerships are continuously being developed, and this will feed into benefits to the relevant child projects during detailed project design and during child project implementation.

Coordination with Projects and Development Partners, notably GCF and GEF

The ADB network encompasses planners and experts based in ADB Manila headquarters, regional technical assistance project teams, regional (based in Sydney), sub-regional (based in Fiji) and national ADB resident missions in each country, national financial and implementation partners in each country, and sectoral and project teams in each country. This network will be mobilized to establish optimal coordination with development partners and related projects in each country, and with relevant regional initiatives. This coordination will be mostly country specific, and the details of 'what' and 'how' will be determined during the process to prepare the Requests for CEO Endorsement. During the detailed project preparation processes, in-depth stakeholder consultations will be held to identify coordination possibilities and determine coordination arrangements.

Notably, coordination will be established with GEF / LDCF and GCF initiatives that target climate change adaptation in the participating countries. The details, aims and mechanisms for this coordination will be developed during detailed project preparation, through consultations with relevant GEF Agencies, Executing Partners, project implementation units and stakeholder engagement events. The following table provides an indicative list of relevant projects, and indicates the aims of coordination and how coordination will be established.

Country and project	GEF Agency and Status	Coordination aims and mechanisms
GEF/LDCF		
GEF ID 4714: Tuvalu: Effective and Responsive	UND	To the extent possible (as the project is near completion), information exchange and consultations w

Island-level Governance to Secure and Diversify Climate Resilient Marine-based Coastal Livelihoods and Enhance Climate Hazard Response Capacity	P. On going, near completion.	<p>will continue in country to ensure that there is coordination, lesson learning and complementarity.</p> <p>During development of the CEO Endorsement request, consultations will be held with staff and experts involved in the project. This will be supplemented by reviews of knowledge products, MTRs, PIRs and TER as available.</p> <p>The ADB local liaison office, backed up by regional/sub-regional offices, and working closely with national partners will take the lead in this coordination</p>
GEF ID 4725: Solomon Islands Water Sector Adaptation Project (SIWSAP)	UND P. On going, near completion.	<p>Although focussing on rural areas and remote islands, SIWSAP generated much information and knowledge that can be used in the design and implementation of all water sector projects in the country. This data has <i>already been used</i> in the design of the UWSSSP.</p> <p>To the extent possible (as SIWSAP is near completion), information exchange and consultations will continue in country to ensure that there is coordination, lesson learning and complementarity. During development of the CEO Endorsement request, consultations will be held with staff and experts involved in the project. This will be supplemented by reviews of knowledge products, MTRs, PIRs and TER as available.</p> <p>The ADB local liaison office, backed up by regional/sub-regional offices, and working closely with national partners will take the lead in this coordination.</p>
GEF ID 5037: Regional Program - Climate Proofing Development in the Pacific (with child projects in Tuvalu and Vanuatu)	ADB. Under implementation.	<p>This ADB and LDCF-supported regional program contributed to investments to increase climate resilience in Tuvalu and Vanuatu. The projects are at an advanced stage of implementation.</p> <p>Through ADB internal coordination and exchange mechanisms, the current proposed regional program will learn lessons from this earlier program and benefit from the experience.</p>
GEF ID 5414: Kiribati: Enhancing National Food Security in the Context of Global Climate Change	UND P. Under preparation.	<p>Information exchange and consultations will be held in country, at both planning and implementation phases, to ensure that there is strong coordination, lesson learning and complementarity with this project. During development of the CEO Endorsement request, consultations will be held with staff and experts involved in the project.</p> <p>The ADB local liaison office, backed up by regional /sub-regional offices, and working closely with national partners will take the lead in this coordination.</p>
GEF ID 9041: Kiribati: Enhancing Whole of Islands Approach to Strengthen Community Resilience to Climate and Disaster Risks in Kiribati	UND P. On going.	<p>Information exchange and consultations will be held in country, at both planning and implementation phases, to ensure that there is strong coordination, lesson learning and complementarity with this project. This will be supplemented by reviews of knowledge products, MTRs, PIRs as available</p> <p>The ADB local liaison office, backed up by regional/sub-regional offices, and working closely with national partners will take the lead in this coordination.</p>
Green Climate Fund (GCF)		
Tuvalu Coastal Adaptation Project	UND P. Under implementation.	<p>Information exchange and consultations will be held in country, at both planning and implementation phases, to ensure that there is strong coordination, lesson learning and complementarity with this project. During development of the CEO Endorsement request, consultations will be held with staff and experts involved in the project.</p> <p>The ADB local liaison office, backed up by regional /sub-regional offices, and working closely with national partners will take the lead in this coordination.</p>
Climate Information Services for Resilient Development in Vanuatu	SPRE P. Under i	<p>Information exchange and consultations will be held in country, at both planning and implementation phases, to ensure that there is strong coordination, lesson learning and complementarity with this project. During development of the CEO Endorsement request, consultations will be held with staff and</p>

	imple ment ation.	experts involved in the project. The ADB local liaison office, backed up by regional/sub-regional offices, and working closely with national partners will take the lead in this coordination.
Kiribati: South Tarawa Water Supply Project.	ADB. Appro ved, y et to begin.	The LDCF and GCF co-finance the same project. Strong synergy and collaboration between activities financed by the two funds will be established. The ADB local liaison office, backed up by regional headquarters, and working closely with national partners will take the lead in developing this synergy.
Solomon Islands: UWSSSP	ADB. Propo sed.	The LDCF and (proposed) GCF co-finance the same set of project activities. Strong synergy and collaboration between activities financed by the two funds will be established. The ADB local liaison office, backed up by regional headquarters, and working closely with national partners will take the lead in developing this synergy.

7. Consistency with National Priorities

Yes

Is the Program consistent with the National strategies and plans or reports and assessments under relevant conventions

The Pacific Region

In 2012, the Pacific region's leaders launched a comprehensive process to develop a strategic, regional response to climate change. This led to the adoption of the *Framework for Resilient Development in the Pacific (FRDP) - An Integrated Approach to Address Climate Change and Disaster Risk Management – 2017-2030*. FRDP provides a foundation for all action and cooperation on climate and disaster risk management in the Pacific. It commits all partners to the following three Goals:

1. Strengthened integrated adaptation and risk reduction to enhance resilience to climate change and disasters;
2. Low carbon development;
3. Strengthened disaster preparedness, response and recovery.

This proposed project contributes directly to many of the actions and sub-objectives under Goals 1 and 3.

The FRDP is premised on a recognition that resilience is *central* to development in the Pacific. It emphasizes that any successful response must be multi-dimensional and involve all sectors and all stakeholders. Further, the response must be proactive. FRDP also emphasizes the fundamental importance of infrastructure as a basis for development - and the need for it to be climate and disaster proof.

Kiribati

The Kiribati National Adaptation Program of Action (NAPA), adopted in 2007, recognized the importance of the potential impacts of climate change on Kiribati water resources, and established the need for projects to address the risks. Many of the projects have now been implemented. Subsequently, Kiribati Nationally Determined Contributions (NDC, 2015), although primarily targeting the reduction of the country's GHG emissions (and this project does respond to that), also assesses Kiribati's vulnerability to climate change, its low adaptive capacity and the need to adapt key sectors of the economy. Amongst the vulnerabilities identified in the NDC, the vulnerability of the water supply and of the groundwater lenses to climate events such as inundation and droughts was highlighted as a priority.

Further, this proposed project is fully aligned with the *Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP) 2014-2023*, especially the following strategies in the KJIP: '*Increasing water and food security with integrated and sector-specific approaches and promoting healthy and resilient ecosystems*'; '*Promoting sound and reliable infrastructure development and land management*'; and '*Promoting the use of sustainable, renewable sources of energy and energy efficiency*'.

The project is also aligned to and supportive of:

- *National Water Resources Policy, 2008;*
- *Kiribati Development Plan 2016-2019*, which commits to improving access to quality water and sanitation infrastructure; and,
- *Kiribati Integrated Energy Roadmap 2016 – 2025.*

Solomon Islands

The Solomon Islands NAPA (2008) identifies water supply and sanitation as one of five priority vulnerable areas. The NAPA recommends priority adaptation response measures in seven sectors, many of which have now been implemented. The second component of the first priority sector is Water Supply and Sanitation. This Project contributes directly to outstanding needs under that component. Subsequent to NAPA, in 2011 the Government issued the National Climate Change Policy, 2012 – 2017 (NCCP). The NCCP also identified water supply and sanitation as a priority vulnerable area and stated that water resources are likely to be seriously affected by climate change. The NCCP supports implementation of the NAPA in order to address priority concerns, including those in the urban water sector.

The Solomon Islands NDC (2015) primarily targets increasing energy efficiency to reduce the country's GHG emissions. This project will contribute to that objective by reducing the energy needed to store and distribute water and by reducing the need for boiling water prior to consumption at household levels. On the adaptation side, the NDC explicitly recognizes the vulnerability of the existing water supply situation to climate change impacts, and asserts the need for the adoption of a robust and well enforced integrated water resource management along with the development of additional sources of water to supplement the existing water sources.

This proposed project is also informed by high level development policy and plans, notably the Vision 2030 and the National Development Strategy (NDS) 2016-2035. In line with these national policy documents, the Ministry of Lands, Housing and Survey with ADB support recently completed the *Greater Honiara Urban Development Strategy and Action Plan (GHUDS)*. GHUDS identifies water supply and sanitation has a leading challenge and top priority for Greater Honiara, and identifies that this challenge will be exacerbated by climate change. To meet this challenge, GHUDS recommends the implementation of the *Solomon Water 30 Year Strategic Plan, 2017 – 2047*. This Project was specifically designed to contribute directly to the implementation of the *30 Year Strategic Plan, 2017 – 2047*.

Tuvalu

Tuvalu prepared its NAPA in 2007. The NAPA notably identified sectors vulnerable to climate change, including water resources, coastal areas, health and disaster risk. The proposed projects supports adaptation in these key sectors. In addition the NAPA identified 7 priority, urgent projects for a total value of approximately \$8.6 million. On the whole these urgent projects have been implemented.

Tuvalu's detailed approach to climate change implementation was elaborated in *Te Kaniva* (Tuvalu Climate Change Policy) in 2012. The proposed project responds to the goals, issues and strategies established in *Te Kaniva* and listed in the following table.

Goal	Key issues listed, to be addressed under this project	Strategies (from Te Kaniva and employed in this project)
1. Strengthening Adaptation Actions to Address Current and Future Vulnerabilities	<ul style="list-style-type: none"> · Lack of awareness · Water management issues · Lack of coordinated and integrated planning and implementation among responsible agencies taking into consideration the whole islands or applying ecosystems based approaches 	1.3 Integrated and coordinated water resources (including desalination) planning and management including preparedness and response plans for each island
4. Developing and Maintaining Tuvalu's Infrastructures to Withstand Climate Change Impacts, Climate Variability, Disaster Risks and Climate Change Projection	<ul style="list-style-type: none"> · Infrastructures are not built to the code provided and specifically do not consider future projections; · Lack of land use planning; · Coastal protection and road building increases coastal erosion and inundation. 	<p>4.1 Climate proof and secure key infrastructure against climate change impacts, climate variability, disaster risks and projected climate change;</p> <p>4.2 Physical planning and development control for Funafuti and the Outer Islands.</p>

Subsequently, Tuvalu developed the *National Strategic Action Plan for Climate Change and Disaster Risk Management (2012–2016)* which has the specific role of supporting implementation of *Te Kaniva*. Finally, in *Tuvalu's Second National Communication (SNC, 2015)*, seven vulnerable sectors are identified, and this project will support adaptation in the first three of these, i.e.: water resources; human health (including waste management); and coastal zones. The SNC elaborates the challenges, issues and priority adaptation measures for these sectors. The proposed project will be designed to respond to some of these required adaptation measures, possibly:

- Introduce water-saving devices;
- Developing a watershed management strategy;
- Enhancing traditional practices for water conservation and management;
- Land land-use planning and zoning;
- Adjusted building codes;
- Improved disaster mitigation strategies -including floodplain and other hazard mapping;
- Implementation of appropriate environmental policies and legislation;
- Improved waste collection services;
- Greater public awareness about the adverse environmental and health impacts of the improper disposal of wastes.

Vanuatu

The government of Vanuatu completed its NAPA in 2007. The NAPA identified 11 priorities, and this proposed project will contribute to four of these, i.e.:

- *Land use planning and management* - as improved capacity to plan and manage urban spaces is central to the proposed Project;
- *Water resource management* – as the proposed Project will notably develop the management capacity of the municipal managers, thereby indirectly contributing to water use management and increased water use efficiency;
- *Climate change and infrastructure* - the proposed Project aims to mainstream climate change considerations into urban infrastructure, particularly road and drainage network; and
- *Sustainable tourism development* - through improving the overall urban space and environment, and thereby creating the environment for improved tourism and improved urban and tourism services.

The Vanuatu Climate Change and Disaster Risk Reduction Policy (2016-2030) set out a framework through which risks are to be identified, assessed, reduced and managed. The strategic goal of this policy is '*resilient development*'. This project has been designed to support operationalization of that policy.

Vanuatu's NDC primarily targets the reduction of the country's GHG emissions. With regards to adaptation, the NDC reconfirms the priorities of the NAPA (stated above), and it emphasizes the commitment to implementing the National Climate Change and Disaster Risk Reduction Policy.

The proposed project is also aligned to and supportive of:

- The government's vision for Port Vila – i.e. that Port Vila is a safe and vibrant economic hub;
- the *National Sustainable Development Plan, 2016–2030* (Vanuatu 2030) and its vision of “*a stable, sustainable and prosperous Vanuatu*” through three strategic goals and policy objectives of society, environment and economy. These pillars respond to Vanuatu's vulnerable and fragile situation due to its risk to climate change and disasters;
- *Vanuatu Infrastructure Strategic Investment Plan (2015)*.

8. Knowledge Management

Outline the Knowledge management approach for the Program, including, if any, plans for the Program to learn from other relevant Programs and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

ADB will ensure that the knowledge and lessons generated through this project will be captured and disseminated through direct and indirect measures throughout the Pacific and to some extent more broadly in Asia and even the Indian Ocean.

Mechanisms for sharing knowledge: This project presents several opportunities for knowledge sharing, including: (i) through the Pacific Water and Wastewater Association annual conference, to which ADB has provided long-term support; (ii) through Pacific-based events such as the 2019 ADB Annual General Meeting in Fiji or the Asia Pacific Adaptation Network Forum – the 2018 meeting was held at ADB HQ; (iii) through sharing information with Pacific policy makers through ADB's knowledge MOU with the University of the South Pacific; and (iv) other ad-hoc sharing events and knowledge products via ADB's Urban, Water and Climate Change Sector and Thematic Groups. In addition, ADB shares knowledge with development partners, governments, academics, utilities and CSOs through formal and informal consultations and discussions.

Types of knowledge to be generated under this program. This program is expected to generate knowledge related to (i) integrating climate change resilience into urban planning processes; (ii) building climate change resilience into the provision of urban services on SIDS, such as water supply and sanitation; (iii) the role of renewable desalination in climate change adaptation and mitigation; (iv) the role of civil society organizations (CSOs and NGOs) in strengthening climate change resilience; (v) the role of public education facilities in creating awareness of climate change and water resource management; (vi) technology providers and their role in building water security in small island states; (vii) reducing GHG emissions through sustainable waste water treatment and management; and (viii) enhancing women's role as drivers of change in managing climate-resilient water resources.

The types of knowledge sharing platforms which will be employed include case studies, blogs, impact stories, videos, vlogs, toolkits, journal articles and others.

9. Child Program Selection Criteria

Outline the criteria used or to be used for child program selection and the contribution of each child program to program impact.

The criteria for selecting child projects are as follows:

- Climate change adaptation: The baseline project has links to climate change vulnerability and/or its performance may be negatively impacted by climate change;
- National ownership: relevance to national development and climate change priorities and stakeholders stated priorities;
- Sustainable development: relevance to socio-economic development, gender enhancement and poverty alleviation;
- Urban services: the baseline project is central to the development of sustainable urban services in the country, for example through water supply, sanitation, solid waste management and urban disaster risk management;
- Potential for collaboration with the GEF Agency program and with other key partners in the Pacific region;
- Potential co-benefits in terms of supporting transition to the low-carbon economy.

Based on the above, the following child projects were selected:

Title	Country	LDCF Financing (US\$ million)	Total Co-Financing (US\$ million)
South Tarawa Water Supply Project	Kiribati	5	58.09
Urban Water Supply and Sanitation Sector Project	Solomon Islands	5	70.85
Urban Sanitation Resilience Project	Tuvalu	5	8.8
Port Vila Integrated Urban Development Project	Vanuatu	2.5	8

Additional details of the child projects are provided in Annexes.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Mrs. Nenenteiti Teariki Ruatu	Director	Environment and Conservation Division, Ministry of Environment, Lands and Agricultural Development, Government of Kiribati	
Mr. Chanel Iroi	Undersecretary - Technical	Ministry of Environment, Climate Change, Disaster Management and Meteorology, Government of Solomon Islands	
Mr. Soseala Tinilau	Director	Department of Environment, Government of Tuvalu	
Mr. Jesse Benjamin	Director General	Ministry of Climate Change, Geo-Hazard, Meteorology, Energy and Environment, Government of the Republic of Vanuatu	

ANNEX A: LIST OF CHILD PROJECTS UNDER THE PROGRAM

Country	Project title	GEF Agency	GEF Amount (\$) to CC Focal Area	Agency Fee (\$)	Total (\$)
Kiribati	South Tarawa Water Supply Project	ADB	4,587,156	412,844	5 million
Solomon Islands	Urban Water Supply and Sanitation Sector Project	ADB	4,587,156	412,844	5 million
Tuvalu	Urban Sanitation Resilience Project	ADB	4,587,156	412,844	5 million
Vanuatu	Port Vila Integrated Urban Improvements Project	ADB	2,293,578	206,422	2.5 million

ANNEX A1: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

INTRODUCTION TO THE ADB URBAN AND WSS PROGRAM IN THE PACIFIC**a) Map Showing Location of ADB Program (Ongoing and Pipeline, as of early 2017)**



b) Approved Projects - Pacific Projects in the ADB Urban/water Sector Approved during 2011-2017

Country	Project
Fiji	Urban Water Supply and Wastewater Management Investment Program, Tranche 1 (2016)
Kiribati	South Tarawa Sanitation Improvement Sector (2011, with add'l financing in 2014 and 2016)
RMI	Ebeye Water Supply and Sanitation (2015)
Palau	Koror-Airai Sanitation (2013)
Timor-Leste	District Capitals Water Supply (2011)
Tonga	Nuku'alofa Urban Development Sector (2011, with add'l financing in 2016 and 2017)
Vanuatu	Port Vila Urban Development (2011, with add'l financing in 2016)

c) Pipeline – Tentative ADB Pipeline 2018 - 2020

Name of project	Country
South Tarawa Water Supply Project (2019)	Kiribati
Urban Water Supply and Sanitation Development Sector Project (2019)	Solomon Islands
Integrated Urban Sector Resilience Project (2019)	Tonga
Luganville Urban Development Project 2019	Vanuatu
Majuro Water and Sanitation Project (2019)	Marshall Islands
Urban Water Supply and Sanitation Project (2019)	Papua New Guinea
Kosrae and Chuuk Water Supply and Sanitation Project (2019)	Federated States of Micronesia
Port Vila Integrated Urban Improvements Project (2018)	Vanuatu
Urban Development, Koror Island (details to be determined)	Palau
District Capitals Water Supply Project (2018)	Timor Leste
Urban Water Supply Project, Phases 1 and 2 (2018 and 2020)	
Urban Sanitation Resilience Project	Tuvalu
Urban Development Project (2020)	Nauru
Water Sector Project (2020)	Cook Islands

