Climate Smart Resilient Island (CSRI) Initiative

Project Idea Note: SIDS global climate-resilient water security programme: Phase 1 climate-informed water conservation, water use efficiency and reuse

Purpose of this document: This document outlines the Phase 1 of a climate resilient water security programme for SIDS globally. It is intended to be used as a basis to further develop and finalise by project partners including Accredited Entities (AEs) and Executing Entities (EEs). Although it is writien in a Simplified Approval Proposal (SAP) Concept Note format, it is still a pre-SAP Concept Note, and is developed in this format to increase efficiencies in progressing it forward to the finalised SAP Concept Note(s).

Context of this document: This project idea is a result of country and regional accredited entitiy consultations between June 2022 and March 2024, as part of the GCF readiness support to the Maldives, implemented by GIZ. Water security and Climate Information Services were the two highest priorities for participating countries, and the proposed approach was to develop an integrated SIDS global climate-resilient water security programme. To achieve this vision, it was proposed to phase the development of the programme into two phases:

- **Phase 1:** GCF SAP(s) (depending on confirmed countries) to initiate the work and develop some of the more complex aspects of the design, such as the investment market place, financing facility, and knowledge sharing platform, as well as building capacity and pipeline readiness in all participating countries.
- **Phase 2:** one GCF Funding Proposal (FP) for the whole SIDS global climate-resilient water security programme built and developed from the combined inputs from all the Phase 1 SAPs.

Use of this document: This document has **points of action** throughout to take it forward in its development. It should also be used in combination with the CSRI SIDS global climate-resilient water security programme roadmap document as a toolkit to advance the project to implementation.

Important point to note: Many of the ideas presented in these two documents will need to be refined, defined and agreed further following the confirmation of countries and project partners. Some points within the project idea have been left deliberately vague in order to allow for the bringing in of country and partner's own exisiting project plans and priorities.

This draft has been prepared by E Co. for the National Designated Authority of Maldives, Ministry of Climate Change, Environment and Energy, as part of the GCF readiness support for the Climate Smart Resilient Islands (CSRI) Initiative, implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Simplified Approval Process
Concept Note

Project/Programme Title:	**Climate Smart Resilient Island** water security programme: Phase 1 - climate informed water conservation, water efficiency and water re-use
Country(ies):	**Countries which participated in consultations and co-development:** Dominica, Fiji, Grenada, Haiti, Kiribati, Maldives, Mauritius, Palau, Palau, Saint Lucia, Tuvalu, Vanuatu **Point of action:** Open to additional countries joining in 2024
National Designated Authority(ies) (NDA):	
Accredited Entity(ies) (AE):	**Accredited entities which participated in consultations and co-development**: Caribbean Development Bank (CDB), Micronesia Conservation Trust (MCT), Pacific Community (SPC), Secretariat of the Pacific Regional Environment Programme (SPREP)
Date of first submission:	*[YYYY-MM-DD] [V.0]*
Date of current submission:	*[YYYY-MM-DD] [V.0]*
Version:	

Eligibility for SAP is determined by the review of the concept note and the ESS screening.

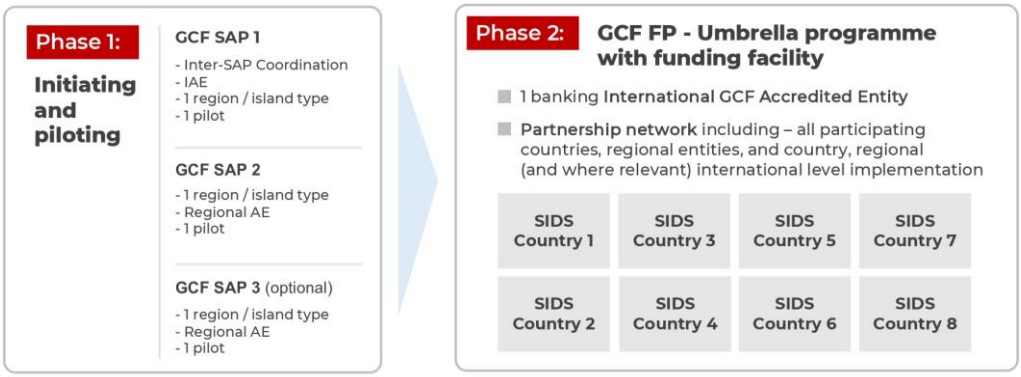
A. Project / Programme Summary (max. 1 page)					
A.1. Project or programme	☒ Project ☐ Programme	**A.2. Public or private sector**	☒ Public sector ☐ Private sector	**A.3 RFP**	Select
A.4. Indicate the result areas for the project/programme	*Check the applicable GCF result area(s) that the proposed project/programme targets. Indicate for each checked result area(s) the estimated percentage of GCF budget devoted to it. The summed up percentage should be equal to 100%.* Mitigation: Reduced emissions from: ☐ Energy access and power generation: Enter number % ☐ Low emission transport: Enter number % ☐ Buildings, cities and industries and appliances: Enter number % ☐ Forestry and land use: Enter number % Adaptation: Increased resilience of: ☒ Most vulnerable people and communities: 10 % ☒ Health and well-being, and food and water security: 70 % ☒ Infrastructure and built environment: 10 % ☒ Ecosystem and ecosystem services: 10 %				
A.5. Impact potential	A.5.1. Estimated mitigation impact (tCO2eq over project lifespan)	Enter number tCO2eq			
	A.5.2. Estimated adaptation impact (number of direct beneficiaries)	Enter number direct beneficiaries			
	A.5.3. Estimated adaptation impact (number of indirect beneficiaries)	Enter number indirect beneficiaries			
	A.5.4. Estimated adaptation impact (% of total population)	Enter number % of the country's total population			
A.6. Financing information					
A. 6.1. Indicative GCF funding requested (**max USD 25M**)	Amount: 25 million Currency: USD Financial Instrument: Grants ** Please expand the information if needed.*				
A.6.2. Indicative co-financing	Amount: Enter amount Currency: Select currency Financial Instrument: Choose an item (If other financial instrument is opted, please specify: _____) ** Please expand the information if needed.*				
A.6.3. Indicative total project cost (GCF + co-finance)	Amount: Enter amount Currency: Select currency				
A.7. Implementation period:	a) disbursement period: 5 years b) repayment period, if applicable:	**A.7.2. Total project/ programme lifespan**			
A.8. Is funding from the Project Preparation Facility needed?	☒ Yes ☐ No	**A.9. Is the Environmental and Social Safeguards Category C or I-3?**	☒ Yes ☐ No		
A.10. Provide rationale for the ESS categorization (max 100 words)	The design for this programme involves a Phase 1 of multiple SIDS SAPs that are implemented in decrete groupings but are however connected to ensure knowledge sharing and aligned development towards Phase 2. This is a precursor to a larger Phase 2 global SIDS water security umbrella programme. As such, all project activities are designed to be low risk, low hanging fruit within the water security sector in SIDS. The focus will be on stimulating the enabling environment for the larger Phase 2, as efficient and effectively as possible. Piloting activities will explore sector specific needs (one sector for each of the SAP projects), that can be addressed through water efficiency and reuse methods and technologies that are, at the lower end of the risk-spectrum. With the primay aim of demonstrating financing and practice, and developing the models for replication and scale.				

A.11. Has the CN been shared with the NDA?	☐ Yes ☒ No	**A.12. Confidentiality**	☐ Confidential ☒ Not confidential

A.13. Executing Entity information

Executing entities are still in the process of being confirmed. The following diagram outlines the multiple SAPs design as a precursor to the Phase 2 umbrella programme.

Figure 1 Phased approach of the CSRI climate-resilient water security programme



Point of action:
This project is still open to involvement of regional and country organisations for both Phase 1 and Phase 2, for both Executing the project and Implementing it.

A.14. Project/Programme rationale, objectives and approach of programme/project (max 100 words)

The goal of CSRI's SIDS global climate-resilient water security programme: Phase 1 – climate-informed water efficiency and reuse, is to build the capacity, test the financial mechanisms and projects, and develop the funding and investment platforms, knowledge sharing mechanisms and monitoring and evaluation needed for a SIDS global umbrella programme focusing on climate-resilent water security.

Water security and climate forecasting for water use management are key issues for all SIDS globally. Due to the increased intensity and unpredicitablity of weather patterns, along with sea level rise, water security is becoming increasingly a key issue for island nations. The overall CSRI umbrella Programme that will be implemented in Phase 2 will ensure that all SIDS countries' contexts are addressed specifically, and that will be build from this Phase 1 set of connected SAPs, each; 1 – building the structural coordination, knowledge sharing and financing mechanisms; 2 - piloting one sectoral water use efficiency & reuse project; 3 – building pipeline capacity for each country to design and implement their own specific project in Phase 2.

This project seeks to address capacity, governance, knowledge gaps and barriers in SIDS to pave a path forward to well managed and climate-informed water security; where the circular economy of water is strengthened and market, PPP and investment opportunities are identified, and knowledge and learning is continuously circulated between SIDS.

This first phase will operate with sector-specific SIDS country group clusters (one for each SAP, and each with their own pilot). The projects implemented within these sectoral clusters will inform the financing models and technical solutions for other islands within the second phase. Knowledge sharing between all of the clusters will be enabled by Technical Working Groups, and built from, to develop a global SIDS climate resilient water security knowledge sharing platform and funding facility and investment marketplace, and bring together investors and bankable climate-resilient water security projects.

The main components of each of the Phase 1 SAPs are:

1. **Component 1:** Intra and inter-regional coordination, knowledge management and investment market place development
2. **Component 2:** Pilot country projects
3. **Component 3:** Pipeline readiness, capacity building and awareness raising

B. Project / Programme information

B.1. Context and Baseline (500 words)

B.1.1. SIDS climate vulnerabilities and water security context

1. Small Island Developing States (SIDS) are home to approximately 65 million people and extremely vulnerable to the impacts of climate change; despite being responsible for less than 1 percent of global greenhouse gas (GHG) emissions[1]. From 1970 to 2020, SIDS lost USD$ 153 billion due to weather, climate and water-related hazards, which is considerable concidering the average GDP for SIDS is only USD 13.7 billion[2].

2. Water security is one of the greatest threats facing local communities inhabiting Small Island Developing States (SIDS). SIDS are among the most water-scarce countries in the world, with seven in ten SIDS facing risks of water shortage, including nine in ten low-lying SIDS[3]. Climate change is steadily exacerbating the strategic risk posed by water scarcity. SIDS are highly exposed the climate change imposed sea level rise, changing rainfall patterns and more frequent and severe weather events, all of which threaten to reduce the availability of freshwater resources[4][5]. Due to the geographic location of the SIDS and the significant effects of oceanic circulation systems, natural precipitation varies from one year to the next much more than in other countries[6].

3. Oceans play a fundamental role in the Earth's system. They influence our planet's weather and climate as they absorb and circulate heat, moisture, water and CO2 around the globe[7]. For SIDS, climate-resilient water security is essential to sustain life for those already vulnerable to the complications of climate change. With the change in global temperatures, this poses a threat to water safety and security. As populations continue to grow there has been a decrease in freshwater supply which means SIDS, particulary low-lying nations where communities and industrial zones concentrate near the coast, face water-scarcity at an alarming rate.

4. It has been recorded by the Global Water Security 2023 Assessment that 72% of the global SIDS population are water-insecure, this includes 4.31 billion people in the Asia-Pacific region, 1.34 billion in Africa and 415 million in the Americas[8]. SIDS are at the front line of dealing with sea level rise and storm surges, which increase saltwater intrusion into coastal aquifers contaminating ground waters. Increase variabilitity and changed precipitation patterns have lead to some SIDS experiencing more frequent droughts or longer periods without rainfall; reducing direct supply of freshwater and preventing groundwater recharge. Many island states are reliant on rainwater as the primary source of supply, and as such is sensitive to rainfall patterns and storms. Water management in such islands is in need of greater access to reliable and timely climate information to plan water use, and manage drought and flood risks. Increases in extreme weather events such as hurricanes and floods have caused damage to water infrastructure with consequences to water supply and water treatment.

B.1.2. SIDS Climate change basis

5. **Ocean warming changing weather patterns and increasing intensity.** Due to their size, remoteness and socioeconomic positions, SIDS are not only poorly equipped to deal with the increase in climate change threats, but are disproportionately affected by its damaging impacts. The climate of SIDS is influenced by substantial ocean-atmosphere synergies such as El Niño, trade winds, storms, tropical cyclones and monsoons which increases the

[1] UNDP (2022), The state of climate ambition- https://climatepromise.undp.org/sites/default/files/research_report_document/Climate%20Ambition-SIDS%20v2.pdf
[2] WMO (2020), 2020 state of Cimate Services - https://library.wmo.int/viewer/57191/download?file=1252_9-October_en.pdf&type=pdf&navigator=1
[3] UNESCO, UNEP, (2016). The United Nations World Water Development Report 2016. https://unesdoc.unesco.org/ark:/48223/pf0000243938
[4] Nurse, et al., (2014) Chapter 29: Small islands. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. 272791502_Chapter_29_Small_islands_In_Climate_Change_2014_Impacts_Adaptation_and_Vulnerability_Part_B_Regional_Aspects_Contribution_of_Working_Group_II_to_the_Fifth_Assessment_Report_of_the_Intergovernmental_Pa
[5] Oppenheimer, et al., (2019). IPCC - Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities. https://www.ipcc.ch/site/assets/uploads/sites/3/2019/11/08_SROCC_Ch04_FINAL.pdf
[6] UNFCCC (2005). Climate change: Small Isand Developing States. https://unfccc.int/resource/docs/publications/cc_sids.pdf
[7] NASA., (2023). Ocean Physics at NASA. https://science.nasa.gov/earth-science/focus-areas/climate-variability-and-change/ocean-physics/
[8] Reliefweb., (2023). Global Water Security 2023 Assessment. https://reliefweb.int/report/world/global-water-security-2023-assessment

variability and intensity of weather events. It has been recorded that over the last 20 years, 20 severe natural disasters have struck SIDS annually[9]. Climate change has been altering the natural cycle of rainfall, droughts, flooding and the melting of glaciers which in turn has caused coastal erosions, and a predicted threat of land submersion due to the rise in sea level. The warming of the world's oceans means that the climate resilience of SIDS are at threat.

Table 1: Climate rationale for addressing SIDS climate resilient water security summarised by hazard – exposure - vulnerability

Climate Hazards	Exposure	Vulnerability
• **Sea level rise and storm surges:** Coastal aquifers are contaminated with saltwater, reducing freshwater supply. • **Increased variability and changed precipitation patterns:** More frequent droughts or longer periods without rainfall reduce freshwater supply and prevent groundwater recharge. • **Extreme weather events:** Hurricanes and floods damage water infrastructure and disrupt water supply and treatment.	• **Remote location:** SIDS are highly exposed to climate change due to their **geographical location.** • **Oceanic location:** Many SIDS are found in an oceanic water body whether weather patterns can intensify readily. • **Low lying:** Of the 52 SIDS globally 35 are considered low-lying, meaning that they have an elevation of less than 5m. • **Small size:** The average size of a SIDS is 210 square kilometers (81 square miles). However, there is a wide range in size, from the smallest SIDS, Tuvalu, at only 26 square kilometers (10 square miles), to the largest SIDS, Papua New Guinea, at 462,840 square kilometers (178,704 square miles).	• SIDS are already facing **high levels of water insecurity**, making them more susceptible to the effects of climate change on water availability. • **Dependent on weather patterns for rainfall:** Many SIDS are reliant on rainwater for freshwater. • SIDS have **limited resources and infrastructure** to adapt to climate change, making them more vulnerable to its impacts. • **Lower GDP per capita than average:** The average GDP per capita for SIDS is around US$3,500, significantly lower than the global average of US$10,500

Point of action:
The following climate rationale's can be selected for each of the SAPs depending on the regional context.

Pacific Ocean

6. **Pacific Ocean Climate Trends.** Currently, the Pacific Ocean is on the path to El Niño as sea surface temperatures (SST) were over 3°C higher than usual[10]. As a result of this, storms and tsunamis are becoming more frequent and with the change in rainfall patterns, this compromises Pacific Small Island Developing States (PSIDS) water supply. During Fiji's wet season (November-April), the country is extremely exposed to tropical storms, dealing with an average temperature of 26°C to 27°C[11]. During this time, the nations' precipitation rates are between 250-400 mm of rainfall per month and 80-150 mm per month in the dry season[12]. Kiribati has a humid and tropical climate with an average temperature of 28.3°C and the highest rainfall occurs from January to March (their wet season), reaches its mean peak of 268 mm in January[13]. Whilst Palau has a mean daily air temperature of 28°C, the island has very little seasonal variability with only 0.8°C difference between its coldest and warmest months[14]. Additionally, Tuvalu has two particular seasons; its wet season arrives between November and April and its dry season begins between May to October. This seasonal cycle is influenced by the South Pacific Convergence. In its southern region, the country experiences a mean yearly rainfall of 3,400 mm, whilst the north experiences 2,900 mm[15]. Tuvalu's annual temperature can range from 25°C

[9] Akiwumi., 2022. Climate finance for SIDS is shockingly low: Why this needs to change. https://unctad.org/news/blog-climate-finance-sids-shockingly-low-why-needs-change#:~:text=SIDS%20are%20increasingly%20vulnerable%20to%20natural%20hazards&text=Over%20the%20past%20two%20decades,resulting%20from%20rising%20sea%20levels.
[10] NASA Earth Observatory., (2023). The Ocean has a fever. https://earthobservatory.nasa.gov/images/151743/the-ocean-has-a-fever#:~:text="We%20have%20an%20El%20Niño,°F)%20warmer%20than%20normal.
[11] World Bank., (2023). Fiji. https://climateknowledgeportal.worldbank.org/country/fiji/climate-data-historical
[12] World Bank., (2023). Fiji. https://climateknowledgeportal.worldbank.org/country/fiji/climate-data-historical
[13] World Bank., (2023). Kiribati. https://climateknowledgeportal.worldbank.org/country/kiribati/climate-data-historical
[14] World Bank., (2023). Palau. https://climateknowledgeportal.worldbank.org/country/palau/climate-data-historical
[15] World Bank., (2023). Tuvalu. https://climateknowledgeportal.worldbank.org/country/tuvalu/climate-data-historical

to 30°C. Lastly, Vanuatu encounters average temperatures of 21°C to 27°C but rainfall varies depending on location; in the north, where it is more wet and tropical, roughly 4,000 mm of rainfall descends whereas in the drier subtropical south, the average rainfall measures at 1,500mm[16]. The consequences of such temeratures produce storms which will ultimately affect waterways and water treatment facilities.

Since at least 1980, scientists have observed the tropical warming pattern of the Pacific as more associated with La Niña. This means that sea surface temperature (SST) is warming at a faster rate in the western Pacific Ocean than in the east. Not only that but surface winds are blowing stronger from east to west along the equatorial Pacific Ocean[17]. Since 1951, the PSIDS mean temperature over land has increased by 1.1°C and from 1993, the mean sea level has risen between 10–15 cm in the majority of the western tropical Pacific and roughly 5–10 cm in the central tropical Pacific[18]. During the strong 1997/98 El Niño event, PSIDS, in particular Palau, experienced severe drought and the increase in SST caused widespread coral bleaching and proved to be detrimental to subsistence fishing.

7. **Projected climate and impacts on water security in Pacific SIDS.** It is projected that as GHG levels continue to rise, the pattern of temperature is likely to change, meaning the east will start to warm faster than the west causing the Pacific to become more associated with El Niño. Such implications will pave the way for changes in rainfall patterns, an increase number in tropical cyclones, more frequent droughts and ultimately cause a dramtic shift in ocean biogeochemistry[19]. Further problems could arise because of a high human dependence on groudwater. Rainwater harvesting is a primary source of drinking water for SIDS, yet in Tuvalu for example, a nation that is extremely susteptible to droughts and storms, has a groudwater volume of 0.0004 x 10-9 m3[20]. Due to the El Niño-Southern Oscillation (ENSO), this will create high variability of rainfall leading to further water scarcity. Additionally, there is the potential that the western Pacific Ocean could become moister causing even stronger thunderstorms. This is clear through the projected seasonal cycle of daytime temperatures in Fiji in which between 2040-2059, April will have 27.1 hot days with a maximum temperature of 30°C[21]. Concerning Vanuatu, the GCF reports that between 2071-2100, emission scenario RCP 4.5, the annual mean temperature will increase by 1°C, annual mean precipitation levels will increase by 1%, the annual mean soil moisture levels will decrease by 7% and the annual mean water runoff will also increase by 3%[22]. This is a clear sign that the country, and other PSIDS will eventually face similar water security implications.

Caribbean Ocean

8. **Caribbean Ocean Climate trends.** The Caribbean Ocean currently has a SST of 27°C and has lower salinity levels than the Atlantic[23]. Similarly to the Pacfic Ocean, the Caribbean Oceans' greatest climate threat are hurricanes. In August 2023, the Caribbean experienced a category 4 hurricane, Idalia, which hit nations in the western region. The Caribbean Islands are vulnerable to flooding, droughts and is left at the mercy of the rise in sea levels which has already caused significant impacts in weather and climate. Dominica experiences bouts of rainfall that is distributed between its dry season of December to May and its rainy season of June to November. Due to its topography, the island is prone to landslids which has a great effect on water safety for its community members, risking contamination. The average annual rainfall can range from 1,900 mm (coast) to 5,000 mm (inland) and hurricanes coming from the Atlantic Ocean tend to appear in the summer months June and October. Dominca has an average annual temperature of 27°C[24]. In a similar vein, Haiti has a humid and warm tropical climate with a maximum daily temperature of 28°C in the winter and 33°C during the summer[25]. There wet season is long and the Plaine du Gonaïves and east Plaine du Cul-de-Sac are the driest in the region. St Lucia has a tropical climate and it experiences rainfall each month, with that being said, its wettest period falls between June and November[26]. Such precipitation derives from storms, hurricanes, and tropical waves. Finally, with Grenada's intense marine influence, its mean maximum temperature is 31.4°C while its minimum

[16] World Bank., (2023). Vanuatu. https://climateknowledgeportal.worldbank.org/country/vanuatu/climate-data-historical

[17] Lee, et al., (2023). How the pattern of trends across the tropical Pacific Ocean is critical for understanding the future climate. https://www.climate.gov/news-features/blogs/enso/how-pattern-trends-across-tropical-pacific-ocean-critical-understanding

[18] PICCM., (2021). Pacific Islands Climate Change Monitor: 2021. https://www.pacificmet.net/sites/default/files/inline-files/documents/PICC%20Monitor_2021_FINALpp_0.pdf

[19] Lee, et al., (2023). How the pattern of trends across the tropical Pacific Ocean is critical for understanding the future climate. https://www.climate.gov/news-features/blogs/enso/how-pattern-trends-across-tropical-pacific-ocean-critical-understanding

[20] Gheuens, et al., (2019). Disaster-Risk, Water Security Challenges and Strategies in Small Island Developing States (SIDS). MDPI.

[21] World Bank., (2023). Fiji. https://climateknowledgeportal.worldbank.org/country/fiji/heat-risk

[22] GCF., (2023). Climate Information. https://ssr.climateinformation.org/ssr?lat=-15.21794&lng=166.76697&scenario=rcp45&period=p4&city=Vanuatu+Nation%2C+Sanma

[23] Sea Temperature., (2023). Caribbean Sea Water Temperature. https://www.seatemperature.org/caribbean-sea

[24] World Bank., (2023). Dominca. https://climateknowledgeportal.worldbank.org/country/dominica/climate-data-historical

[25] World Bank., (2023). Haiti. https://climateknowledgeportal.worldbank.org/country/haiti/climate-data-historical

[26] World Bank., (2023). St Lucia. https://climateknowledgeportal.worldbank.org/country/st-lucia/climate-data-historical

mean temperature is 24.0°C. Its annual rainfall levels range from 750 to 1400 mm and its dry season is normally between January and May with expected rainfall to take place between June to December[27].

Between 1970–2010, disaster frequency increased by 372% in the Caribbean[28]. An accumulation of floods, typhoons, storms and droughts weakened the Caribbean SIDS resilience immensely. It was recorded that since coral mass bleaching was first observed in 1982, temperatures had been elevated by 0.3°C for nearly 70 years[29]. Concerning Grenada, for example, during the 1990s this was the driest decade since 1986, as monthly rainfall levels during its rainy season were below 14cm[30]. This indication has since caught the attention of marine scientists who have investigated the increase in ocean temperature and how this has affected water security for Caribbean SIDS. Similarly, Dominica has experienced a significant change in their averge mean surface air temperature. In 1991, the average mean temperature was 24.87°C and in 2020, this has increased to 26.40°C[31]. This proves that as the years are becoming hotter, more intense temperatures are becoming commonplace.

9. **Projected climate and impacts on water security in Caribbean SIDS.** It is estimated that the Caribbean Ocean's future SST increase will result in an uptake of intense hurricanes, as well as further damage to marine ecology such as coral reefs. For the higher emissions scenarios, in the decade of 2050, the projected SSTs may exceed 28°C across the entire Caribbean Sea, thus classifying it as a Caribbean warm pool (a mean SST that exceeds 28°C). Concerning water availability, as St Lucia's groundwater volume and rainfall are the principal sources for obtaining freshwater, it is projected that rainfall levels under RCP 4.5 will decline from 7.29mm to 4.18mm between 2040-2059 during its wettest season [32]. As the island is subjected to droughts, floods and storms, this means that communities risk water salinisation. In Haiti, for instance, the GCF has predicted that between 2071-2100, emission scenario RCP 8.5, the country's annual mean temperature will increase by 3°C, annual mean precipitation levels will fall by 15%, mean soil moisture will be reduced by 24% and the annual mean water runoff will decrease by 25%[33]. It is imperative that communitites in the Caribbean strengthen their climate resilience with a clear focus on water security because with the increase in such hydrological events, this will have particular complications on rainwater availability. The intensity of cyclones for example, could lead to more power outages, operation disruptions of water treatment plants and stronger hurricanes and coastal flooding will cause an increase in salt water contamination to freshwater sources. This will cause foreseeable health risks such as dehydration and an influx of water-borne diseases[34].

Indian Ocean

10. **Indian Ocean trends -** The Indian Ocean is currently the warmest of all the Earth's Oceans. In the warmest months, its current temperature sits around 29.6°C[35]. However, it has been noted that the western tropical Indian Ocean has been warming for over a century at a much faster rate than any other tropical ocean. It has reached the warm pool SST threshold. Mauritius has a mild tropical climate throughout the year with its summer months being from November to April and its winter months June to September. The mean temperature in Mauritius is 24.7°C in the summer and 21.0°C in the winter[36]. February is the wettest month and October is the driest. The nation experiences the most cyclones between November to mid-May. Additionally, the Maldives has an annual mean temperature of 28°C and its climate is

[27] World Bank., (2023). Grenada. https://climateknowledgeportal.worldbank.org/country/grenada/climate-data-historical#:~:text=The%20mean%20maximum%20temperature%20is,minimum%20is%2024.0%C2%B0C.
[28] Gheuens, et al., (2019). Disaster-Risk, Water Security Challenges and Strategies in Small Island Developing States (SIDS). MDPI.
[29] Bove, et al., (2022). A century of warming on Caribbean reefs. https://journals.plos.org/climate/article?id=10.1371/journal.pclm.0000002#:~:text=Tropical%20sea%20surface%20temperature%20increased,Lough%20et%20al.
[30] World Bank., (2023). Grenada. https://climateknowledgeportal.worldbank.org/country/grenada/climate-data-historical#:~:text=The%20mean%20maximum%20temperature%20is,minimum%20is%2024.0%C2%B0C.
[31] World Bank., (2023). Dominica. https://climateknowledgeportal.worldbank.org/country/dominica/trends-variability-historical
[32] World Bank., (2023). St Lucia. https://climateknowledgeportal.worldbank.org/country/trinidad-and-tobago/climate-data-projections
[33] GCF., (2023). Climate Information. https://ssr.climateinformation.org/ssr?lat=19.75938&lng=-72.19815&scenario=rcp85&period=p4&city=Haitia+Kabo%2C+Arrondissement+du+Cap-Ha%C3%AFtien%2C+D%C3%A9partement+du+Nord
[34] Anthony., (2023). Thirst for Change - A Caribbean Story of Health and Water Sustainability. https://reliefweb.int/report/world/thirst-change-caribbean-story-health-and-water-sustainability#:~:text=SIDS%20in%20the%20region%2C%20which,for%20people%20to%20access%20water.
[35] Mondal, et al., (2023) Long-Term Observations of Sea Surface Temperature Variability in the Gulf of Mannar. https://www.mdpi.com/2077-1312/11/1/102#:~:text=April%20was%20the%20warmest%20month,27.2%20to%2028%20°C.
[36] World Bank., (2023). Mauritus. https://climateknowledgeportal.worldbank.org/country/mauritius/climate-data-historical

characterised as humid and tropical, susceptible to monsoons[37]. The GCF have implemented water security projects for SIDS located in the Indian Ocean. These include FP007 Supporting vulnerable communities in Maldives to manage climate change-induced water shortages (2015-2023); FP161 Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission (IOC) Member Countries (2021-2027); and FP223 Project GAIA ("GAIA") (2023-ongoing).

From 1950 to 2015, the Indian Ocean has seen a rapid surge in temperature, with an estimated increase of 1°C. In particular, the western region of the Indian Ocean has been increasing at a much faster rate than other areas and it has since been escalating. Between 1870-2007, it had been shown that the Sea Surface Temperature (SST) along the ship track, from the Gulf of Aden through the Malacca Strait, averaged a warming of 1.4 °C[38]. Due to increased emissions and internal variability since the 1950s, this has caused over 90% of the SST shift. The Indian Ocean plays an integral role in monsoon season as this seasonal period forms the lifeline for those in the surrounding region's water availability. Monsoons bring heavy rain, damage WASH infrastructure and provoke water borne diseases. This is clear in 1994 when the intense Indian Ocean dipole was responsible for a stronger than usual monsoon which brought drought to Indonesia.

11. **Projected climate and impacts on water security in Indian Ocean SIDS.** Climate models predict an increase in Indian Ocean SST by 1.2-1.6 °C in 2040-2069 and 1.6-2.7 °C between 2070-2099[39]. With the warming of the Indian Ocean, it has the potential to alter the Asian monsoon patterns and rainfall levels dramtically. In Mauritius it is estimated that under RCP 8.5, the annual mean temperature is to rise by 2.8°C between 2071-2100[40]. However, the annual precipitation rate is projected to stay unchanged under RCP 8.5, yet the uncertainty range remains large, between an -22% to +18%. The Maldives have a similar fate as under the RCP 4.5 between 2080-2099, as temperatures are set to reach between 30.62 to 31.91 and the percentage change in precipitation rates could be between 98.09 and 110.78[41]. The effects of the increase in SSTs and the change in rainfall patterns will have on the future of water security are saltwater intrusion which will prove to be dangerous to freshwater supplies and agricultural lands for crop yield. Additionally, the rise in sea level, which could be between 5-10cm by 2030 to 2050 could double flooding prevalence, hence affecting groundwater and soil preservation of Indian Ocean SIDS[42].

Eastern Atantic Ocean

12. **Eastern Atlantic Ocean trends.** In recent years, the Eastern Atlantic Ocean has conveyed a decrease in ocean temperatures with conditions reaching 25.6°C. Over the last 60 days as of December 2023, the water temperature reached its highest of 28.2°C but it has been on a steady decline[43]. Cabo Verde has three seasons which are identified as the transition season (November to February), the dry season (March June), and the rainy season (July to October)[44]. In coastal areas, the average annual temperature is close to 25ºC. The eastern Atlantic Ocean, specifically the tropical Atlantic Basin, is prone to hurricanes and storms.

    Previously, the Atlantic ocean in its entirety did not share the SST levels as it does today. 40 years ago the northern regions' average temperature was 0.55°C, now it is 1.1°C[45]. As the Atlantic Ocean has the most shipping trade routes, scientists have been reflecting on the impacts of ship emissions regarding SST. It has been argued that sulfur emissions (SO2) in marine fuels has increased GHG levels which has effectively contributed to the change in ocean temperature, SO2 levels reached its peak in 2008 with 14.2 gtCO2 produced[46]. Furthermore, in 2003, Cape Verde and surrounding regions beared witness to a a tropical depression, a powerful category-5 hurricane (Isabel) that was activated by strong

[37] Ibid
[38] Gnanaseelan, et al., (2020). Indian Ocean Warming. https://link.springer.com/chapter/10.1007/978-981-15-4327-2_10
[39] Ibid
[40] ClimaHealth., (2021). WHO / UNFCCC Climate & Health Profile 2021. https://climahealth.info/country/mauritius/
[41] World Bank., (2023). The Maldives. https://climateknowledgeportal.worldbank.org/country/maldives/climate-data-projections
[42] IPCC., (2022). Fact Sheet- Small Islands. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ipcc.ch/report/ar6/wg2/downloads/outreach/IPCC_AR6_WGII_FactSheet_SmallIslands.pdf
[43] Sea Temperature., (2023). Cape Verde. https://seatemperature.net/country/cape-verde
[44] World Bank., (2023). Cape Verde. https://climateknowledgeportal.worldbank.org/country/cape-verde/climate-data-historical
[45] National Centre for Atmospheric Science., (2023). What's driving unusually high temperatures in the North Atlantic, Pacific, and Antarctic?. https://ncas.ac.uk/whats-driving-unusually-high-temperatures-in-the-north-atlantic-pacific-and-antarctic/
[46] Carbon Brief., (2023). Analysis: How low-sulphur shipping rules are affecting global warming. https://www.carbonbrief.org/analysis-how-low-sulphur-shipping-rules-are-affecting-global-warming/

African Easterly Waves (AEW) that came from the West African coast[47]. During that time, the Atlantic Meridional Mode (AMM) and ENSO were in neutral phases, whilst Atlantic Niña actions developed. During the years 1992, 2003 and 2008, the changes in Atlantic Niño and Niña had been connected to tropical cyclone activities[48]. However, with the rise in sea temperature, the ocean region did experience a cooling between 2016 and 2021 that interrupted the warming phase that had been present since 1990.

13. **Projected climate and impacts on water security in Eastern Atlantic SIDS.** Using ocean temperature statistics from the last 150 years, scientists have estimated that the Atlanic Ocean current, known as the Atlantic Meridional Overturning Circulation which is the most important part of heat redistribution, will collapse between 2025-2095[49]. This will cause major issues for the tropics who will see an increase in ocean temperature. According to the World Bank, it is expected that Cabo Verde will face greater water security due to the rise in daily maximum temperature, with it warmest months of August and September reaching an increase of 1.2ºC between 2041-2050[50]. In the years 2071-2100, emission scenario RCP 4.5 in Cabo Verde's capital Praia, the annual mean temperature will increase by 2ºC causing the annual mean precipitation rates to fall by 13%, a 20% decrease in annual mean levels regarding soil moisture and annual mean water runoff measurements to level off by 4%[51]. As the Atlantic El Niño and La Niña significantly influences Cabo Verde hurricanes, the overall Atlantic tropical cyclone activity is still determined by ENSO and AMM. The inter-tropical convergence zone that generates westerly wind anolomies will increase the likelihood of more intense hydrological phenomenons across the Cabo Verde Islands, and surrounding Atlantic regions. Communities in Cabo Verde and its neighbouring nations could face stronger and more intense tropical cyclones which will prove to be detrimental to water resources. As 99.3% of its territory is water, they will have strong susceptibility to flooding and water contamination whilst during the drier season, drought is expected causing implications not just on water accumulation but agricultural growth[52].

B.1.3. Alignment with national policies, strategies and plans

14. Water security is recognised as both a global SIDS issue and as a priority within individual SIDS. The Samoa Pathway explicitly notes the need for improved instituitonal and human capacities for the implementation of integrated management of water resources, notes importance of waste water and efficient use of water as priorities. See box below[53].

Samoa Pathway:

"We recognize that small island developing States face numerous challenges with respect to freshwater resources, including pollution, the overexploitation of surface, ground and coastal waters, saline intrusion, drought and water scarcity, soil erosion, water and wastewater treatment and the lack of access to sanitation and hygiene. Furthermore, changes in rainfall patterns related to climate change have regionally varying and potentially significant impacts on water supply.

In this regard, we are committed to supporting the efforts of small island developing States:
(a) To develop institutional and human capacities for the effective, inclusive and sustainable implementation of the integrated management of water resources and related ecosystems, including supporting women's engagement in water management systems;
(b) To provide and operate appropriate facilities and infrastructure for safe drinking water, sanitation, hygiene and waste management systems, including the exploration of desalination technology where economically and environmentally feasible;
(c) To facilitate the expansion of wastewater treatment, recycling and reuse in the context of the sustainable and efficient use of water resources;
(d) To improve water-use efficiency and work towards eliminating over-extraction, especially of groundwater, and to mitigate the effects of saltwater intrusion."

15. For each SIDS country there are a number of policies, plan's and strategies that align to climate-resilient water security, these are identified in the Annex A .

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[47] Kim., (2023). Increase in Cape Verde hurricanes during Atlantic Niño. https://www.nature.com/articles/s41467-023-39467-5

[48] Ibid

[49] University of Copenhagen., (2023). Chilling Forecast: Scientists Predict a Collapse of the Atlantic Ocean Current. https://scitechdaily.com/chilling-forecast-scientists-predict-a-collapse-of-the-atlantic-ocean-current/

[50] World Bank., (2023). Climate Projections. https://climateknowledgeportal.worldbank.org/country/cape-verde/climate-data-projections

[51] GCF., (2023). Climate Information. https://ssr.climateinformation.org/ssr?lat=14.9155&lng=-23.50941&scenario=rcp45&period=p4&city=Praia%2C+Ilhas+do+Sotavento

[52] UN News., (2023). Cabo Verde 'on the frontlines' of climate crisis, says Guterres ahead of Ocean Summit. https://news.un.org/en/story/2023/01/1132692

[53] UN-OHRLLS (2014). The SAMOA Pathway. https://www.un.org/ohrlls/sites/www.un.org.ohrlls/files/samoa_pathway.pdf

Point of action:
Take the relevant countries for each SAP. Update Annex A.

B.1.4. Alignment to other SIDS water security projects

16. As water security is a huge issue for SIDS globally it is not a surprise that there are many projects that are addressing these issues. That said, the water security space is wide, and this initiative seeks to ensure synergy, sustainable removal of financial barriers and support knowledge sharing of these issues, and solutions that enhance climate resilience. The Phase 2 of this initiative seeks to unlock additional financial resources so that SIDS can address water security across sectors and support climate-resilient livelihoods.

17. Exisiting projects/programmes that have synegy with this project are listed in the Annex B.

B.1.5. Barriers to SIDS for climate-resilient water security

18. Every island context, even within a SIDS nation is very different. However some of the core general barriers to water security that have been identified by the GCF, are here presented along with how this project seeks to address them in the project design.

Table 1: Barriers to climate-resilient water-secure SIDS globally

Barrier	Description	Project design feature to address
Policy & Institutional barriers		
Lack of enabling environment for institutional effectiveness	Cooperation, data, and information sharing often fall short among governmental and non-governmental entities.	Building of institutional capacity and governance as part of project activities
Reluctance to new approaches	Institutions may be reluctant to support novel sustainable technologies over traditional hard engineering grey approaches. There may be a lack of political will to implement new technologies and a lack of capacity (financial or technical) and poor governance including stakeholders' participation.	Demonstration and sharing of experience of innovation and methods across SIDS built into the major component of the project. Capacity building activities built into project activities.
Financial barriers		
Water and wastewater pricing	Water pricing is often insufficient to cover the maintenance cost and investments in new water management technologies and inefficient management of resources at the utility or water services providers. Rising operation and maintenance (O&M) costs and declining revenues resulting from inefficient water management, threaten funding sources for new infrastructures.	Demonstration of innovative technologies and methods including building in water and wastewater pricing.
Technical barriers		
Lack of appropriate infrastructure	A lack of appropriate infrastructure can impede innovation, and current infrastructure may be unable to support alternative practices. For instance, new technologies including water monitoring may require complementary technologies that may not be available or are expensive or difficult to use.	Improving of efficiency of infrastructure included in pilot projects.
Market barriers		
Market barriers to creating enabling conditions	Adopting new technologies is seldom hindered by a single market barrier. Instead, a range of local factors such as climate, demography, economic activities, level of decentralisation, energy and fiscal contexts, and market development for low carbon products and services must be considered when implementing technology transfer policies.	Where technology transfer is relevant, business models and case studies will be created as part of the project activities for sharing
Capacity, knowledge, and awareness barriers		

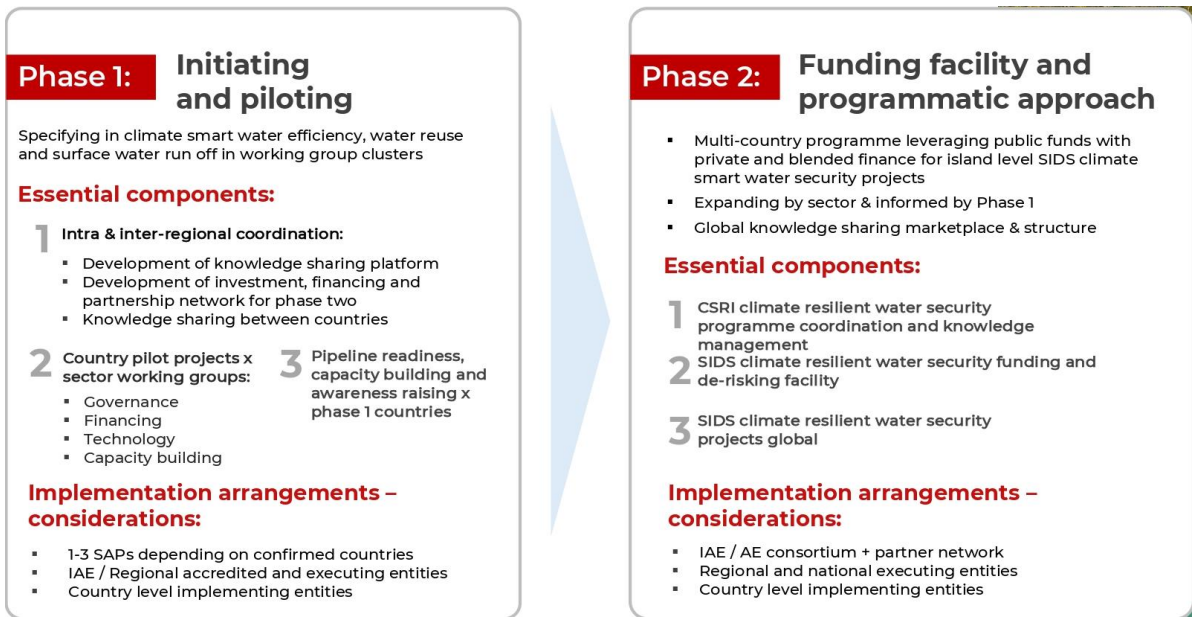
Governmental, business, and public awareness of water inefficiencies	There are many areas where water use efficiency can be improved, but awareness of them are low.	Demonstration of awareness campaigns and models to follow created as sharable knowledge products.
Social barriers		
Socially accepted practices	The water sector is sometimes perceived as less innovative, resulting in less research and development compared to other sectors. Investment decisions and the success of water security initiatives are influenced by social factors including gender, which can inhibit project viability or the sustainability of outcomes	Involvement of community groups including marginalised and women's groups in project pipelines for Phase 2.
Environmental barriers		
Lack of CIS	The water sector often lacks adequate climate information to plan, develop, and manage water sustainably to ensure that environmental limits are not reached. There is often a lack of time and funds for policy and decision-makers to be familiar with the latest environmental technologies.	Inclusion of CIS in all pilot projects, and build into capacity, governance and knowledge sharing activities including the pipeline readiness for Phase 2.

B.2. Project / Programme description (1000 words)

B.2.1. Project approach

19 The objective of CSRI programme is to improve the climate-resiliency of water security in SIDS by enhancing water conservation, water efficiency and water re-use; within this includes climate information systems, sanitation, wastewater and the preservation of freshwater resources. This objective will be achieved through a two-phase approach. Phase 1 of this CSRI SIDS climate-resilient water security project will be made up of multiple SAPs to cover regional coordination and island contexts. The number of SAPs will depend on the total number of countries and the securing of AEs and EEs. Phase 1 SAPs lead to Phase 2 umbrella programme. The design and mechanism of Phase 2 will be flexible to the developments and learnings in Phase 1. This may include a narrowing / broadening in water security focus. Figure below illustrates this.

Figure 2 Phased CSRI programme approach with components



20 Phase 1 set of SAPs have three main outcomes (that group into 3 components of activities) that are prerequisites for a global SIDS climate resilient water security umbrella programme:

- **1: Intra and inter-regional SIDS coordination, knowledge management and investment marketplace is developed and managed**
- **2: Investable climate-resilient water security projects are implemented for replication**
- **3: SIDS institutional built capacity is strengthened for a pipeline of climate-resilient water security projects**

21 To achieve these outcomes, the following components are proposed:

- **Component 1: Intra and inter-regional coordination, knowledge management and investment marketplace development.** Activities focus on developing a network and partnership globally for climate-resilient water security. These activities will be threefold: **1- Project management** – the support of personnel and the structures needed to be in place for the programme to develop and be coordinated; **2 – Financial** – developing an investment marketplace for projects and financial investors to connect; **3 – Knowledge sharing** – the exchange of information between countries, in and between SAPs, and also the Monitoring and Evaluation of the project's activities. These activities will result in an active network and global partnership where SIDS climate-resilient water security is at its centre.

- **Component 2: Country pilot projects.** Activities develop specific pilot activities that implement a different innovative aspect, (noting innovation is meant generally in approach and not just in technological advancement). CSRI invites potential partners to be creative with the potential of improving water security through climate resilient water management and sanitation services and protection of freshwater resources. This includes enhancing water governance to ensure an adequate supply of quality water that meets the diverse needs of stakeholders while mitigating risks linked to climate-related events like floods or droughts. It is envisaged that each SAP will have a different sector to pilot in. Sectors and locations for pilot activities will be identified during the implementation phase based on vulnerability assessment, and could include (but are not limited to):
  - Agriculture and food security
  - Urban areas
  - Ecosystems and ecosystem services
  - Forest and land use
  - Energy access and power generation
  - Climate Information and early warning systems
  - Health and wellbeing
  - Water supply;
  - Energy efficiency
  - Other – such as, Tourism and blue economy

- **Component 3: Pipeline readiness, capacity building and awareness raising in each country.** Activities focus on the development of pipeline readiness, capacity building and awareness raising in all involved countries. This ensure that any of the needed enabling conditions for future water security projects in Phase 2 can already be strengthened in Phase 1, alongside the development of project pipelines and the readiness for developing projects.

Point of action:
Regional or national entities are invited to come foreward with their ideas for innovative pilots within relevant SIDS sectors in a particular country that also is engaged / want to engage. These pilots must address vulnerable sectors, and ideally be project ideas that are ready to implement.

B.2.2.Description of project outputs and activities and Theory of Change

Component 1: Intra and inter-regional coordination, knowledge management and investment marketplace development

This component's objective is to ensure the knowledge sharing, coordination and development of the financing marketplace between the SAP cluster of SIDS countries. Depending on the structure the inter-regional coordination will be managed by either a central SAP, or by an international accredited entity overarching all three. The development and building of the knowledge sharing platform and structures, along with the design for the funding facility / investment marketplace for Phase 2 will be centralised in one SAP. However, each SAP project will contribute to it. This integration will be ensured by having the

same International entity on each project responsible for the corresponding activities, (whether as an accredited entity / a partner).

Output 1.1: Capacity is built for climate-resilient water security knowledge to be shared between SIDS (inter & intra regionally)

This output will be achieved through activities that coordinate between all the SIDS countries involved across all of the SAPs. That coordination will not only involve the project management of the projects, but also ensure the knowledge sharing of experience of the other SIDS countries both in the project and in their wider water security sector. It is envisaged that through these activities a coordination and knowledge sharing structure will be refined for Phase 2. As part of the coordination of Phase 1, keeping a vision on Phase 2 will be essential to the central accredited entity, and to support that a partnership group of private sector, NGOs and other knowledge partners will be continuously engaged with and communicated to on the progress of the project.

Activities contributing to knowledge sharing:

- 1.1.1: Development of sectoral Technical Working Groups, (TWGs). These groups, will bring technical experts together from each country in facilitated spaces to contribute to the pilot project and (output 2.1) and the development of their own country's pipeline readiness (output 3.1). All countries across all SAPs will be invited to be part of all the TWGs. These TWG will be continued into Phase 2 and expanded on as the number of countries grows.
- 1.1.2: Development of a SIDS climate-resilient water security knowledge management (KM) platform – including (1) Stocktaking of existing KM platforms in each region, and gap & needs assessment. This activity will propose a KM platform / structure that would be most appropriate for SIDS on the sharing of knowledge around climate resilient water security. (2) Stakeholder participatory creative process for knowledge sharing platform design and structure, integrating social and gender sensitive dimensions into interventions. (3) Full proposal for the KM platform and structures that support it, completed with budget and implementation plan. This KM platform will support the knowledge sharing of the umbrella programme of Phase 2.

Activities contributing to coordination:

- 1.1.3: Recruitment and capacity building for national, and regional, CSRI coordinators – coordinators will be trained together and instuitional project management tools will be building into the training. A shared sence of collective purpose and human connection on CSRI is envisaged through this activity. These coordinator roles are essential to the project as SIDS institutions are challenged by low numbers of personnel and availability. This position would be continued into Phase 2, where an exit strategy will be developed that enables institutional capacity to be built for the long term.
- 1.1.4: Instiutional knowledge sharing events and coordination (connecting in with Technical Working Groups). In recognition of the different layers and sectors of knowledge shaing, sharing events need to be scheduled and designed so that learnings can be continuously communicated (linked to knowledge sharing activities above).
- 1.1.5: Cross – SAP coordination. This is a project management activity, with the lead AE taking responsibility for this. It will include both the coordination between all the Executing Entities but also the steering of the partnership group that will have interests in the project for the Phase 2.

Activities contributing to continuous learning:

- 1.1.6: Monitoring & Evaluation and reporting of overall SAP and project activities. The M&E system for these project will also ensure that learning is shared between SAPs, and feed into the knowledge sharing and coordination efforts. These will be shared via the coordination activities, and in the longer term form knowledge products that can be stored on the KM platform that is developed.

Output 1.2: Funding and finance of SIDS climate resilient water projects is enabled

This output will be achieve through the engagement of the private sector and international banking organisations. It must also be recognised that not all climate-resilient water security projects in SIDS will be enabled solely through loans, equity or guarantees. A funding facility will need to be designed for Phase 2 that allows a menu of financial instruments, including grants for capacity and technical assistance, publc-private partnerships with supported credit enhancements, de-risked loans, tax incentives to contain adverse environmental impacts and even explore the potential for Water Green Bonds.

SIDS country baseline and needs activities

- 1.2.1: **Develop financing needs reports for each country:** Understand the priority and specific challenges faced by local private operators, e.g. scarcity of resources, price of the resource, growing demand, obstacles to private

investment. It first needs to be understood if it a problem of regulation, high CAPEX, lack of an attractive commercial financial solution (interest on loans too high, bank not interested, difficulty in obtaining collateral, no competent technical operators on site), or other reasons. This directly feeds into output 3.1 and the building of pipeline readiness.

- 1.2.2: **Develop market study reports for each country**: Including investment opportunities, demonstration of economic interest: highlight the long-term economic benefits (economic resilience, lower OPEX over the long term, improved efficiency of local businesses, job creation). This directly feeds into output 3.1 and the building of pipeline readiness. This directly feeds into output 3.1 and the building of pipeline readiness.
- 1.2.4: **Build on any existing climate-resilient water security Techincal Needs Assessment to propose priority climate resilent water security technology and training:** Facilitate the identification of cost-effective technologies available worldwide with feedback on operation and costs (CAPEX and OPEX). Propose training sessions for key stakeholders to set up and maintain these technologies. This directly feeds into output 3.1 and the building of pipeline readiness.
- 1.2.5: **Propose mainstream climate resilence water security governance and regulatory framework:** Best practice guide developed and made specific for each involved country, where governance and regulation is favourable to private investment in SIDS (tax incentives, government guarantees to mitigate risks, etc., national strategic plan setting national objectives). This directly feeds into output 3.1 and the building of pipeline readiness.

Private sector engagement activities

- 1.2.6: **Partnership group establishment and maintained** through continued private sector engagement. This group will be seeded prior to this project, but through the needs, market and technology recommendations there will be additional parties that should also be included. These are potential partners for country specific projects under the umbrella programme for phase 2.

Funding and derisking facility, and investment platform activities

- 1.2.7: **Sustainable financing menu and investment market place development**: With input from the baseline and needs activities the funding facility is designed with an investment marketplace to strengthen PPPs. The mechanism for investors to connect with strong climate resilient water projects would be established through this activty. With the focus of the project on water conservation, water use efficiency and water reuse (including sanitation), this activity will explore the water asset transition, where governments purchase a service not an asset, thus allowing municiplitioes and the private sectore to scale up investments. This activity will need feasilibilty studies conducted at the PPF stage to make informed recommendations, and will be informed by the results of the pilot country. The financing mechanism menu options to be evaluated include, but are not limited to:
  - Public-private partnerships
  - Derisking investments
  - Mixed financing
  - SIDS Water Green/ Blue Bonds
  - Grant funding for technical assistance and capacity building
  - Credit enhancement
  - Insurance

Component 2: Country pilot projects

The outcome of this component is to demonstrate SIDS specific best practice of climate-resilient water security (with a focus on water conservation, water use efficiency and wastewater reuse) governance, regulation, business models, and innovative (but established) technologies and methodologies.

The pilots themselves are not defined at this stage, however the process of this definition will:

- Ensure that the pilot projects are closely aligned with the specific contexts of each SIDS. Consider factors such as local culture, socioeconomic conditions, and environmental characteristics.
- Ensure that the pilot project concerns a non-marginal sector of water efficiency and water reuse.
- Strengthen stakeholder engagement throughout the pilot project cycle. Involve local communities, governments, non-governmental organizations, and private sector stakeholders.
- Conduct a thorough risk and feasibility analysis for each pilot project. Identify potential challenges and risks associated with the proposed innovations and develop strategies to mitigate them.
- Ensure strong coordination and synergy between Component 1 (inter-regional coordination, knowledge management, and investment marketplace) and Component 2. The insights gained from the knowledge-sharing platform can inform the design and implementation of country pipelines.

- Develop effective mechanisms for sharing lessons learned and best practices between pilot countries. Encourage cross-country collaboration to leverage insights gained from each project, promoting a shared learning environment.
- The feasibility studies during the PPF stage will support in idenfication of project location and prioritse the potential financial mechanisms and PPP to support implementation.

Output 2.1: Strengthened climate resilient water security enabling environment in pilot country

This output will be achieved by activities that strengthen the pilot country's governance and builds capacity around the specific pilot project. As this whole component is dependent on the pilot proposal from country and regional AE, the exact activities will be refined at a later point. However the for each there will be a set of activities devoted to strengthening the enabling environment in that particular country.

- 2.1.1: **Policy and regulatory frameworks mainstreamed** for effective climate resilient water security through water conservation, water use efficience and water reuse, and investment environment in the particular sector of the project.
- 2.1.2: **Capacity within the pilot country for climate-resilient water security piloted innovation built**. This will be defined on confirmation of the regional AEs and countries.
- 2.1.3**: Lessons learned and cases studes developed and distributed.** All results and learning from this pilot will be recorded to support other SIDS projects in Phase 2. This communication will take place via the structures that establish within Component 1, so that pipelines n development in component 3 can also replicate or learn from examples.

Output 2.2: Implementation of sectoral-focus climate-resilient water security in pilot country

This output will be achieved by activities that demonstrate technology and finance models for a specific sectors. As this whole component is dependent on the pilot proposal from country and regional AE, the exact activities will be refined at that later point. However the for each there will be a set of activities devoted to demonstrating technology and financing methods.

- 2.2.1: **Appropriate innovative technology / method within the sectoral context inclusive of financing model demonstrated.** Pilot projects explicitly incorporate considerations for climate resilience. Given the vulnerability of SIDS to climate change impacts, the proposed solutions should be resilient to future climate-related water challenges. The selection of technology / method and the specific project location will be developed through the PPF stage through a climate risk assessment based on the IPCC framework and sectoral specific eligability criteria. This may not be needed if the pilot project has already been select through such a method. For eachh SAP a different sector will be targeted with the potential for replication to other SIDS. The development of the project will ensure inclusivity and a broad spectrum of stakeholders are included, including marginalised groups.
- 2.2.2: **Modeled business cases developed for knowledge sharing produced**. Financing mechanism and business cases will be reported on, evaluated and lessons learned will be communicated to all partners and countries participating in the project. This communication will take place via the structures that establish within Component 1, so that pipelines in development in component 3 can also replicate or learn from examples.

Point of action:
Pilot project proposals invited from regional and country entities. Low hanging fruit climate-resilient water security projects that are perhaps already in a stage of development and target water conservation, water efficiency use and water reuse.

Component 3: Pipeline readiness, capacity building and awareness raising in each country

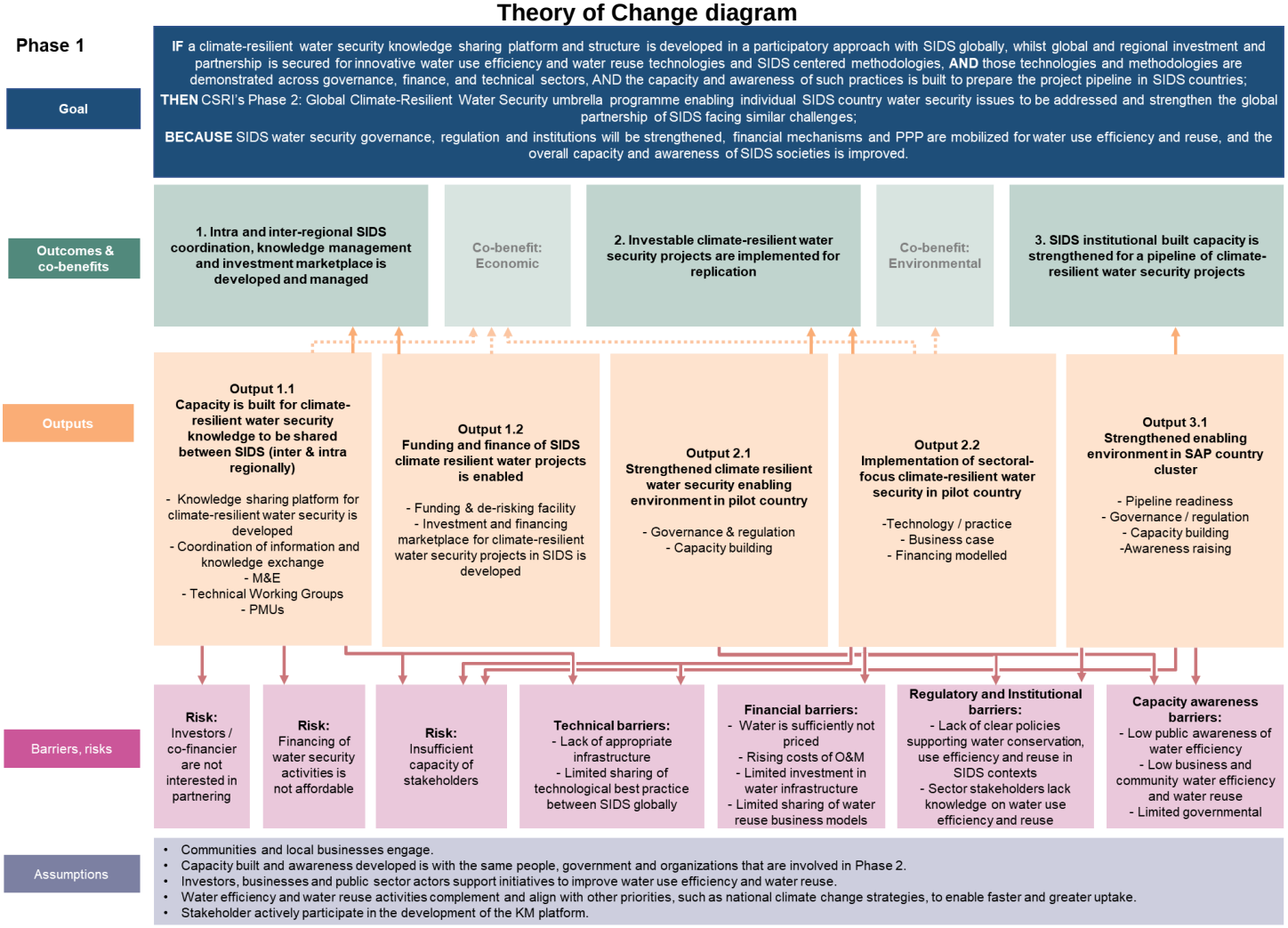
The outcome of this component is to build pipeline readiness, and capacity in each of the involved countries and support climate-resilient water security awareness raising activities that focus on water efficiency and wastewater reuse, to act as a precursor to the full country level project that will be implemented in Phase 2.

Output 3.1: Strengthened enabling environment in SAP country cluster

- 3.1.1**: Pipeline readiness for Phase 2 established in each of the Phase 1 participating country.** Stakeholder lead identification of gaps and barriers to each SIDS climate-resilient water security and sanitation management, in particular wastewater reuse and protection of freshwater resources. Decision-making processes established to build trust and evaluate actions and sectors, based on a set of criteria that prioritize those with an impact on water resources and a positive social impact.

- 3.1.2: **Institutional capacity building for project planning developed through tools and training**. Following a gap analysis of institutional capacity in each of the participating SIDS country, training and the development of institutional capacity building tools and resources will be undertaken with key stakeholder groups involved in climate resilient water security projects. Any tools and training developed will be shared through the knowledge sharing work of component 1, and stored for the future within the KM platform that is developed.
- 3.3.1: **Awareness is raised in each participating SIDS country of the climate resilient water security issue identified relating to water and sanitation management.** Gap analysis of water and sanitation management, and opportunities for climate-resilient water reuse and protection of freshwater resources, awareness raising materials needed in each SIDS country. Any awareness-raising strategy that is developed should be country-specific and culturally appropriate.

Theory of Change diagram



B.2.3. Selection and justification of project location

Please explain why this project or programme is ready for scaling up and has the potential for transformation. Has it been piloted in the country or region? Are the proposed interventions well documented for their costs and benefits?

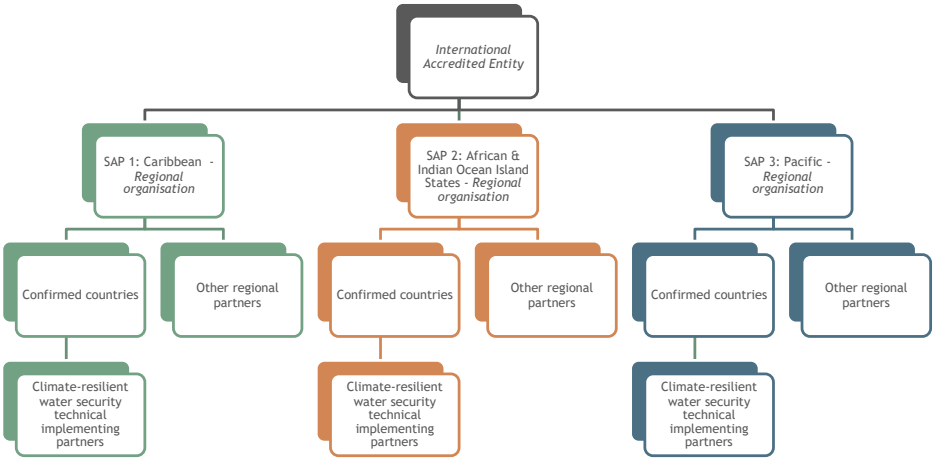
Point of action:
Piloted activities need to be proposed by the regional / executing entity in alignment with country NDA. The most ready to implement are proposed as the initial piloting countries. The selection of project sites, will be based on a prioritisation exercise including: Climate hazards, vulnerability, exposure, application of water use efficiency and reuse methods and include eligibility criteria such as the readiness of the area and peace and order. Any pilot project must match the needs of the project location and be a model for scaling up and replication. Stakeholder consultation in project sites, by respected and known local experts, shall drive and refine the pilots' design.

B.2.4. Implementation arrangements

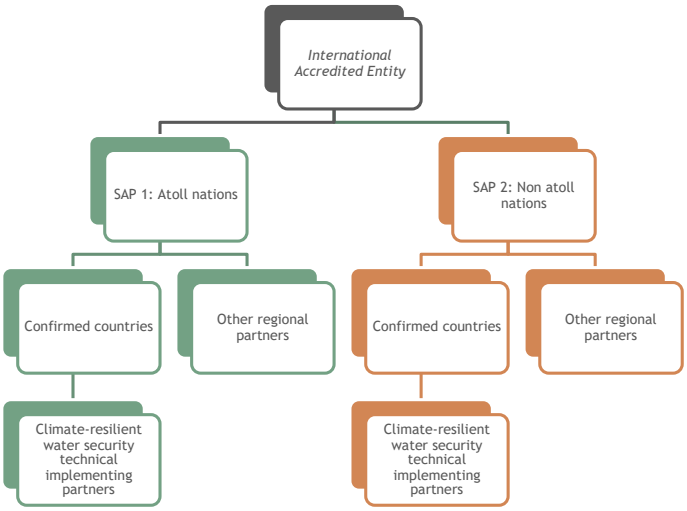
22. Implementation arrngements will depend on the total number of countries, regions, and the securing of AEs and EEs. The coordination of these multiple SAPS in Phase 1 of the CSRI climate-resilient water security programme is still under discussion. Regional and international AEs are invited to come forward formally to be part of one or more of these SAPs. The following explores some of the possible institutional structures. However there is still a degree of flexibility in the structural design depending on the parties involved.

Point of action:
Accredited entity(ies) are invited to come foreward to take on this project. Section here to be completed after ownership of the piloting country and specific sector of work is confirmed. Use the following headers to complete statements on each.

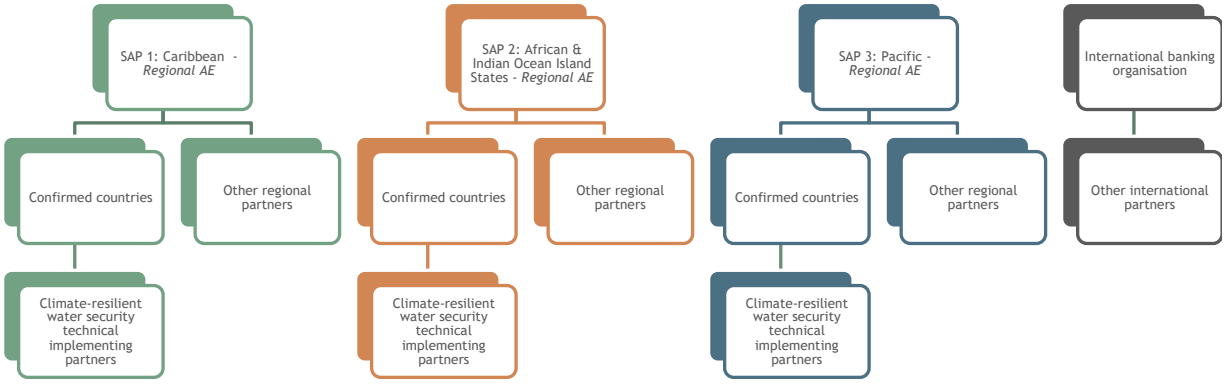
- **Option 1:** One international AE coordinates three SAPs with three regional organisations as executing entities. This model will work most effectively for implementation and overall coordination, as illustrated in the figure below:



- **Option 2:** One international AE coordinates two SAPs focusing on atoll and non-atoll SIDS. This design will work should there be 8 or less counties with an even distribution of SIDS island types, illustrated in the following figure. This model will work well for ensuring inter-regional collaboration.



- **Option 3:** Three regional AEs and one international banking organisation. In this model the three SAPs are managed by three separate regional AEs. It would be important that an international banking organisation is involved in all as a project partner to ensure linkage of the development of the components for Phase 2, which in theory they would then acts as the AE for.



B.2.5. Key implementation risks and mitigation measures

23. The following table describes the key risks and mitigation measures.

Type of risk	Risk description	Risk mitigation measures
Political risk	Due to fragmented global water governance frameworks, this hinders SIDS access to resources and technologies needed for proper water management. This may lead to resource competition both within and between SIDS.[54] Probability: High Impact: High	To mitigate such a risk, it would be important for SIDS government institutons to strengthen and establish a clear water security framework, making it more robust and inclusive as well as investing in technology needed to improve water security practices.
Financial risk	Due to liability burdens, many SIDS are facing high levels of debt which prevents their ability to invest in water infrastructure needed for efficient water use. This would leave them fincancially exposed to water-related disasters such as floods and droughts. [55] Probability: High Impact: High	To cope with this, it would be beneficial to combining both public and private sector investments to unlock additional resources for water use and resuse projects in SIDS. The international community including well-credited organisations such as the GCF and GEF, as well as more regional organisations like CCCCC and SPC, can help carry the financial burden.
Environmen-tal & social risk	Due to deforestation and land degradation, soil erosion and runoffs are increased. This could lead to further contamination of water infiltration and groudwater recharge, corrupting the flow of safe water resources.[56]	Envrionmentally, it is important to develop a sustainable land management action plan, focusing on reforestation, water and soil conservation, and how to protect current water resources. This would promote community

[54] Gheuens J et al., 2019. Disaster-Risk, Water Security Challenges and Strategies in Small Island Developing States (SIDS) in Water, 11(4). https://doi.org/10.3390/w11040637
[55] UN. 2022. Financing Climate Action in Small Island Developing States (SIDS): Challenges and Opportunities: https://www.un.org/ohrlls/sids%20climate%20financing%20report%202022
[56] UNESCO. 2023. UN World Water Development Report.

	Probability: High Impact: High Relating to social risks, due to a lack of understanding and education specifically around water conservation, this limits the enhancement of sustainable practices to cope with the threats to water security. Water security will continue to be pushed aside, exacerbating insufficient water security efforts, in leiu, working and learning to increase resilience.[57] Probability: Medium Impact: Medium	engagement leading to both sustaibale land and water use. Socially, such measures would include capacity building to encourage more responsible water management. This would mitigate the risks posed by not being fully equip theoretically to cope with the damages to water use.
Operational risk	Due to fragile and debilitated infrastructure and limited access to advanced technologies, SIDS do not have the most adaptable water-saving irrigation systems put in place. This will lead to significant water loss and unreliable water access.[58] Probability: Medium Impact: High	It is vital that SIDS invest in climate resilient infrastructure by upgrading its water systems with leak detection and repair technologies, and investing in renewable energy for water treatment to improve efficiency and resilience.
Reputational and sustainability risk	Focusing on reputational risks posed to SIDS, the islands have faced negative media coverage concerning the mismanagement of water resources and efficient water use. It is obvious to state that SIDS are the frontrunners of climate change impacts and due to their insufficient water use applications, this will invite scrutiny and unwanted attention to already struggling nations who do not have the resources to adapt to their water challenges. [59] Probability: Medium Impact: Medium In relation to sustainability risks, there has been an overexploitation of resources for tourism purposes. This includes excessive groundwater extraction and unstainable water withdrawals. This will enhance the depletion of water resources for SIDS local inhabitants and harm long-term sustainability of the islands.[60] Probability: High Impact: High	From a reputation standpoint, it would be necessary for SIDS to continue openly communicating their water challenges to deflect any media scrunity that they face. By doing this, their helplessness is made clear which pushes the need for significant climate assistance, which they desperately need. Such mitigation measures to counteract the sustainability risks would be to prioritise sustainable water management through promoting responsible tourism in SIDS. This could encourage partnership with other SIDS and international organizations to share best tourism practices and solutions to address water challenges.

Point of action:
On finalisation of countries and pilot project selection the following table can be completed to concider the more specific risks and mitigation measures

Type of risk	Risk description	Risk mitigation measures
Political risk	Due to fragmented global water governance frameworks, this hinders SIDS access to resources and technologies needed for proper water management. This may lead	To mitigate such a risk, it would be important for SIDS government institutons to strengthen and establish a clear water security framework, making it more robust and inclusive as well as investing in technology needed to improve water security practices.

[57] UNCTAD. 2022. Aligning economic development and water policies in small island developing States
[58] UNESCO. 2023. UN World Water Development Report.
[59] UNWTO. 2023. Global Report on Tourism and Climate Change 2023
[60] UN Department of Econoic and Social Affairs. 2023. The SIDS Sustainable Development Strategy: Pathway to achieving the Sustainable Development Goals

	to resource competition both within and between SIDS.[61] Probability: High Impact: High	
Financial risk	Due to liability burdens, many SIDS are facing high levels of debt which prevents their ability to invest in water infrastructure needed for efficient water use. This would leave them fincancially exposed to water-related disasters such as floods and droughts. [62] Probability: High Impact: High	To cope with this, it would be beneficial to combining both public and private sector investments to unlock additional resources for water use and resuse projects in SIDS. The international community including well-credited organisations such as the GCF and GEF, as well as more regional organisations like CCCCC and SPC, can help carry the financial burden.
Environmen-tal & social risk	Due to deforestation and land degradation, this enhances soil erosion and runoffs. This could lead to further water infiltration and groudwater recharge, corrupting the flow of safe water resources.[63] Probability: High Impact: High Relating to social risks, due to a lack of understanding and education specifically around water conservation, this limits the enhancement of sustainable practices to cope with the threats to water security. Water security will continue to be pushed aside, exacerbating insufficient water security efforts, in leiu, working and learning to increase resilience.[64] Probability: Medium Impact: Medium	Envrionmentally, it is important to develop a sustainable land management action plan, focusing on reforestation, water and soil conservation, and how to protect current water resources. This would promote community engagement leading to both sustaibale land and water use. Socially, such measures would include capacity building to encourage more responsible water management. This would mitigate the risks posed by not being fully equip theoretically to cope with the damages to water use.
Operational risk	Due to fragile and debilitated infrastructure and limited access to advanced technologies, SIDS do not have the most adaptable water-saving irrigation systems put in place. This will lead to significant water loss and unreliable water access.[65] Probability: Medium Impact: High	It is vital that SIDS invest in climate resilient infrastructure by upgrading its water systems with leak detection and repair technologies, and investing in renewable energy for water treatment to improve efficiency and resilience.
Reputational and sustainabilit y risk	Focusing on reputational risks posed to SIDS, the islands have faced negative media coverage concerning the mismanagement of water resources and efficient water use. It is obvious to state that SIDS are the frontrunners of climate change impacts and due to their insufficient water use applications, this will invite scrutiny and unwanted attention to already struggling nations who do not have the resources to adapt to their water challenges. [66]	From a reputation standpoint, it would be necessary for SIDS to continue openly communicating their water challenges to deflect any media scrunity that they face. By doing this, their helplessness is made clear which pushes the need for significant climate assistance, which they desperately need. Such mitigation measures to counteract the sustainability risks would be to prioritise sustainable water management through promoting responsible tourism in SIDS. This could encourage partnership with other SIDS and international organizations to

[61] Gheuens J et al., 2019. Disaster-Risk, Water Security Challenges and Strategies in Small Island Developing States (SIDS) in Water, 11(4). https://doi.org/10.3390/w11040637
[62] UN. 2022. Financing Climate Action in Small Island Developing States (SIDS): Challenges and Opportunities: https://www.un.org/ohrlls/sids%20climate%20financing%20report%202022
[63] UNESCO. 2023. UN World Water Development Report.
[64] UNCTAD. 2022. Aligning economic development and water policies in small island developing States
[65] UNESCO. 2023. UN World Water Development Report.
[66] UNWTO. 2023. Global Report on Tourism and Climate Change 2023

	Probability: Medium Impact: Medium In relation to sustainability risks, there has been an overexploitation of resources for tourism purposes. This includes excessive groundwater extraction and unstainable water withdrawals. This will enhance the depletion of water resources for SIDS local inhabitants and harm long-term sustainability of the islands.[67] Probability: High Impact: High	share best tourism practices and solutions to address water challenges.

B.2.6. Monitoring and Evaluation

- Each SAP will have its own M&E process for the project overall, but also each of the pilot projects. It will be essential for Phase 2 that Phase 1's pilot's have both a way of evaluating their impact and effectiveness for scale and replication at the end, but also over the duration of the project so that regular feedback can improve the pilot over its duration.
- Accredited Entities will be responsible for conducting the overall SAP M&E, interim and final reporting.
- Country level CSRI representatives along with the project partners at a country level will be responsible for the ongoing M&E and feedback processes .
- Building capacity for M&E for Phase 2, will be essential as part of the CSRI coordinator training, and built instituitional capacity of the implementing partners, (both those involved in pilots and those building pipeline readiness).

Point of action:
To update with consultation of the implementation partners

B.3.Expected performance against the GCF investment criteria (500 words)[68]

Point of action:
To update with consultation of the implementation partners

B.3.1. Impact potential

19. **Overall impact potential:** This is a climate adaptation project benefiting SIDS, vulnerable people, communities and livelihoods by improving water security and climate preparedness. The first phase will be primarily focusing on the enabling environment of the participating countries. In addition to these primary climate goals, the programme will also indirectly support existing efforts towards food security (such as the availability of water for irrigation), health (clean and available water), biodiversity (protection of freshwater resources and their ecosystems) and the well-being of populations vulnerable to the effects of climate change (such as isolated, disadvantaged populations, and children).

20. **Alignment to the GCF strategic plan[69]:** This project has the potential to contribute well to the GCF's updated strategic plan, with its focus on SIDS countries, contributing in the following ways:
    - **1 – Developing countries:** Componet 3 directly develops pipeline and pipeline readiness in all participating countries, which is currently estimated at 13.

[67] UN Department of Econoic and Social Affairs. 2023. The SIDS Sustainable Development Strategy: Pathway to achieving the Sustainable Development Goals
[68] For more information please refer to Annex XIV of document GCF/B.07/11
[69] https://www.greenclimate.fund/sites/default/files/document/strategic-plan-gcf-2024-2027.pdf

- **2 – DAESs:** Although DAEs are not involved in Phase 1 as the accredited entity, they would be included in the partnership group for the development of project pipeline and pipeline readiness activities that build toward Phase 2 umbrella programme.
- **3 – CIEWS**: Although this is not directly a CIEWS project, climate-resilient water security involved climate preparedness, and for that the use of CIS in descision making is essential. It is envisage that some of the work of this project and long term project will both build the capacity and strengthen the enabling environment of countries for CIEWS, as well as in some projects integrate the CIS with water and sanitation management.
- **4 – Food:** The agriculture sector and food security is dependent on water security. It is envisaged that agriculture will be one of the sectors this project works in.
- **5 – Ecosystems:** Wastewater is a key focus for this project, whether from agriculture, industry, tourism or delsalination process, ecosystems are degraded and negatively impacted from poorly managed systems. A climate resilient system utilised the water more effectively so that ecosystems do not suffer the consequences.
- **6 – Infrastructure:** Climate resilient water infrastructure that is more efficient and efficective for island communities will be one of the potential financing pathways.

Direct beneficiaries

21. This phase 1 will benefit SIDS governments, local governments, and institutions related to water supply, sanitation services and waste water management, as well as local communities where awareness campaigns will be run. In the pilot project areas the organisations that are involved as well as local community members will benefit.

Indirect beneifciaries

22. Indirectly the communities that are connected to the people and organisations who receive the information, or training and built capacity will benefit from the project.

B.3.2. Paradigm shift potential

Scalability

23. Phase 2 will scale up and extend the practices already initiated to other SIDS. It will necessitate the expansion and strengthening of the knowledge sharing platform and inter-regional institutional knowledge exchange. This will be extended to other SIDS through a designated financing and de-risking facility and umbrella programme. This is critical to Phase 2, enabling financing for a broader range of SIDS-specific climate-resilient, water security aspects.

Replication

24. The design of this two phased CSRI project initiative is to support replication of SIDS specific technologies and practices as well as the enabling environment for them to flourish. It is envisaged that through the production of knowldege sharing products and supported instituitional learning platforms, coupled with support to develop projects, that the projects piloted in this phase 1, will be replicated in phase 2.

Sustainability

25. Both the SIDS climate-resilient water security funding facility, and global SIDS knowledge sharing platform will be designed for long term sustainability. The funding facility will be designed so that there are structures in place to ensure the funds are replenished and managed for the long term. The Knowledge Sharing Platform will be managed in the long term by CSRI at the point it establishes itself as a formal entity.

It furthermore strengthens all four enabling environments for a paradigm shift at GCF outcome level as defined in its IRMF:

Strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways

26. Strengthening institutional and regulatory frameworks is part of the activities under Component 3 of the phase 1 activities, for all involved countries, as a precusor to the project implementation in phase 2.

Technology deployment, dissemination, development or transfer and innovation

27. The pilot projects of Component 2 will demonstrate sustainable water and sanitation technologies for scaling up and replication in Phase 2. In addition, exisiting tried and tested water and sanitation technologies will be case studied, and knowledge sharing events will be designed as part of sharing knowledge of technologies that could potentially be applied in different country contexts. Any technology deployed, disseminated or developed will be driven and supported by the community, with full environmental and social safeguards established.

Market development/transformation at the sectoral, local, or national level

28. The pilot projects of Component 2, will demonstrate business models, and in combination with the PPP and investment work of Component 1, seeks to develop the market of the circular economy of water within island nations. The exploration and development of Water Green Bonds, has the potential to unlock and leverage consideratble finance for SIDS globally specifically to address pressing needs of climate-resilient water security.

Knowledge generation and learning processes, and the use of good practices, methodologies and standards

29. One of the key pillars of this whole initative is knowledge generation and sharing of experience inter-regionally between SIDS. It is envisaged that the knowledge sharing platform and market place for SIDS specific CIS and water security information, technology, practices etc, will be developed in Phase 1, for Phase 2 implementation, and then will last into the long term

B.3.3. Sustainable development

Economic, environmental and social co-benefits

30. The paradigm shift that these projects strive to address would ultimately result in increased economic opportunities via the envisaged involvement of the private sector in the projects. Community driven initiatives that result in economic and social benefits will also be prioritised in the development of project pipelines for the second phase. Finally environmentally, addressing water security through enhancing the circular economy of it as a resourse will result in a reduction of waste-water being released into the marine and coastal environment.

Gender-sensitive development impact

31. It is essential in the development of project pipelines integrate social and gender sensitive dimensions into water project interventions. Ideally proposed projects that are being developed at a community level or local governmental level, will bring gender-transformational approaches to addressing water security at a SIDS island level. Water collection, in some communities, can sometimes fall upon the female of the household, and thus addressing water security can also reduce the burden of women.

Sustainable Development Goals

32. **This project contributes to the following Sustainable Development Goals:** SDG 2 Zero hunger, SDG 3 Good Health & Well-being, SDG 5 Gender Equality, SDG 6 Clean Water and Sanitation, SDG 9 – Industry, Innovation and Infrstructure, SDG 13 Climate Action, SDG 14 Life below water and SDG 15 Life on land.

B.3.4. Needs of SIDS

Economic and social needs

33. Many SIDS have economies heavily dependent on a few sectors, such as tourism or agriculture. Economic diversification is vital to improve adaptive capacity to external changes. Developing new industries, improving education and skills and fostering innovation are key. This project aims to both build sectoral strengths in water efficiency and resuse for agriculture and tourism, but also innovate for additional sectors such as the water sector itself, and other industries. In addition, SIDS often require climate-resilient infrastructure to support economic development, social well-being and disaster resilience. One aspect of water security that must be addressed to improve water efficiency is the infrastructure itself. Developing project that innovatively address water infrastructure efficiency needs in turn strengthens any economic activities dependant on it.

Institutional needs

34. Strengthening governance structures is essential for effective policy implementation and sustainable development, including issues related to corruption, improving public administration and promoting good governance. This project seeks to address this through activies impeded in both component 2 – the pilot projects and component 3 – the building pipeline readiness.

B.3.5. Country ownership

Ownership / stakeholder consultations

35. Ownership of this project is a layered approach; international, regional, national and community. Through engaging at all levels the project can ensure global knowledge sharing and international finacing leverage at an international level; cooherance and synergy with regional and national projects, programme and initiatives; and develop projects from a community level.
36. The development of the project's focus has been driven by countries' prioritisation and with integration of country needs and gaps in the water-security sector.
37. The vision of the umbrella programme will be for projects to be identified from a community level and local government level, ensuring full participation of the broad range of stakeholder's perspectives on project design.

Complementarity and coherence

38. Although there are many additional projects across SIDS addressing water security, the sector is so large, that there is still much space to fill with complementary projects. Through involving regional entities as well as countries the awareness and connection to synergetic projects will be fostered. In this Phase 1, the focus on improving the use and protection of exisiting freshwater resources and wastewater reuse ensures that the best is done with what is available, before the second stage potentially expands to include the access of additional water resourses through innovative technologies or other methods.
39. All projects developed as part of the pipeline, or implemented as pilot projects will have full evaluation of their complementarity and coherence with national, regional and international plans, strategies and projects.

B.3.6. Efficiency and effectiveness

Cost-effectiveness

40. Until the budget and pricing has been calculated, cost effectiveness can not be commented on fully.

Leveraging and co-financing

41. Through gathering SIDS globally the CSRI climate-resilient water security programme has the potential to mobilise a considerable additional financing through the development of a SIDS specific marketplace to host projects and investors, and even explore Water Green Bonds.

B.4 Stakeholders consultation and engagement (300 words)

B.4.1. Stakeholder process

42. The CSRI multi-country project design process has involved SIDS from the beginning, with bilateral calls established with those SIDS initially signing up for the CSRI Initiative in 2019. A short list of multi-country ideas developed from these calls was prioritised in a CSRI workshop at Bonn in June 2023, and a stakeholder panel established to develop the prioritised ideas. This panel of 14 countries across all the regions was then invited to participate in an online workshop and a questionnaire in October 2023. The input and responces from this has resulted in the current proposal.
43. CSRI invites involvement of other countries to join in either Phase 1 / 2 of this project and programme, and ultimately strives for the inter-regional knowledge sharing, connectivity and SIDS accessibility to finance is strengthened through the project's activities.

C. Indicative financing information (max. 2 pages)

C.1. Financing by components

Point of action:
To update with consultation of the implementation partners. Targetting the full USD 25 million grant for each SAP proposal.

Component	Output	Indicative cost (USD)	GCF financing		Co-financing			
			Amount (USD)	Financial Instrument	Type	Amount (USD)	Financial Instrument	Name of Institutions
Intra and inter-regional SIDS coordination,	**Capacity is built for climate-**	Enter amount	2.5 million	Choose an item.	Choose an item.	Enter amount	Choose an item.	Click here to enter text.

knowledge management and investment marketplace	**resilient water security knowledge to be shared between SIDS**							
	Funding and finance of SIDS climate resilient water projects is enabled	Enter amount	2.5 million	Choose an item.	Choose an item.	Enter amount	Choose an item.	Click here to enter text.
Pilot country project	**Strengthened climate resilient water security enabling environment in pilot country**	Enter amount	2.5 million	Choose an item.	Choose an item.	Enter amount	Choose an item.	Click here to enter text.
	Implementation of sectoral-focus climate-resilient water security in pilot country	Enter amount	7.5 million	Choose an item.	Choose an item.	Enter amount	Choose an item.	Click here to enter text.
SIDS institutional built capacity, pipeline readiness & awareness	**Strengthened enabling environment in SAP country cluster**	Enter amount	10 million	Choose an item.	Choose an item.	Enter amount	Choose an item.	Click here to enter text.
Indicative total cost (USD)		Enter amount	25 million		Enter amount			

For private sector proposal, provide an overview (diagram) of the proposed financing structure.

C.2. Justification of GCF Funding Request (300 words)

44. This programme will overcome critical barriers to strengthen the climate resilience of water security of the most vulner able SIDS population. Mobilisation of GCF funds is essential in catalysing a shift in financing and information flows to SIDS forclimate-resilient water security.

C.3. Exit Strategy and Sustainability (300 words)

45. The long term vision for this project, and onward to greater programme is to be sustained through to the long term with the eventual establishment of the Climate Smart Resilient Island Iniative as an entity. This entitiy is envisaged to have both knowledge sharing, and project development purposes. This project is the seed idea from which any organisation can grow around, and even develop additional sectors of focus for the global SIDS context.

Point of action:
To update with consultation of the implementation partners

Annexes

- ☐ ESS screening check list (Annex 1)
- ☐ Map indicating the location of the project/programme (as applicable)
- ☐ Evaluation Report of previous project (as applicable)

Annex 1: Environmental and Social Screening Checklist[70]

Part A: Risk Factors

Point of action:
To update with consultation of the implementation partners

Please indicate your answers to the questions below and provide an explanation on the response selected. In cases when the TBD response has been selected please explain briefly why you are not able to determine now and when in the project cycle the question will be addressed.

If the criteria is not applicable to the project you may write N/A in the justification box.

Risk Factors	YES	NO
Will the activities involve associated facilities and require further due diligence of such associated facilities?	☐	☐
Please provide a justification of your answer:		
Will the activities involve trans-boundary impacts including those that would require further due diligence and notification to affected states?	☐	☐
Please provide a justification of your answer:		
Will the activities adversely affect working conditions and health and safety of workers or potentially employ vulnerable categories of workers including women and children?	☐	☐
Please provide a justification of your answer:		
Will the activities potentially generate hazardous waste and pollutants including pesticides and contaminate lands that would require further studies on management, minimization and control and compliance to the country and applicable international environmental quality standards?	☐	☐
Please provide a justification of your answer:		
Will the activities involve the construction, maintenance, and rehabilitation of critical infrastructure (like dams, water impoundments, coastal and river bank infrastructure) that would require further technical assessment and safety studies?	☐	☐
Please provide a justification of your answer:		
Will the proposed activities potentially involve resettlement and dispossession, land acquisition, and economic displacement of persons and communities?	☐	☐
Please provide a justification of your answer:		
Will the activities be located in or in the vicinity of protected areas and areas of ecological significance including critical habitats, key biodiversity areas and internationally recognized conservation sites?	☐	☐
Please provide a justification of your answer:		
Will the activities affect indigenous peoples that would require further due diligence, free, prior and informed consent (FPIC) and documentation of development plans?	☐	☐
Please provide a justification of your answer:		
Will the activities be located in areas that are considered to have archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values or contains features considered as critical cultural heritage?	☐	☐
Please provide a justification of your answer:		

[70] In answering this checklist, you may refer to Annex 1: Guidance on Part A ESS Screening of the "Guidelines for the environmental and social screening of activities proposed under the SAP"

Part B: Specific environmental and social risks and impacts

Point of action:
To update with consultation of the implementation partners

Assessment and Management of Environmental and Social Risks and Impacts	YES	NO	TBD
Has the E&S risk category of the project been provided in the concept note?	☐	☐	
Has the rationale for the categorization of the project been provided in the relevant sections of the concept note?	☐	☐	
Are there any additional environmental, health and safety requirements under the national laws and regulations and relevant international treaties and agreements?	☐	☐	☐
Please provide a justification of your answer:			
Are the identification of risks and impacts based on recent or up-to-date information?	☐	☐	☐
Please provide a justification of your answer:			
Labour and Working Conditions	**YES**	**NO**	**TBD**
Will the activities potentially have impacts on the working conditions, particularly the terms of employment, worker's organization, non-discrimination, equal opportunity, child labour, and forced labour of direct, contracted and third-party workers?	☐	☐	☐
Please provide a justification of your answer:			
Will the activities pose occupational health and safety risks to workers including supply chain workers?	☐	☐	☐
Please provide a justification of your answer:			
Resource Efficiency and Pollution Prevention	**YES**	**NO**	**TBD**
Will the activities generate (1) emissions to air; (2) discharges to water; (3) activity-related greenhouse gas (GHG) emissions, (4) noise and vibration; and (5) wastes?	☐	☐	☐
Please provide a justification of your answer:			
Will the activities utilize significant amount of natural resources including water and energy?	☐	☐	☐
Please provide a justification of your answer:			
Will there be a need to develop detailed measures to reduce pollution and promote sustainable use of resources?	☐	☐	☐
Please provide a justification of your answer:			
Community Health, Safety, and Security	**YES**	**NO**	**TBD**
Will the activities potentially generate risks and impacts to the health and safety of the affected communities?	☐	☐	☐
Please provide a justification of your answer:			
Will there be a need for an emergency preparedness and response plan that also outlines how the affected communities will be assisted in times of emergency?	☐	☐	☐
Please provide a justification of your answer:			

Will there be risks posed by the security arrangements and potential conflicts at the project site to the workers and affected community?	☐	☐	☐
Please provide a justification of your answer:			
Land Acquisition and Involuntary Resettlement	**YES**	**NO**	**TBD**
Will the activities likely involve land adquisition and/or physical or economic displacement?	☐	☐	☐
Please provide a justification of your answer:			
Biodiversity Conservation and Sustainable Management of Living Natural Resources	**YES**	**NO**	**TBD**
Will the activities potentially introduce invasive alien species of flora and fauna affecting the biodiversity of the area?	☐	☐	☐
Please provide a justification of your answer:			
Will the activities have potential impacts on or be dependent on ecosystem services including production of living natural resources (eg.agriculture, livestock, fisheries, forestry)?	☐	☐	☐
Please provide a justification of your answer:			
Indigenous Peoples	**YES**	**NO**	**TBD**
Will the activities potentially have any indirect impacts on indigenous peoples, ethnic minorities, or vulnerable and marginalized groups?	☐	☐	☐
Please provide a justification of your answer:			
Cultural Heritage	**Yes**	**NO**	**TBD**
Will the activities restrict access to the cultural heritage sites and properties?	☐	☐	☐
Please provide a justification of your answer:			
Will there be a need to prepare a chance-find procedure in case of the discovery of cultural heritage assets?	☐	☐	☐
Please provide a justification of your answer:			
Stakeholder engagement and grievance	**Yes**	**NO**	**TBD**
Will the activities include a continuing stakeholder engagement procress and a grievance redress mechanism and integrated into the management/implementation plans?	☐	☐	☐
Please provide a justification of your answer:			

Part C: Sign Off

Sign-off: *Specify the name and designation of the person responsible for the environmental and social screening and any other approvals as may be required in the accredited entity's own management system.*

Annex A: Alignment to country policies, plans and strategies

African and Indian Ocean SIDS

1. **Cabo Verde**
   - National Adaptation Plan of Cabo Verde, 2021.
   - Emergency Plan of Action (EPoA), DREF Operation MDRCV003, 2022.
   - National Strategic Plan for Water and Sanitation (PLENAS), 2015.
   - NDC, 2021.
   - Sustainable Energy Access and Climate Action Plan (SEACAP), 2023.
   - Water and Sanitation Legal Regime and the Water and Sanitation Code, 2012.
   - DESIRE project, 2007-2012

2. **Maldives:**
   - National Adaptation Program of Action, 2071., 2007.
   - Nationally Determined Contribution 2020.
   - National Climate Change Policy Framework
   - Maldives Climate Change Policy Framework (MCCPF) 2015-2025.
   - Climate Change Bill, 2021
   - Strategic Action Plan (SAP), 2019-2023
   - Water and Sewerage Act, 2020
   - Water and sewerage service provison regulation, 2021
   - Water Resources Conservation and Management Regulation , 2021
   - National Water and Sewerage Strategic Plan 2020 – 2025
   -

3. **Mauritius:**
   - National Disaster Risk Reduction and Management Policy, 2020-2030.
   - Strategic Framework and
   - Strategic Action Plan, 2019-2023.
   - National climate change adaptation policy, 2021
   - NDC, 2016
   - National Appropriate Mitigation Actions for Low Carbon Island Development Strategy for Mauritius, 2016.
   - National Environmental Strategies, 2007
   - Sustainable Integrated Development Plan, 2009

Maldives water security priorities:

- Enhance capacity to increase water security through Implementation of cost-effective Integrated Water Resource Management (IWRM) systems to cater for the water needs of the entire population to reduce the risk of any water shortages (emergency sysem breakdowns, climate change impacts to the islands etc)
- Enhance decentralized water security and safety plans to be implemented in all islands;
- Integrate and promote groundwater recharge solutions in stormwater management systems in road infrastructure development projects and land use planning.
- Awareness and advocacy for the general public regarding the impacts of climate change on the natural water resources based on the latest science
- Implement policies, standards, regulations to protect the natural water resources from future impacts;
- Strengthen policies, programmes and campaigns.
- Improve Early warning and systematic observation and climate data availability.
- Promote water security through groundwater protection; rainwater harvesting; groundwater recharging mechanisms in storm water management in road infrastructure, land use planning and; desalination.
- Promote national and island level institutional capacities on the provision of water services and protection of natural resources

[71] Republic of Maldives 2007, proposal for update through the readiness program

- Enhance monitoring and evaluation mechannisms to oversee water security, provision of water services and climate resilient infratructures
- Enhance research capacities on areas related to water security, climate adaptation and resiliency
- Introduce rating scheme to promote water efficiency through low cost environment friendly technologies
- Intergration of renewable energy technologies to reduce the cost of operation of alternative technologies such as desalination.

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4. **Dominica:**
    - Climate Resilience and Recovery Plan, 2020-2030.
    - National Resilience Development Strategy, 2018.
    - NDC – Notes the highest priority Climate Change Risks is water. NDC address the increased frequency of extreme events - water shortages due to increased drought and storms (including loss to crops).
    - Climate-Resilient Water Resource Management Policy, 2022.
    - National Climate Change Policy and Action Plan, 2019-2024.
    - Strategic Program for Climate Resilience, 2018
    - National Emergency Management Policy
    - National Shelter Policy 2019
    - Growth and Social Protection Strategy (GSPS) 2014-2018

5. **Grenada:**
    - National Climate Change Policy for Grenada, Carriacou and Petite Martinique, 2017-2021.
    - NDC - Notes the importance of prioritizing the area of data collection and robust disaster risk management
    - National adaptation strategy and action plan, 2015. Vulnerability and capacity assessment and a national adaptation strategy and action plan to address climate change in the water sector for Grenada.

6. **Haiti:**
    - National Adaptation Plan (NAP)
    - National policy to fight climate change
    - Plan Strategique de developpement Haiti, 2012-2030. Address the prioritization to continue the establishment of an integrated network of environmental measurement stations, managing watersheds including air and water quality, weather, hydrology and rainfall.

7. **St Lucia:**
    - Resilient Ecosystems Adaptation Strategy and Action Plan (REASAP), 2020.
    - Climate Change Adaptation Policy (CCAP), 2015.
    - National Adaptation Plan, 2018.
    - Sectoral Adaptation Strategy and Action Plans, 2018.
    - Implementation plan and Financing Strategy under the NAP, 2018.

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8. **Fiji:**

Fiji's national climate policy and strategies underscores its strong commitment aligned with water security efforts with its broader climate and water development goals. It recognizes the importance of water in achieving economic, environmental, and social sustainability. Among many of them the following are the key policies that align closely with this project.

- NDC[72] - focuses on operationalization of national adaptation plan
- Green Growth framework for Fiji, 2010-2014. This framework emphasizes the essential role of accessible and safe drinking water in Fiji's development agenda.

[72] Fiji's Updated Nationally Determined Contribution

- National Climate Change Policy[73], 2012 - provides a policy framework guiding the government in take strategic direction related to climate and water
- National Adaptation Plan (NAP), 2018, a commitment to build a pathway towards Climate resilience[74]. This national plan is closely related to water security, as critical component of Fiji's adaptation effort to address and enhance water security in the context of climate resilience
- Strategy for Climate and Disaster Resilient Development in the Pacific, 2016 - this underlines the idea that climate change and disaster risk management, should include among others agriculture, water resources, health, land use, environment, energy, infrastructure development, finance and planning, that should be integrated into overarching policies.
- Climate change Act, 2021.
- Water Action Decade 2018-2028 - addresses the water related challenges and align with climate resilience goals.

9. **Palau:**
    - Framework for Resilient Development in the Pacific, an Integrated approach to address Climate Change and Disaster Risk Management (FRDP), 2017 – 2030.
    - NDC[75]
    - National Disaster Risk Management Framework, 2010.
    - Climate Change Policy - for climate and disaster resilient low emissions development, 2015.
    - Medium Term Development Strategy - Action for Palau's Future, 2009–2014.
    - There is a proposal through the Readiness to formulate the first National Adaptation Plan.
    - Water and Sanitation Master Plan, 2016 - integrates climate change adaption strategies to ensure a reliable water supply.

10. **Kiribati**
    - The National Water Resources Policy (NWRP) 2008[76]. Provides a framework for leadership and coordinated action in the supply of safe, adequate and financially, technically and environmentally sustainable water services to rural, outer island and urban communities in Kiribati and for the protection, conservation, sustainable use. A 10 year plan. National Water and Sanitation Committee (NWSC) through the Ministry of Public Works and Utilities.
    - Kiribati Climate Change Policy, 2019[77] – specific water security objectives made.
    - Kiribati Development Plan 2020 – 2023[78].
    - Kiribati Vision 20, 2016 – 2036[79].

11. **Tuvalu:**
    - Tuvalu National Adaptation Program of Action (NAPA) that identify and prioritize adaptions activities to address climate change impact encompassing effects on water resource management and coastal areas
    - Tuvalu National Strategic Action Plan for Climate Change and Disaster Risk Management, 2012–2016.
    - National Strategy for Sustainable Development, 2005-2015.
    - National Climate Change Policy, 2012-2021 - prescribes the government and the people of Tuvalu strategic policies for adaptation to climate and related disaster risks. It emphasize the importance of integrated water resource management
    - Integrated Water Resource Management (IWRM) Plan. It include measures to enhance resilience to climate change impacts such as salt water intrusion and sea level rising.
    - Infrastructure Strategy and Investment Plan (TISIP), 2016–2025- covers multiple sectors, including maritime transport, land transport, water and sanitation, waste management, energy, and coastal protection.
    - NDC addressing urgent call for water security measures.

12. **Vanuatu:**

[73] Government of Fiji, 2012.
[74] Government of the Republic of Fiji, 2018
[75] Republic of Palau, 2016
[76] https://www.sprep.org/att/IRC/eCOPIES/Countries/Kiribati/95.pdf
[77] https://www.president.gov.ki/presidentgovki/wp-content/uploads/2019/04/Kiribati-Climate-Change-Policy.pdf
[78] https://policy.asiapacificenergy.org/sites/default/files/Kiribati%20Development%20Plan%202020-2023.pdf
[79] https://www.mfed.gov.ki/sites/default/files/KIRIBATI%2020-YEAR%20VISION%202016-2036%20.pdf

- Climate Change and Disaster Risk Reduction Policy, 2016 -2030.
- National Sustainable Development Plan, 2016-2030.
- Meteorology and Geo Hazards Plan, 2014-2023.
- National Water Strategy, 2008-2018.
- National Policy on Climate Change and Disaster-Induced Displacement, 2018.
- NDC- notes need for improved climate preparedness, response and recovery for the water sector: building on local knowledge to improve the protection of water supplies, strengthen response through improved data management and sharing knowledge to build back better after climate loss and damage events. In the water sector, especially related to rainwater harvesting from roof tops, Water Safety Plans and Flood Hazard Mapping.

Annex B: SIDS water security and CIS projects

African & Indian Ocean SIDS GCF/GEF/AF projects

Title of project / programme	Status & Date	Fund	Project type	Country	Summary
Supporting vulnerable communities in Maldives to manage climate change-induced water shortages	Completed	GCF	Water	Maldives	Providing safe and secure freshwater to 105,000 people on the outer islands of the Maldives, in response to climate change-induced water shortages. Introducing integrated water supply systems, decentralized dry season water supplies, and improvements to groundwater quality
Building Climate Resilient Safer Islands in the Maldives	approved/ completed	GCF	water	Maldives	This project will address these challenges by enhancing coastal management, including the protective functions of natural sandy beaches and coral reefs. NbS. It will do this through integrated coastal zone management, early warning and early action, and knowledge sharing. This project marks the first time such an adaptive beach protection solution will be implemented on public land in the Maldives islands.
Climate Change Vulnerability and Adaptation Study for Port of Port Louis	completed	GCF	CIS	Mauritius	The project main aim to support lack of climate monitoring. To provide a technology needs assessment and identification of adaptive measures to improve the resilience and sustainability of Port Louis harbour.
Implementing Integrated Water Resource and Wastewater Management in Atlantic and Indian Ocean SIDS	completed	GEF	water	Maldives, Cabo Verde & Mauritius (among other SIDS)	This project aimed to accelerate progress on WSSD targets and IWRM and WUE plans and water supply and sanitation MDGs for the protection and utilization of groundwater and surface water in the participating countries.
GEF Sustainable Groundwater Management In SADC Member States Project Phase 2	Ongoing	GEF	water	Mauritius	The objective of this project is to develop capacity and knowledge for inclusive groundwater management and use in the SADC region at national and transboundary levels specifically shared aquifers.
Supporting Sustainable Inclusive Blue Economy Transformation in AIO SIDS	Ongoing	GEF	Blue economy	Cabo Verde	This projects goal is to support the development and realization of sustainable blue economies in Atlantic and Indian Ocean SIDS through improved governance, national Blue Economy demonstrations, and knowledge management.
Sustainable Energy Access to Manage Water Resources: Addressing the Energy-water Nexus	Ongoing	GEF	water	Cabo Verde	This projects' aims to catalyze market-based integration of renewable energy and energy efficiency (sustainable energy) technologies in water ressource management
Building Adaptive Capacity and Resilience to Climate Change in the Water Sector in Cape Verde	Completed	GEF	water	Cabo Verde	The goal of this project was to increase resilience and enhance key adaptive capacity to address the additional risks posed by climate change to the water sector in Cape Verde.
Increasing climate resilience through an Integrated Water Resource Management Programme in HA. Ihavandhoo, ADh. Mahibadhoo and GDh. Gadhdhoo Island	Completed	AF	water	Maldives	The project intended to the project intends to plan and install groundwater protection and recharge measures using surplus rainwater and improved management of wastewater; redesign existing rainwater harvesting schemes; interconnect isolated units to ensure equitable water supply in dry periods; improve the structural integrity of rainwater collection and storage systems against extreme weather events; integrate filter elements to improve safety of freshwater

					supply; improve septic tank maintenance and redesign wastewater management; and apply desalination technology to ensure supply capacity of at least 20 liters per person per day during dry spells and climatic extremes.
Climate Change Adaptation Programme in the Coastal Zone of Mauritius	Completed	AF	Coastal management	Mauritius	The programme focuses on combating beach erosion and flood risk in the coastal areas of Mon Choisy, Riviere des Galets, and Quatre Soeurs with a suite of infrastructure and natural protection, including sloped rock mounds offshore that are designed to deflect waves, mangroves and other shoreline vegetation to reduce erosion, an increased number of public buildings on stilts and to to alert communities to incoming storm surges
Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission (IOC) Member Countries	Ongoing	GCF	Weather and water	Mauritius (among others such as Madagascar, Seychelles & Comoros)	This project will support these countries overcome barriers in managing the risks and impacts of climate-induced disaster. By implementing a multi-hazard early warning system, the project will equip decision makers and communities with adequate tools to prepare for and adapt to climate variability and change.

Caribbean SIDS GCF/GEF/AF projects

Title of project / programme	Status & Date	Fund	Project type	Country	Summary
Global Subnational Climate Fund (SnCF Global) – Technical Assistance (TA) Facility	Ongoing - 2028	GCF	CIS	Fiji Haiti, Dominica	The Fund is designed to overcome project-level barriers and limitations in attracting private investment that leads to chronic underfunding of bankable mitigation and adaptation projects at the sub-national level, specifically at the deal size of USD 5 million to 75 million. To attract primarily private institutional investment and to deliver certified climate and Sustainable Development impacts and Nature-based Solutions at global scale (SDGs, NbS).
Water Sector Strategic Development Project (National Water Enhancement Project)	under implementation	n/a	Water	Dominica	The project will result in a vast improvement in water service reliability in various communities.
Enhancing Land Management and Strengthening Ecosystem Resilience for Integrated Landscape Restoration and Climate-Resilient Food Systems in Carriacou, Grenada	Aproved expect to start 9/1/2023 and end 2026	GEF Trust Fund	Water Management	Carriaco, Grenada	Focus area is land degradation with indirect connection to water. address land degradation in Carriacou, through demonstration and application of ecosystems-based landscape restoration, sustainable land management and good agricultural practices, using community participatory approaches that expands diversification and sustainability of livelihoods options.
Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (IWEco)	Ongoing	GEF Project Grant	water	St. Lucia;Grenada	to contribute to the preservation of Caribbean ecosystems that are of global significance and the sustainability of livelihoods through the application of existing proven technologies and approaches that are appropriate for small island developing states through improved fresh and coastal water resources management, sustainable land management and sustainable forest

					management that also seek to enhance resilience of socio-ecological systems to the impacts of climate change.
CReW+: An Integrated Approach to Water and Wastewater Management Using Innovative Solutions and Promoting Financing Mechanisms in the Wider Caribbean Region	On going	GEF Project Grant	water	Grenada, S. Lucia	To implement innovative technical small-scale solutions in the Wider Caribbean Region using an integrated water and wastewater management approach building on sustainable financing mechanisms piloted through the Caribbean Regional Fund for Wastewater Management
Creating a climate resilient water sector in Grenada through increased freshwater availability and demand reduction measures.	under implementation-2025	GCF	water and CIS	Grenada	The main idea is to support the water sector by reducing water demand and increasing water availability. Focus areas: -established, and a water tariff will create climate-responsive price signals for users, whilst providing resources to upgrade infrastructure. - promote water efficiency in the agriculture and tourism sectors - Infrastructural, building water storage capacities, drilling new wells, and creating new rainwater harvesting systems. - Disaster resilience will be improved including through remote monitoring, whilst renewable energy solutions will be introduced for water pumping and treatment.
Support Program for Watershed Management through Strengthening Sustainable Value Chains in the Department of the South, Haiti	under implementation	GEF	related to water	St Lucia	improve ecosystem productivity, soil and water practice by capacity building of policymakers and farmers. To improve economic benefits, soil benefits from improved practices at field level, environmental benefits of WFPP resilience actions, gender review of UNEP portfolio in the country
Global Subnational Climate Fund (SnCF Global) – Technical Assistance (TA) Facility	Ongoing - 2028	GCF	CIS	Fiji Haiti,Dominica	The Fund is designed to overcome project-level barriers and limitations in attracting private investment that leads to chronic underfunding of bankable mitigation and adaptation projects at the sub-national level, specifically at the deal size of USD 5 million to 75 million. To attract primarily private institutional investment and to deliver certified climate and Sustainable Development impacts and Nature-based Solutions at global scale (SDGs, NbS).
Improving the flow of ecosystem services in biologically-rich watersheds of the Southern region of Haiti	approved -2022	GEF	Water	St Lucia	To improve the resilience of drinking water access in Haiti to the effects of climate change
Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (IWEco)	Ongoing 2016-2023	GEF Project Grant	Water	S.Lucia, Grenada	to contribute to the preservation of Caribbean ecosystems that are of global significance and the sustainability of livelihoods through the application of existing proven technologies and approaches that are appropriate for small island developing states through improved fresh and coastal water resources management, sustainable land management and sustainable forest management that also seek to enhance resilience of socio-ecological systems to the impacts of climate change.
Climate Resilient Water Sector in Grenada (G-CREWS)	Approved - 2025	GCF	water	Grenada	The G-CREWS project aims to comprehensively mainstream and implement climate resilience into Grenada's water supply addressing two main risks and vulnerabilities – fresh water availability and disaster preparedness.

Pacific SIDS GCF/GEF/AF projects

Title of project / programme	Status & Date	Fund	Project type	Country	Summary
Umbrella Programme for Preparation of National Communications (NCs) and Biennial Transparency Reports (BTRs) to the UN Framework Convention on Climate Change (UNFCCC)	Approved 2023	GEF Trust Fund	CIS related	Fiji	To support forty-three (43) developing countries to prepare and submit Biennial Transparency Reports (BTRs) and National Communications (NCs) that comply with the United Nations Framework Convention on Climate Change (UNFCCC)/Paris Agreement (PA) reporting requirements; and respond to their national development goals.
Enhancing water-food security and climate resilience in volcanic island countries of the Pacific	Ongoing 2023	GEF Trust Fund	Water and CIS	Multi country Fiji, Vanuatu	The project aims to enhance water and food security and climate resilience, sustain ecosystem services, and relieve pressure on over-exploited coastal aquifers by expanding and assessing the role of volcanic aquifers and by introducing sound groundwater governance frameworks in selected volcanic island states of the Pacific.
PAS: Implementing Sustainable Integrated Water Resource and Wastewater Management in the Pacific Island Countries - under the GEF Pacific Alliance for Sustainability	Completed	GEF Trust Fund	Water	Fiji, Tuvalu, Palau,Vanuatu, Kiribati	The primary objective of the project is to strengthen the capacity of countries to implement an integrated approach to the management of their water resources. There is a clearly identified need to integrate water resources management with other aspects of small island countries environments. The project will therefore assist participating countries in improving water resources management closely connected with other holistic management practices in support of sustainable development such as integrated coastal area management, island systems management, and river basin management. Some focus areas include: protection of water supplies; management of land-based sources of pollution; coastal area management including protection of marine waters; hazard assessment, risk management and disaster preparedness.
IW:LEARN 5: Supporting Portfolio Coordination Within and Beyond the International Waters Focal Area, particularly in Small Island Developing States, Through Knowledge Sharing, Information Management, Partnership Building and Programmatic Guidance Services	Ongoing	GEF Trust Fund	CIS related	Global SIDS region	Facilitating replication of good practice across GEF International Waters projects, including projects across all focal areas in Small Island Developing States, working in collaboration with development partners, supporting the delivery of training information management, providing programmatic guidance and facilitating partnership building.
Global Subnational Climate Fund (SnCF Global) – Technical Assistance (TA) Facility	Ongoing -2028	GCF	CIS	Fiji Haiti,Dominica	The Fund is designed to overcome project-level barriers and limitations in attracting private investment that leads to chronic underfunding of bankable mitigation and adaptation projects at the sub-national level, specifically at the deal size of USD 5 million to 75 million. To attract primarily private institutional investment and to deliver certified climate and Sustainable Development impacts and Nature-based Solutions at global scale (SDGs, NbS).
Fiji Urban Water Supply and Wastewater Management Project	ongoing 2026	GCF	Water	Fiji	Building and renovating infrastructure to improve access to safe water and sewerage systems in the greater Suva area of Fiji.

					Creating a new river water intake station on the River Rewa and improving the Kinoya wastewater treatment plant and associated sewer coverage
South Tarawa Water Supply Project	Ongoing 2028	GEF Trust Fund	Water	Kiribati	Their underground freshwater lenses, the quality and quantity of which are seriously threatened by climate change-induced inundations and prolonged drought.This project aims to reduce the climate vulnerability of the entire population of South Tarawa through increased water security by providing them with a reliable, safe, and climate-resilient water supply. This will be done through the construction of a 4,000 m3 desalination plant and a photovoltaic system to provide low-emission power for the plant and the water supply network.
Resilient Islands, resilient communities	Ongoing 2025	GEF Trust Fund	CIS	Kiribati	Enabling environment improved for ecosystem-based sustainable use and conservation of island resources (LD3 (tracking tool) Framework strengthening INRM score moved from 2 to 3; LD3 (tracking tool) Capacity strengthening to enhance cross-sector enabling environment score moved from 2 to 3) • National management system for ecosystem-based sustainable use and conservation of island resources established to deliver SFM, LD, and BD benefits (23496 hectares covered by integrated natural resource management-land and marine- practices in wider landscape)
Enhancing Climate Information and Knowledge Services for resilience in 5 island countries of the Pacific Ocean	under impleme ntation 2026	GCF	CIS	Multi (Palau, Tuvalu and others not part of ECo package	4 main components adressed: -Strengthened delivery model for climate information services and MHEWS covering oceans and islands -Strengthened observations, monitoring, modelling and prediction of climate and its impacts on ocean areas and islands - Improved community preparedness, response capabilities and resilience to climate risks - Enhanced regional knowledge management and cooperation for climate services and MHEWS.
Enhancing water-food security and climate resilience in volcanic island countries of the Pacific	Approve d 2023	GEF Trust Fund	Water and CIS	Multi country Fiji, Vanutuat u	The project aims to enhance water and food security and climate resilience, sustain ecosystem services, and relieve pressure on over-exploited coastal aquifers by expanding and assessing the role of volcanic aquifers and by introducing sound groundwater governance frameworks in selected volcanic island states of the Pacific.
Climate Information Services for Resilient Development Planning in Vanuatu (Van-CIS-RDP)	Ongoing 2024	GCF	CIS	Vanuatu	The project will help address this need by achieving a paradigm shift to standardize the use of science-based climate information. This is seen as a necessary base to underpin awareness raising and long-term policy planning around climate change. The will expand the use of Climate Information Services (CIS) in five targeted sectors: tourism, agriculture, infrastructure, water management and fisheries. Specific project goals include building technical capacity to harness and manage climate data, developing practical CIS tools, fostering their

					use and disseminating tailored climate information.
Enhancing Adaptation and Community Resilience by Improving Water Security in Vanuatu	Approved/ completed	GCF	water	Vanuatu	to create safe, climate-resilient, and sustainable water utilisation and improve water security in local communities. This will be achieved by improving and scaling up the existing government-owned processes of water management as well as enhancing the capacity of relevant stakeholders in water resources management.
Pacific I2I Regional Project: Ocean Health for Ocean Wealth - The Voyage to a Blue Economy for the Blue Pacific Continent	Ongoing	GEF	water	Vanuatu, Palau, Fiji, Kiribati & Tuvalu	To strengthen the capacity to preserve and safeguard the health of ocean ecosystems in Pacific Island countries by catalysing the development and growth of sustainable blue economies (SBE).
Funafuti Water and Sanitation Project	Ongoing	GEF	water	Tuvalu	Provision of climate-adapted, resilient, and improved drinking water supply, drainage, and sanitation services improved in Funafuti.
Implementation of the Strategic Action Programme (SAP) of the Pacific Small Island Developing States	completed	GEF	water	Kiribati	The long-term objective of this project is to conserve and sustainably manage the coastal and ocean resources in the Pacific Region. Project activities are designed to encourage comprehensive, cross-sectoral, ecosystem based approaches to mitigate and prevent existing imminent threats to International Waters.