



Managing Coastal Aquifers in Selected Pacific SIDS

Part I: Project Information

GEF ID

10041

Project Type

FSP

Type of Trust Fund

GET

Project Title

Managing Coastal Aquifers in Selected Pacific SIDS

Countries

Regional, Palau, Marshall Islands, Tuvalu

Agency(ies)

UNDP

Other Executing Partner(s):

SPC; National Government Agencies in Palau, RMI and Tuvalu

Executing Partner Type

GEF Agency

GEF Focal Area

Multi Focal Area

Taxonomy

Focal Areas, Influencing models, Stakeholders, Gender Equality, Capacity, Knowledge and Research, Climate Change, Climate Change Adaptation, Innovation, Community-based adaptation, Sea-level rise, Land Degradation, Sustainable Land Management, Improved Soil and Water Management Techniques, Drought Mitigation, International Waters, Freshwater, Aquifer, SIDS : Small Island Dev States, Demonstrate innovative approach, Strengthen institutional capacity and decision-making, Local Communities, Beneficiaries, Type of Engagement, Participation, Information Dissemination, Consultation, Communications, Behavior change, Education, Awareness Raising, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Participation and leadership, Capacity Development, Access to benefits and services, Access and control over natural resources, Knowledge Exchange, Knowledge Generation

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48In Months

Agency Fee(\$)

499,829

A. Focal Area Strategy Framework and Program

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
LD-3_P4	Outcome 3.1: Support mechanisms for SLM in wider landscapes established. Outcome 3.2: Integrated landscape management practices adopted by local communities based on gender sensitive needs. Outcome 3.3: Increased investments in integrated landscape management.	GET	2,023,887	8,370,014
IW-2_P3	Outcome 3.1 Improved governance of shared water bodies, including conjunctive management of surface and groundwater through regional institutions and frameworks for cooperation lead to increased environmental and socio economic benefits. Outcome 3.2 Increased management capacity of regional and national institutions to incorporate climate variability and change, including improved capacity for management of floods and droughts.	GET	3,237,469	11,234,783
Total Project Cost(\$)			5,261,356	19,604,797

B. Project description summary

Project Objective

To improve the understanding, use, management and protection of coastal aquifers towards enhanced water security in the context of a changing climate

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
1: National demonstrations to support knowledge and use of coastal aquifers for enhanced water security.	Technical Assistance	<p>1.1: Enhanced knowledge on the current status of coastal aquifers and enhanced understanding of aquifer vulnerabilities to climate changes and other factors.</p> <p>1.2: Improved access to groundwater for enhanced water security.</p>	<p>1.1.1: Multidisciplinary (technical and cultural) coastal aquifer assessments completed in 8 sites/aquifers.</p> <p>1.2.1: Demonstration of improved groundwater production and water security from appropriately designed wells (infiltration galleries) in Wotje atoll, RMI (132 households served) and Nanumea island, Tuvalu (115 households served).</p> <p>1.2.2: Improved quality and palatability of reticulated groundwater supply for domestic needs, demonstrated through the adoption of appropriate water treatment technologies and water management practices, such as aeration, water conditioning, and abstraction scheduling.</p>	GET	1,901,235	8,050,493

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
2: National-based investments in human capital and tools.	Technical Assistance	2.1: Strengthened capacity and monitoring of climate and water resources at the local and national level.	<p>2.1.1: National and local (community) capacities developed to undertake monitoring of climatic and anthropogenic impacts on water resources (RMI staff: 13, Palau staff: 6, Tuvalu staff: 11)</p> <p>2.1.2: National capacities developed to undertake monitoring of land degradation to protect aquifers in 8 sites/aquifers.</p> <p>2.1.3: Infrastructure and instrumentation in place for the monitoring of climatic and anthropogenic impacts on water resources in 8 sites/aquifers (variables monitored: precipitation, salinity, coliform bacteria).</p>	GET	1,568,113	6,639,953

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
3: Local-based approaches to support the sustainable management and protection of coastal aquifers in the context of climate change.	Technical Assistance	<p>3.1: Coordinated and inclusive approaches at the island-level for coastal aquifer management in place.</p> <p>3.2: Improved and accessible knowledge systems for decision support in place.</p>	<p>3.1.1: Demonstrated community based participatory monitoring, reporting, and management mechanisms on water resources in place in 6 sites/aquifers.</p> <p>3.1.2: Improved land management for the protection of coastal aquifers through the development of community based participatory land use zoning and land restoration techniques for 8 sites/aquifers (fencing and vegetation control)</p> <p>3.2.1: Development of groundwater numerical models to better understand the aquifer response to climate and anthropogenic impacts on the Laura coastal aquifer, and to inform the design of sustainable groundwater abstraction schemes.</p> <p>3.2.2: Development of technical guidance notes to support development of aquifer management plans and drought response plans in 6 sites/aquifers.</p>	GET	929,096	3,934,111

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 4: Knowledge Management and M&E	Technical Assistance	4.1: M&E templates and communication platforms established.	<p>4.1.1: Harmonized reporting templates developed based on proposed indicator sets to facilitate reporting and monitoring of project results.</p> <p>4.1.2: Accessible project website with information on project status.</p> <p>4.1.3: Allocation of at least 1% of IW funds for IW:LEARN activities, including sharing of results globally focusing on SIDS.</p>	GET	612,555	
Sub Total (\$)					5,010,999	18,624,557
Project Management Cost (PMC)						
				GET	250,357	980,240
Sub Total(\$)					250,357	980,240
Total Project Cost(\$)					5,261,356	19,604,797

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount(\$)
Government	RMI Government	In-kind	2,267,660
Government	Palau Government	In-kind	192,160
Government	Tuvalu Government	In-kind	11,591,540
Others	Pacific Community (SPC)	Grant	5,440,500
GEF Agency	UNDP	In-kind	60,000
Donor Agency	USAID	In-kind	52,937
Total Co-Financing(\$)			19,604,797

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount(\$)	Fee(\$)
UNDP	GET	Marshall Islands	Land Degradation		No	1,018,447	96,752
UNDP	GET	Palau	Land Degradation		No	655,443	62,267
UNDP	GET	Tuvalu	Land Degradation		No	349,997	33,250
UNDP	GET	Regional	International Waters		No	3,237,469	307,560
Total Grant Resources(\$)						5,261,356	499,829

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	3615.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	3,615.00		

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted		
Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)			
Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (achieved at MTR)	Number (achieved at TE)
0	1	0	0

LME at PIF

LME at CEO Endorsement

LME at MTR

LME at TE



Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 7 Number of shared water ecosystems (fresh or marine) under new or improved cooperative management

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Shared water Ecosystem				
Count	0	0	0	0

Indicator 7.1 Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Indicator 7.2 Level of Regional Legal Agreements and Regional management institution(s) (RMI) to support its implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Indicator 7.3 Level of National/Local reforms and active participation of Inter-Ministeral Committees (IMC; scale 1 to 4; See Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Indicator 7.4 Level of engagement in IWLEARN through participation and delivery of key products(scale 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Select SWE	1			
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		6,473		
Male		6,480		
Total	0	12953	0	0

PART II: Project JUSTIFICATION

1. Project Description

A.1. Project Description. Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area[1]¹ strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

Development challenge, root causes and barriers

The development challenge that this project seeks to address is the lack of knowledge and information on the status of coastal aquifers in Pacific Island Countries which hinders the development of aquifer management, protection, and governance mechanisms and their incorporation into applicable national water policies. This project ultimately aims at providing to the project countries, and particularly to the selected project sites, the foundation required to support improved aquifer management/governance including the increased engagement of women in island and community level water planning and decision-making processes.

Immediate causes responsible for this development challenge include the nature of aquifers and groundwater being “invisible” and therefore hard to visualize, monitor, and manage. In many cases, aquifers are only accessed at household level through shallow wells and as a result the behavior of these aquifers to external influences is largely unknown. This obviously impedes the development of targeted management interventions to sustain aquifer services and warrant their protection. Indications, usually incomplete, of groundwater contamination due to increased salinity or due to anthropogenic activities have in various instances led to the conclusion that aquifers are unsuitable for use and their management and protection are therefore irrelevant. This in turn has resulted to a biased public perception against groundwater.

The root causes need to be identified in order to address the development challenge and design appropriate activities and interventions. The obvious barrier limiting the generation of knowledge and data on aquifers and groundwater is the limited capacity at local and national level to assess and monitor aquifers and groundwater resources. The absence of dedicated monitoring infrastructure and human capacity impedes the generation of data that is required to support aquifer management and protection. An important root cause identified by the project countries at the national level is the “*Limited local capacity to explore and make reliable estimates of the quantity and quality of water from underground sources (Palau Drought Report 2016)*”. The lack of data is also caused by the limited appreciation on the value of monitoring and the benefits of long-term data generation in decision making. As a result of this data and knowledge gap, there is also a lack of decision making tools and suitable governance mechanisms at local and national level that could support incorporation of groundwater into applicable national water policies. Further, the low level of engagement by women as primary water users and decision-makers at household level is a key barrier to change.

Immediate causes	Root causes / barriers to change
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Limited knowledge/data on aquifers and groundwater quantity and quality.	Limited local and national capacity (human and infrastructural) to assess and monitor groundwater resources.
Contamination of aquifers due to natural and anthropogenic activities.	Limited appreciation on the value of monitoring and data generation.
Biased public perception against groundwater at local/national level.	Lack of awareness at the local and national level on the value of aquifers and the need to maintain/protect them.
	Lack of decision making tools and governance mechanisms.
	Women's lack of engagement in community and island level decision-making processes regarding groundwater.
	Lack of (integrated) water resources management.
	Lack of understanding/appreciation of the value of groundwater as reliable and usable water resource.

Baseline scenario or any associated baseline projects

This project is entitled “Managing Coastal Aquifer in Selected Pacific SIDS” and its goal is “to improve the understanding, use, management, and protection of coastal aquifers towards enhanced water security in the context of a changing climate”. A range of cross-cutting considerations including gender equality and social inclusion, and participatory planning and decision-making mechanisms will inform how this goal is achieved. The Theory of Change diagram describes the activities under each component that will be implemented in the 3 countries. In the short-term, outputs are shown as early project results forming the pathways of change towards achievement of the outcomes. The Theory of Change articulates 6 outcomes that show change in knowledge (Component 1), change in capacity (Component 2) and changes in attitude, management and governance (Component 3). While the Theory of Change illustrates the change process it is noted that a phased approach will be used to inform further actions. A range of assumptions underpin the logic at each point, which will be explored with stakeholders during the implementation period.

The Theory of Change was developed in close consultation with the three implementing countries during national design phase workshops. Feedback from the countries helped refine the project activities and outputs to ensure that they are aligned to the selected outcomes but also that they are aligned to their countries needs and national priorities. In developing this Theory of Change, there was consideration of synergies with other relevant projects within SPC and the region to minimize duplication and maximize complementarity. To promote results-focused management of the project, the goal and outcomes are the basis and criteria of measurement in the results framework. While results for outputs will be easier to measure and directly attribute to the project, it is noted that the project will only contribute to improvements at outcome and goal levels alongside other initiatives in the region.

A key principle of the project is the need to pay attention to ensuring the active participation and genuine involvement of all groups of people including women, men, young people and those with disabilities throughout implementation. While women do engage in decision-making about water use at household level, they are significantly underrepresented in community, island and national level water management and governance processes in all MCAP countries. As such, the project will address this development issue by increasing women's knowledge and skills in water management and by providing them with opportunities to fill leadership roles in their communities.

The project GESI Assessment concluded that coastal aquifers play a critical role in water security in identified sites and current levels of freshwater are inadequate to meet people's basic needs especially during extended dry periods. In line with the theory of change, it is expected that project supported water assessments, training and capacity building support

will lead to improved quality and quantity of groundwater in targeted areas, create more equitable access to water resources for vulnerable groups, improve health and education outcomes, enhance livelihoods and reduce household and community level conflict caused by water shortages.

This project will build on findings and lessons learned from previous projects undertaken in the region over the last decade which have been gradually establishing the way towards achieving sustainable aquifer management. The intention is to replicate good practices that have worked in the past and to integrate monitoring and management approaches towards inclusion of groundwater management into applicable national water policies and IWRM plans.

The WMO-funded Pacific HYCOS project (2007-2010) executed by the Applied Geoscience and Technology Division (SOPAC) of the Secretariat of the Pacific Community (SPC) first gave the opportunity to trial and observe different delivery modes used to assess and monitor water resources in 14 Pacific island countries. The most relevant and valuable modalities were identified and were consequently replicated during follow-up work in other similar settings.

The EU funded Pacific Integrated Water Resources Management project (2008-2012), and the GEF funded Pacific IWRM project have respectively provided support through the development of water and sanitation policy to address legislative reform allowing implementation of applicable and effective Integrated Water Resources Management (IWRM) and Water Use Efficiency (WUE) plans to improve cross sectoral coordination of water resources management and water use efficiency to help balance overuse and conflicting uses of scarce freshwater resources.

The EU-funded KIRIWATSAN project (2011-2018), executed by SPC, employed similar assessment techniques to identify and quantify fresh groundwater resources in the islands of Kiribati which were consequently developed through the installation of suitable infrastructure (infiltration galleries) to improve the availability of safe drinking water and reduce water, sanitation and hygiene related diseases. Water resources monitoring capacities were developed and monitoring mechanisms were strengthened through the development of monitoring guidelines to warrant a continuous collection of data and information necessary for water resources management.

The Australian-funded “Bonriki Inundation Vulnerability Assessment (BIVA)” (2013-2015) and the EU-funded “Climate and Abstraction Impacts in Atoll Environments (CAIA)” (2015-2017), both executed by SPC, demonstrated for the national groundwater reserve of South Tarawa, the capital of Kiribati, the value and integral role of water resources monitoring in aquifer management. Through the development of a numerical model which facilitated understanding the aquifer’s response to external influences such as rainfall and groundwater abstraction, aquifer management options linked to continuous monitoring of groundwater quality (salinity) were demonstrated to the Government of Kiribati as an adaptation technique to increase water security.

The New Zealand-funded “Strengthening Water Security of Vulnerable Island States” project (2014-2019), executed by the Disaster and Community Resilience Programme (Geoscience Energy Maritime Division) of SPC, built on the lessons learnt to support the atoll countries of Cook Islands, Kiribati, Marshall Islands, Tokelau and Tuvalu in building the skills, systems and basic infrastructure to better anticipate, respond to, and withstand the impacts of drought. Water security management options were identified through the combined involvement of three key sectors - disaster management, water utilities, and weather services.

Proposed alternative scenario

Under the current project, the countries recognize the need to further explore the potential of using groundwater resources to complement their existing water supplies and to offer increased resilience against climate variability. At the same time, they recognize the need to protect their aquifers and improve their existing groundwater supply systems, where available. The countries have decided to achieve the project goal by addressing three main components forming a logical pathway towards increased water security.

The selected approach for the current project is based on the experiences, network, and trust built in the last decade to ensure that the project countries, and particularly the selected project sites, will obtain the foundation required to support improved aquifer management/governance. The key assumptions and guiding principles to achieve this foundational level are outlined below and were identified and agreed via regional and national consultative processes during the project’s conceptualization and preparation phases.

Component 1: National demonstrations to support knowledge and use of coastal aquifers for enhanced water security.

●**Outcome 1.1:** Enhanced knowledge on the current status of coastal aquifers and enhanced understanding of aquifer vulnerabilities to climate changes and other factors.

●**Outcome 1.2:** Improved access to groundwater for enhanced water security.

Enhancing the knowledge and understanding of coastal aquifers: Sound understanding of coastal aquifers is the basis on which all efforts aimed at protecting and managing groundwater resources can be built. Although traditional knowledge within island communities on aquifer locations exists, visualizing the location and extent of aquifers can help island communities and local governments better understand the relationship between land use activities and potential impacts to underlying aquifers, developing them for water supply and ultimately managing these aquifers in a sustainable fashion to enhance water security and resilience against droughts. In developing understanding of coastal aquifers, the project recognizes that women and men can have different information and viewpoints, hence the importance of ensuring broad consultation and collective learning.

Improving access to groundwater: Coastal aquifers are usually only accessed through shallow household wells which have been dug just below the groundwater table. In many cases, opportunities exist for aquifer development to be done at a larger scale (community level) to provide a drought reserve for secondary or even primary water needs. As demonstrated during previous projects, aquifer assessments can help guide the implementation of such groundwater development works to maximize the benefits and services obtained by these aquifers.

Component 2: National-based investments in human capital and tools.

●**Outcome 2.1:** Strengthened capacity and monitoring of climate and water resources at the local and national level.

Investing in human capacity: Investments in human capacity at the national and community level have been demonstrated to be critical in achieving long term sustainability of project results. National and community ownership of project interventions are the only way to ensure long term operation and maintenance of these interventions and incorporation of demonstrated approaches (e.g. monitoring, operation, management, maintenance) into national and community governance structures and mechanisms. A strong focus will be given to the development of human capacities to provide a solid workforce able to harness and apply the management practices recommended through this project. In building capacity, particular attention will be given to training young women as water engineers, working with local schools and developing technical as well as user-friendly aquifer information resources.

Investing in aquifer monitoring: Long term aquifer monitoring is required to strengthen the knowledge and understanding of coastal aquifers. The value of consistent and accurate data on water resources (precipitation, groundwater) has been demonstrated in the past through the development of forecasting and decision making tools allowing for predictions and facilitating aquifer management. Aquifer monitoring can be strengthened and sustained in the long-term through appropriate participatory approaches (citizen science) providing for an effective means of data collection motivated by a strong sense of ownership and responsibility.

Component 3: Local-based approaches to support the sustainable management and protection of coastal aquifers in the context of climate change.

●**Outcome 3.1:** Coordinated and inclusive approaches at the island-level for coastal aquifer management in place.

●**Outcome 3.2:** Improved and accessible knowledge systems for decision support in place.

Promoting inclusive approaches for sustainable aquifer management: The increased reliance on groundwater is resulting in more demand for sustainable aquifer management approaches in the Pacific. This project will provide evidence based guidance on pragmatic approaches that can be practiced for centralised ground water supply systems. Inclusive approaches require the combined involvement of key government sectors (such as disaster management, water utilities, and weather services), local governments (such as island councils) as well as men and women from targeted communities who are the direct beneficiaries (through participatory management approaches).

Supporting decision making through the delivery of practical tools: Sustainable management approaches can largely benefit and be guided by numerical models and forecasting systems. The potential of such tools will be demonstrated to the project countries as a way to solidify evidence-based decision making and enhance governance mechanisms.

Component 4: Knowledge management and M&E

●**Outcome 4.1:** M&E templates and communication platforms established.

Effectively monitoring and evaluating project progress: periodical project monitoring and evaluation through a structured M&E plan is essential to ensure the effective achievement of project results.

Effectively communicating the benefits of integration and lessons learned: the regional upscaling and transferability of successful interventions and lessons learned can only be guaranteed when effective communication platforms are established. It is expected that the opportunities existing through GEF communication channels will benefit countries sharing similar issues in the broader region and also globally.

External factors which are critical for achieving the expected changes include the relationship with the involved stakeholders, including the direct project beneficiaries. Over the years, SPC has built a solid relationship with the national stakeholders involved in this project, further solidifying the links throughout the project preparation phase. This engagement needs to be maintained throughout the entire project's duration, through suitable communication efforts, as its success largely depends on the continuous support from the identified stakeholders. A suitable stakeholder engagement plan, thoroughly detailing the type of engagement for each project activity, will be developed to ensure the smooth collaboration between countries, direct beneficiaries, and executing partner. This plan will include engagement with women, youth and disability organisations.

Alignment with International Waters Focal Area Strategy

Following the GEF-6 International Waters strategy with regards to balancing competing water uses in groundwater management (GEF-6 IW Objective 2) and building on the continuous GEF support on addressing the needs of SIDS and Least Developed Countries to meet their water challenges in a changing climate, this project aims towards 1) advancing the understanding of the extent, quality and groundwater resource potential of coastal aquifers, 2) strengthening local and national capacities to enhance monitoring and data collection towards sustainable groundwater management and 3) promoting groundwater governance and decision-making through participatory reporting mechanisms. In line with (GEF-6 IW Program 3), the proposed project interventions are aiming at 1) assessing the storage capacity and resilience of coastal aquifer systems against droughts, 2) assessing the climatic and anthropogenic vulnerability of aquifers and their recharge areas, and 3) employing measures to avoid salt-water intrusion. Water security (GEF-6 IW Program 4) will be addressed by strengthening efficient water use through the implementation of measures that enhance conjunctive management and maintain aquifer ecosystem services. More

specifically, demonstration of innovative groundwater production infrastructure, designed and targeted specifically for the fragile nature of coastal aquifers in SIDS will be developed to allow access to, and use of fresh groundwater, and offer increased resilience against droughts. At the same time, awareness on the importance and the role of emergency drought supplies and on water efficiency measures will be raised to achieve a collaborative and sustainable management of the newly accessed groundwater resources. Enhancing water security in freshwater ecosystems was carried forward as a main objective under the GEF-7 IW investments. Enhanced quality and coverage of data on groundwater availability and use and increased national capacity to collect and analyze this information to obtain technical and policy relevant products will strengthen early warning to natural disasters, such as droughts, which can destabilize societies, increase gender inequality and lead to migration and urbanization. The proposed interventions are aiming at enhancing this information flow by establishing the suitable infrastructure, equipping it with appropriate instrumentation and developing capacities at the local and national level in undertaking climate and water resource monitoring. The proposed interventions present a good opportunity for the GEF to continue supporting efforts to increase water efficiency, reduce groundwater pollution, and addressing the drivers of land degradation which can have detrimental effects on the health of coastal aquifers and hinder the ecosystem services and water security they provide.

Alignment with Land Degradation Focal Area Strategy

It is proposed that IW focal area investments are complimented with resources from the Land Degradation focal area considering the relevance of land degradation effects on coastal aquifers. Extensive soil degradation due to erosion and salinization caused by storms and wave inundation events is frequently observed in low-lying islands and atolls in the Pacific. These events can have detrimental effects in the soil and aquifers causing a decline in crop productivity and deteriorating groundwater quality rendering it undrinkable for an extended period which can last up to several years. Climate change is also further aggravating these challenges as the magnitude and frequency of sea level rise and wave inundation events, respectively, are increasing. It is of primary importance to identify and map the areas which are more prone to wave-overtopping events and areas which are less likely to be affected so that crop and groundwater production can be focused in the safer areas and water and food security can be maintained. Similarly under increasing extreme events, promoting areas where there is greater access to fresh water to support agriculture and improve food security in atolls, will further strengthen the resilience and reduce land degradation from use of brackish water. Under GEF-6 LD Objective 3, it proposes employing sustainable land management interventions to improve water resource management and hydrological functions and services, particularly in Pacific SIDS. The proposed development of capacities to monitor land degradation and its impacts on coastal aquifers is expected to create an enabling environment to support countries achieving a certain level of Land Degradation Neutrality, increasing their resilience against natural disasters and ultimately prevent conflict and migration from these fragile areas. Given women's central role in maintaining food and water security in all project communities, it is essential that they are actively engaged in land degradation efforts. This will be achieved by ensuring full consultation and increasing women's knowledge of the impacts of climate change and human induced hazards on ground water. Similarly, the project will provide information and education materials to schools to promote the sustainability of coastal aquifers.

Expected contributions from the baseline, the GEFTF, and co-financing

This project will build on the findings, networks built, and lessons learned from previous projects undertaken in the region over the last decade which have been gradually establishing the way towards achieving sustainable aquifer management. The intention is to replicate good practices that have worked in the past and to integrate monitoring and management approaches towards inclusion of groundwater management into applicable national water policies and IWRM plans. The GEFTF contribution will be key in ensuring that the project countries, and particularly the selected project sites, will obtain the foundation required to support improved aquifer management/governance.

Work alignment with existing projects and indicative co-financing through these projects is summarized in the following table:

Project	Project objective and relevant expected results	Confirmed co-financing
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New Zealand - Strengthening Water Security of Vulnerable Island States (2014-2019)	<p>The project supports atoll countries, including Tuvalu and RMI, in building the skills, systems and basic infrastructure to better anticipate, respond to, and withstand the impacts of drought.</p> <p><u>Relevant activities:</u> water resources assessment surveys undertaken in Tuvalu and RMI will be used to guide the development of groundwater development infrastructure.</p>	\$196,000
New Zealand Ministry of Foreign Affairs	<p><u>Relevant activities:</u> groundwater development and supply infrastructure is proposed for Vaitupu, Tuvalu, complementing the aquifer management and protection activities proposed for Vaitupu under MCAP.</p>	\$584,500 (funding agreement expected to be confirmed in November 2019)
EU - Building Safety and Resilience in the Pacific (2016-2019)	<p>The project focusses on reducing the vulnerability, as well as the social, economic and environmental costs of disasters caused by natural hazards in ACP Pacific Island States.</p> <p><u>Relevant activities:</u> institutional arrangements for Disaster Risk Management were strengthened in the Republic of the Marshall Islands through the review and endorsement of a DRM Plan, public awareness was raised and training workshops were conducted to help businesses better assess and reduce their vulnerability to hazards such as drought, typhoon, storm surge, inundation and utilities failures. In Palau, the National DRM Plan was reviewed and endorsed by Cabinet, State Disaster Plans and Community Disaster Plans were developed for all states and hamlets and submitted to the states for adoption, and public awareness material was developed on water shortages and droughts. In Tuvalu, institutional arrangements for DRM and CCA were strengthened, Island Disaster Committee members were trained on emergency response and measures were put in place to enhance the preparedness, response and recovery.</p>	\$1,960,000
World Bank – Pacific Resilience Projects phase II (2019-2022)	<p>The objective of the Second Phase of Pacific Resilience Projects in the Republic of the Marshall Islands is to strengthen early warning systems, climate resilient investments in shoreline protection, and to provide immediate and effective response to an eligible crisis or emergency.</p> <p><u>Relevant activities:</u> Collection of airborne LIDAR imagery, development of hazard and inundation risk maps, monitoring of shoreline changes for Majuro atoll. Development of GIS capacity at the national level. Topographical surveys planned under MCAP will be undertaken by the national staff trained under PREP II.</p>	\$1,400,000
WMO - Climate Risk & Early Warning Systems	<p>The Climate Risk & Early Warning Systems initiative supports Least Developed Countries and Small Island Developing States to significantly increase the capacity to generate and communicate effective, impact-based, multi-hazard, gender-informed early warnings to protect lives, livelihoods, and assets.</p> <p><u>Relevant activities:</u> wave inundation modelling and forecasting of all the inhabited sites in Tuvalu</p>	\$350,000
KfW Development Bank - Cyclone Pam recovery support Tuvalu (2016-2018)	<p><u>Relevant activities:</u> development of offshore wave forecasting systems, post disaster surveys, capacity building, and provision of equipment</p>	\$450,000

World Bank - Pacific Catastrophe Risk Assessment & Financing Initiative phase III (2019-2021)	<p>The project focusses on building the financial resilience of Pacific Island Countries against natural disasters.</p> <p><u>Relevant activities:</u> development of capacities in the Republic of Marshall Islands to conduct risk assessments and to produce hazard information.</p>	\$500,000
Australian Government - COSPPac	<p>The project goal is to enhance the capacity of Pacific Islands to manage and mitigate the impacts of climate variability and tidal events. This is achieved through work with stakeholders in the Islands to build tools that can forecast and report on climate, tides and the ocean and to determine how best to communicate this information to communities, businesses and Governments.</p> <p><u>Relevant activities:</u> annual maintenance and levelling of tide gauges in the Republic of Marshall Islands and Tuvalu, annual fees for the telemetered data transfer, salaries of SPC staff looking after the Ocean Portal.</p>	\$50,000
GCF – Addressing climate vulnerability in the water sector in the Marshall Islands (2019-2026)	<p>The project aims at supporting the Government of the Republic of the Marshall Islands in adapting to increasing climate risks, particularly more frequent and extreme droughts, which impact the country’s drinking water supply.</p> <p><u>Relevant activities:</u> interventions such as the protection of private wells from storm surges and contamination and the enhancement of women and youth’s leadership through best practices and community awareness programmes will complement the groundwater protection, monitoring and development work that is envisaged through the MCAP (and vice versa) towards achieving enhanced climate resilience of the water sector.</p>	\$2,267,660
GCF – Tuvalu Coastal Adaptation Project (2018-2025)	<p>The Tuvalu Coastal Adaptation Project assists Tuvalu by implementing measures that reduce exposure to coastal hazards in the three target islands, developing a long term coastal adaptation strategy, building capacity of national and local authorities to better implement adaptation actions, and investing in youth as future stewards of a resilient Tuvalu.</p> <p><u>Relevant activities:</u> collection of airborne LIDAR imagery across Tuvalu’s nine atoll islands, implementation of coastal protection measures in Nanumea (geo-textile container revetment + beach nourishment and dune restoration) and Funafuti (rock armour revetment + pre-cast concrete revetment), wave inundation modeling for Nanumea</p>	\$11,591,540

Global environmental benefits

The protection and sustainable development of coastal aquifers is directly linked to the level of understanding and awareness on the behavior of these systems. An improved understanding of coastal aquifers and a strengthened in-country monitoring capacity will contribute to a more responsible and sustainable use and management of these freshwater resources and their accessibility and usefulness into the future. This will allow the countries to make better use of groundwater as an alternate freshwater resource, and incorporate it into national water budgeting and management, especially during dry periods. The nature of land degradation addressed, includes the reduction in quantity and quality of groundwater supplies and the increased extent and severity of floods and droughts. Global environmental benefits resulting from the focus on the Land Degradation focal area will include an increase in the area of landscapes under improved practices and management. With respect to the International Waters focal area, it is expected that the project outcomes will contribute to 1) strengthening the level of capacity and sustainability of national management institutions and of national inter-ministerial committees, 2) strengthening local and national policies and reforms on IWRM and water and sanitation, and 3) improving the monitoring of the environmental status of groundwater bodies and aquifers. A total population of 12,953 (female: 6473, male: 6480, children: 3424) is expected to benefit from this project.

Innovativeness, sustainability and potential for scaling up

SPC has a long-term commitment to maintain, through an ongoing programmatic support to its member countries, the sustainability and strengthening of their institutions. Through this broader programmatic support, lessons that have been identified through projects benefit other efforts beyond the life of each project. Essentially, SPC is not just a project implementer but responds to country requests for support and accommodates the required technical backstopping. At the same time, lessons learned from previous projects in the region will help SPC supporting a process that is established with the island governance mechanisms to allow them take on sustainability issues. Therefore, strong commitment is also necessary on behalf of the beneficiaries to sustain the work in the long term.

The current project is aiming at providing the means and enhancing the capacities to access and manage a new water resource that can complement the existing rainwater resources and help with coping through periods of water scarcity. The piloting of accessible and relatively low-cost technologies such as groundwater infiltration galleries will demonstrate that, when properly planned, such technologies can enhance the resilience of SIDS against climate change and natural disasters. Existing infrastructure which allows monitoring of water resources will be enhanced with dedicated monitoring boreholes to allow for direct monitoring of groundwater resources. Monitoring infrastructure will be equipped with instrumentation to allow for continuous recording of data to allow for effective spatiotemporal monitoring and management of water resources.

Human capacities will be enhanced by setting up and trialing monitoring schemes which will allow the project countries to monitor and report on water resources data through available mobile networks and smartphone applications. Over the course of the project, in-country annual training workshops will be conducted to develop national human capacity in using these technologies and transferring the knowledge to other staff at the island level. The frequency of water resources monitoring and reporting will be a measure indicating the development of capacities and the success of the approach. Three pilot islands will be selected in each one of the three project countries to evaluate the success of these monitoring schemes and promote their upscaling at the national and regional level. It is expected that this bottom-up approach will help in sustaining monitoring activities at the island level past the project closure and consequently ensure national ownership of project results and interventions.

The high importance of coastal aquifers for livelihoods and the inherent risks associated with island vulnerabilities, creates the need for the generation of best practices that can be replicated and scaled-up. The high profile of land and water in island communities, coupled with the limited policy and legal frameworks for the integration of protection and management of these resources, creates significant opportunities for the successful uptake of best practices and lessons learned.

[1] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving..

A.2. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

NA

A.3. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder engagement plan provided separately.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Successful stakeholder engagement is a prerequisite to effective partnerships and developing capacity at local and national level. Stakeholder engagement is also at the heart of SPC's GEM Division outcome aimed at improving multi-sectoral responses to climate change and disasters to achieve empowerment and resilience of Pacific communities.

Project activities related to project component 1 "National demonstrations to support knowledge and use of coastal aquifers for enhanced water security" will require engagement with the lead agency in each country and with the ministries/departments/agencies that deal with water, public utilities and public works to 1) successfully conduct the required technical assessments, 2) enhance in-country capacity in assessment techniques, 3) formalize agreements related to location and purpose of groundwater monitoring networks, groundwater production galleries, and water treatment facilities. Engagement with social agencies will also be required to conduct the socio-cultural surveys, facilitate communication and engagement with women's group, youth organisations and agencies focused on disability issues.

Activities related to project component 2 "National-based investments in human capital and tools" will require strong engagement with the agencies who are active and/or have a presence in project islands and communities. Effective knowledge transfer and application to the outer islands will be key in successfully achieving project outcomes related to this component.

Activities related to project component 3 "Local-based approaches to support the sustainable management and protection of coastal aquifers in the context of climate change" will require engagement with most of the identified stakeholders to demonstrate the potential of rolling out the piloted participatory monitoring and management approaches in the outer islands to the national and regional scale.

A National project manager engaged for the duration of the project in each country, will play an essential role in facilitating communication and engagement with relevant stakeholders at national, island and community level. The national project manager will be supported by the implementing partner to ensure relevant and appropriate information on the project is effectively communicated to the stakeholders in accessible formats.

Activity	Timing	Objective of engagement	Target stakeholders
Multidisciplinary (technical and cultural) coastal aquifer assessments	Beginning 2020 – mid 2022	<ul style="list-style-type: none"> - Collaboration in conducting multidisciplinary assessments - Capacity development on assessment techniques - Collection/sharing of traditional knowledge relevant to the assessments - Informing and debriefing on assessment objectives and results - Communication between SPC and direct beneficiaries - Communication between consultant undertaking cultural surveys and direct beneficiaries 	RMI: EPA, MWSC, MoCIA, MICS, IOM, direct beneficiaries
			Palau: MNRET, PPUC, MCCA, direct beneficiaries
			Tuvalu: CCPU, PWD, TDLS, DRD, direct beneficiaries

Development of monitoring borehole networks in selected aquifers	Mid 2020 – end 2022	<ul style="list-style-type: none"> - Communication between drilling consultant and direct beneficiaries - Formalize agreements on location and purpose of monitoring networks 	RMI: EPA, MWSC, direct beneficiaries
			Palau: MNRET, PPUC, EQPB, direct beneficiaries
Development of groundwater production galleries in selected islands	Mid 2020 – end 2022	<ul style="list-style-type: none"> - Communication between consultant installing groundwater production galleries and direct beneficiaries - Formalize agreements on location and purpose of groundwater production galleries 	RMI: EPA, MWSC, direct beneficiaries
			Tuvalu: PWD, DRD, direct beneficiaries
Improved quality of water supply for domestic needs	Beginning 2021 – end 2022	<ul style="list-style-type: none"> - Communication between consultant installing water treatment facilities and direct beneficiaries - Formalize agreements on the purpose of water treatment facilities 	Palau: MNRET, PPUC, EQPB, direct beneficiaries
Development of capacities to undertake rainfall, land degradation and water resources monitoring	Beginning 2021 – end 2023	- Capacity development on monitoring of land degradation and water resources (incl. on the use of tools and instrumentation)	RMI: EPA, MWSC, IOM, WSO, MIRCS, CMI, MICS, NDMO, WUTMI, MoCIA, direct beneficiaries
			Tuvalu: PWD, TDLS, DRD, TMS, TRCS, Fusi Alofa, GAD, direct beneficiaries
Tools and instrumentation in place for rainfall and water resources monitoring	Mid 2020 – end 2022	<ul style="list-style-type: none"> - Formalize agreements on monitoring instrumentation installed at each project site - Equipping of national staff with suitable tools to undertake monitoring 	RMI: EPA, MWSC, IOM, WSO, MIRCS, MICS, NDMO, direct beneficiaries
			Palau: MNRET, PPUC, EQPB, direct beneficiaries
			Tuvalu: PWD, TDLS, DRD, TMS, TRCS, direct beneficiaries
Demonstrated participatory	Beginning 2021 – end	<ul style="list-style-type: none"> - Demonstration of participatory management and reporting to direct beneficiaries - Evaluate monitoring data reported back from project sites to central database 	RMI: EPA, MWSC, IOM, WSO, MIRCS, CMI, MICS, NDMO, direct beneficiaries

management and reporting mechanisms in place	2023	- Providing feedback to stakeholder in charge of central database	Tuvalu: PWD, DRD, TMS, TRCS, direct beneficiaries
Improved land management to protect aquifers	Beginning 2021 – end 2022	- Formalize agreements on location and purpose of proposed land management actions	Tuvalu: DOE, TDLS, DRD, TRCS
Development of groundwater numerical models	Beginning 2022 – end 2022	- Collection of data required for model development - Presentation of model capabilities as a groundwater management tool	RMI: EPA, MWSC, WSO, direct beneficiaries
Development of technical guidance notes to support development of aquifer management plans and drought response plans	Beginning 2022 – end 2023	- Presentation and delivery of technical guidance notes to relevant stakeholders involved in the operation and management of groundwater galleries	RMI: OEPPC, EPA, MWSC, MICS, IOM, NDMO, direct beneficiaries
			Palau: MNRET, PPUC, NEMO, direct beneficiaries
			Tuvalu: DOE, CCPU, PWD, DRD, direct beneficiaries
Accessible project website with project developed datasets	Mid 2020 – end 2023	- Material contributions to project website	RMI: OEPPC, EPA
			Palau: MNRET
			Tuvalu: DOE, CCPU
Contribution to IWLEARN activities	Beginning 2021 – end 2023	- Resourcing documentation of experiences and lessons learned as IW:LEARN experience notes	RMI: OEPPC, EPA
			Palau: MNRET
			Tuvalu: DOE, CCPU

Documents

Title

Submitted

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor; No

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

A.4. Gender Equality and Women's Empowerment

Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The project will mainstream gender equity and social inclusion by ensuring women's needs and views are fully considered and incorporated at regional, national and community level. Gender transformation will be supported by ensuring women actively participate in the project's decision-making processes, through the provision of training in non-traditional gender occupations, and by reducing women's work burden. By taking on more public roles in community/island water planning processes, this exposure could lead to women's increased engagement in broader political processes over time. Social inclusion will be promoted by ensuring that youth are included in aquifer education, conservation and monitoring efforts. In this way, they will become more knowledgeable about water resource management, the impacts of climate change and how to safeguard this resource for future generations. The project will also support the inclusion of people with disabilities to ensure their rights and needs are understood and addressed while enhancing disability inclusive disaster risk reduction efforts at island level and community level.

Documents

Title

Submitted

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

If yes, please upload document or equivalent here

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

A.5. Risks

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being, achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.

Description	Type	Impact & Probability	Countermeasures / Management response
Logistical challenges of implementing activities in outer islands may become overwhelming	Organizational	I = 3 P = 3	It is necessary to build on lessons learnt about scheduling and logistics from previous projects; adopt flexible and back-up planning approaches such that alternatives (e.g. moving activities to a different location) can be prioritised if and when necessary.
Lack of appropriately qualified national staff available to undertake cultural surveys at project sites	Organizational	I = 3 P = 2	Outsourcing of task to consultancy may be required.
It may not be possible to establish monitoring boreholes due to difficulties of mobilizing conventional drilling rigs to remote locations.	Operational	I = 4 P = 2	Various options exist in regard to monitoring borehole construction and drill technology. Appropriate technology and construction techniques will be applied, albeit this may affect the number of monitoring bores that are able to be constructed.

Provincial and local governments may perceive infrastructural developments as being driven by central government.	Political	I = 3 P = 1	Good communications strategies through consultation with communities, local governments and land owners will help to ensure commitment to project interventions.
Absorptive capacity for knowledge transfer at the sub-national governance level may be inadequate and unsustainable.	Operational, financial	I = 4 P = 2	It is recommended to assess the absorptive capacity in the identified area before committing to any interventions; maximise opportunities to employ local staff in the activity.
Internet connectivity and mobile networks in outer island settings inadequate to support use of mobile network technologies to report on water resources monitoring.	Operational	I = 1 P = 4	Alternatives will be investigated related to saving monitoring data offline while in the field and reporting back (uploading) from a governmental office where normally internet connection is available.
Available data may be insufficient to undertake site specific numerical modelling.	Operational	I = 4 P = 1	Input parameters for numerical model development including rainfall, aquifer extents and abstraction will be collected as part of the field assessments. Where drilling can be undertaken and establishment of monitoring networks then the infrastructure will be in place for targeted and specific data collection allowing for groundwater model development. In the absence of drilling and/or geophysical results, shallow seismic reflection will be employed.
Skills for undertaking modelling may be limited.	Operational	I = 4 P = 4	To counter this, partnership with appropriate educational/ research institution with long-established expertise will be sought.
Possible lack of national and local buy-in for the development and adoption of aquifer protection management plans.	Strategic, political	I = 2 P = 2	To counter this, communication with island councils and national agencies will be developed early in the project to ensure their cooperation through demonstrated value of aquifer protection management plans. National and local governments have identified risks to groundwater and salinization potential as a major concern and addressing these risks by the project have direct benefits to the communities. This project will address these concerns at the island level.
The project involves/promotes the abstraction of groundwater	Environmental	I = 1 P = 1	Even though the project will promote groundwater abstraction through the developed infiltration galleries, this is not seen as a risk but rather as a climate change adaptation approach to enhance resilience against natural disasters. Technical guidance notes will be produced guiding any future groundwater developments to ensure this is done sustainably.
The project could potentially involve temporary or permanent physical displacement	Political, other (social)	I = 2 P = 2	A minimal loss of land access due to restrictions may take place as a result of project development (monitoring and groundwater development infrastructure, groundwater protection planning, etc.). Changes in land use/access will always be materialized in consultation and with the agreement of the land owners. Preliminary consultations with communities and land owners have already commenced during the project preparation phase. Project design will make sure that loss of land access will not lead to resettlement.
The project could possibly result in economic displacement (loss of access to resources due to access restrictions)	Political, other (social)	I = 2 P = 2	As described above, some minimal restriction to land access may be required as a result of project interventions to achieve long term equity and benefits for the community. The project design accounts for project interventions to take place, to the extent possible, outside of human settlements in order to avoid affecting communities.

The project could possibly affect land tenure arrangements	Political, other (social)	I = 2 P = 2	As above
Is it likely that certain project interventions will be located on lands and territories claimed by indigenous people	Political, other (social)	I = 2 P = 2	As above
The project involves the utilization of natural resources (groundwater) on lands and territories claimed by indigenous people	Political, other (social)	I = 1 P = 1	The project will promote the use of groundwater as a beneficial approach to climate change and extreme climatic events (droughts). This strategy will be beneficial for the entire communities in the outer islands which consist mainly of indigenous people. No particular issues related to territorial claims by indigenous people are foreseen.
The proposed project interventions may be vulnerable to potential impacts of climate change and extreme climatic conditions	Operational	I = 2 P = 1	Extreme climate events may impact the implementation of some of the project components. Although rare, extreme climate events such as flooding and wave inundation may affect/delay the implementation of groundwater development and monitoring infrastructure. The inundation vulnerability mapping that is planned for each project island will guide the installation of such infrastructure towards the less prone areas within each identified groundwater resources, so as to minimize the risk.
The project could potentially result in increased health risks (water-borne)	Other (social)	I = 3 P = 1	As groundwater development constitutes part of the project outputs, the risk of developing and using a contaminated source may lead to water-borne diseases. Improving the quality of existing groundwater supply systems is one of the project outputs. As such, any developments of new groundwater resources will ensure the groundwater is devoid of contamination and suitable monitoring schemes and protection will be put in place to ensure groundwater quality does not degrade. Best practice guidelines to reduce contamination risks will be identified and communicated through awareness raising activities.
The project could potentially pose risks related to OH&S due to physical hazards during project construction	Operational	I = 2 P = 1	As drilling of monitoring boreholes and installation of infiltration galleries are foreseen, these activities could potentially pose OH&S related risks. Strict OH&S procedures will be imposed to prevent physical hazards.
The proposed project interventions will potentially result in the generation of non-hazardous waste	Environmental	I = 1 P = 3	The installation of groundwater development and monitoring infrastructure will potentially results in the generation of non-hazardous waste, including PVC pipes. A disposal plan for the material brought onsite (PVC pipes etc) will be developed to ensure that the environmental and social impact are minimized.

A.6. Institutional Arrangement and Coordination

Describe the Institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

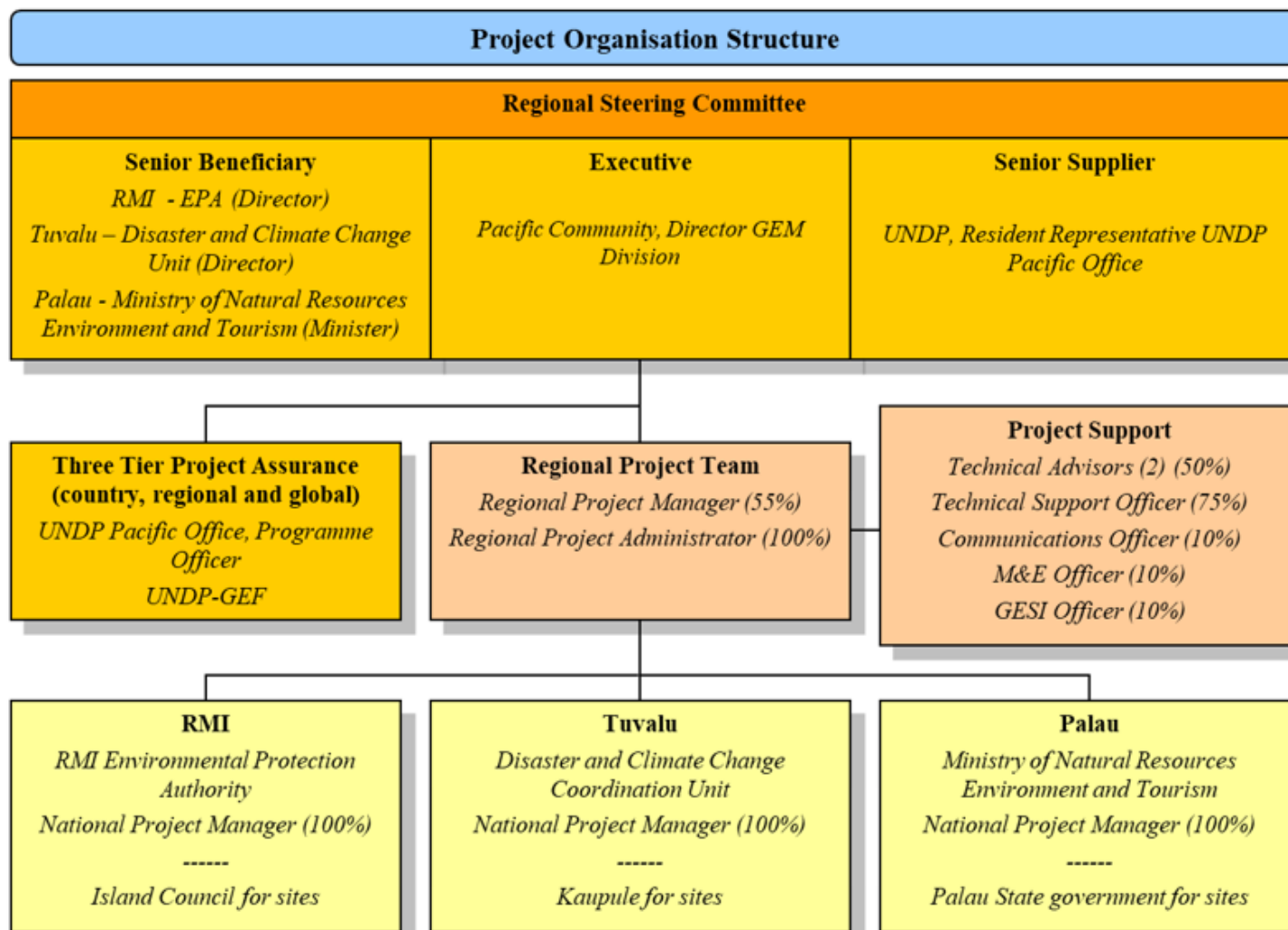
Roles and responsibilities of the project's governance mechanism:

The project will be implemented following the applicable rules and procedures laid down for UNDP's NGO implementation modality. The Pacific Community (SPC) will be the Implementing Partner for the project, based on the standard Project Cooperation Agreement to be signed between UNDP and SPC.

The Implementing Partner is responsible for executing this project. Specific tasks include:

- Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- Risk management as outlined in this Project Document;
- Procurement of goods and services, including human resources;
- Financial management, including overseeing financial expenditures against project budgets;
- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

The project organisation structure is as follows:



Regional Steering Committee: The Regional Steering Committee is responsible for making by consensus, management decisions when guidance is required by the Regional Project Manager, including recommendations for UNDP/Implementing Partner approval of project plans and revisions, and addressing any project level grievances. In order to ensure UNDP's ultimate accountability, Regional Steering Committee decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Committee, final decision shall rest with the UNDP Programme Manager. Specific responsibilities of the Regional Steering Committee include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the regional project manager;
- Provide guidance on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Agree on project manager's tolerances as required;
- Review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Appraise the annual project implementation report, including the quality assessment rating report; make recommendations for the workplan;
- Provide ad hoc direction and advice for exceptional situations when the project manager's tolerances are exceeded; and
- Assess and decide to proceed on project changes through appropriate revisions.

The composition of the Regional Steering Committee must include the following roles:

Executive: The Executive is an individual who represents ownership of the project who will chair the Regional Steering Committee. This role can be held by a representative from the Government Cooperating Agency or UNDP. The Executive is: Director Geoscience, Energy and Maritime Division (GEM), Pacific Community (SPC). The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive has to ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and supplier. Specific Responsibilities: (as part of the above responsibilities for the Regional Steering Committee)

- Ensure that there is a coherent project organisation structure and logical set of plans;
- Set tolerances in the AWP and other plans as required for the Regional Project Manager;
- Monitor and control the progress of the project at a strategic level;
- Ensure that risks are being tracked and mitigated as effectively as possible;
- Brief relevant stakeholders about project progress;

- Organise and chair Regional Steering Committee meetings.

Senior Supplier: The Senior Supplier is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Committee is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Supplier is: Resident Representative, UNDP Pacific Office. Specific Responsibilities (as part of the above responsibilities for the Regional Steering Committee)

- Make sure that progress towards the outputs remains consistent from the supplier perspective;
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management;
- Ensure that the supplier resources required for the project are made available;
- Contribute supplier opinions on Regional Steering Committee decisions on whether to implement recommendations on proposed changes;
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

Senior Beneficiary: The Senior Beneficiary is an individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Committee is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society. The Senior Beneficiary is:

- Tuvalu represented by the Director of the Disaster and Climate Change Unit (Office of the Prime Minister),
- Republic of Palau represented by the Minister for Natural Resources, Environment and Tourism,
- Republic of Marshall Islands represented by the Director of the Environmental Protection Authority.

The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness, the role should not be split between too many people. Specific Responsibilities (as part of the above responsibilities for the Regional Steering Committee) include:

- Prioritize and contribute beneficiaries' opinions on Regional Steering Committee decisions on whether to implement recommendations on proposed changes;
- Specification of the Beneficiary's needs is accurate, complete and unambiguous;
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target;
- Impact of potential changes is evaluated from the beneficiary point of view;
- Risks to the beneficiaries are frequently monitored.

Regional Project Manager: The Regional Project Manager has the authority to run the project on a day-to-day basis on behalf of the Regional Steering Committee within the constraints laid down by the Committee. The Regional Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The Implementing Partner appoints the Regional Project Manager, who should be different from the Implementing Partner's representative in the Regional Steering Committee. Specific responsibilities include:

- Provide direction and guidance to project team(s)/ responsible party (ies);
- Liaise with the Regional Steering Committee to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning and control of the project;
- Responsible for project administration;
 - Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
 - Mobilize personnel, goods and services, training and micro-capital grants to initiative activities, including drafting terms of reference and work specifications, and overseeing all contractors' work;
 - Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
 - Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
 - Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
 - Be responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
 - Manage and monitor the project risks initially identified and submit new risks to the Regional Steering Committee for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
 - Capture lessons learned during project implementation;
 - Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available.
- Prepare the GEF PIR and submit the final report to the Regional Steering Committee;
- Based on the GEF PIR and the Regional Steering Committee review, prepare the AWP for the following year.
- Ensure the mid-term review process is undertaken as per the UNDP guidance, and submit the final MTR report to the Regional Steering Committee.
- Identify follow-on actions and submit them for consideration to the Regional Steering Committee;
- Ensure the terminal evaluation process is undertaken as per the UNDP guidance, and submit the final TE report to the Regional Steering Committee;

Project Assurance: UNDP provides a three – tier supervision, oversight and quality assurance role – funded by the GEF agency fee – involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of the Regional Project Management function. The quality assurance role supports the Regional Steering Committee and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Regional Steering Committee cannot delegate any of its quality assurance responsibilities to the Regional Project Manager. This project oversight and quality assurance role is covered by the GEF Agency.

Other relevant projects and initiatives

Project	Project objective and relevant expected results
GEF – R2R (2015-2019)	<p>The GEF-funded national and regional Ridge To Reef projects are supporting national priorities and development needs of 14 countries while delivering global environmental benefits on Land Degradation, Climate Change Adaptation and International Waters GEF focal areas (among others).</p> <p><u>Relevant activities:</u> MCAP will build upon a number of interventions undertaken during the R2R projects in the three relevant countries. For example, the water resources assessment surveys performed in Nanumea and Nukufetau may be used to guide the development of groundwater development infrastructure.</p>
EU - GCCA+ SUPA (2018-2022)	<p>The project aims at enhancing climate change adaptation and resilience within ten Pacific island countries, including RMI, Palau and Tuvalu, aiming specifically at strengthening the implementation of sector-based, but integrated, climate change and disaster risk management strategies and plans.</p> <p><u>Relevant activities:</u> coastal protection interventions are planned for Ailinglaplap atoll in RMI, one of the MCAP project sites. These coastal protection measures are expected to be extremely relevant for the protection of the Woja aquifer from contamination deriving from wave inundation events and storm surges. It is also expected that the scope of MCAP activities in Tuvalu may be expanded by co-financing activities through the GCCA+ SUPA.</p>
EU - RENI (2017-2020)	<p>The Readiness for El Niño project is planned to terminate in November 2020 and it is expected that it will be the source of important information and lessons learnt with regards to enhancing drought readiness in the Marshall Islands and Palau.</p>

Additional Information not well elaborated at PIF Stage:

A.7. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptaion benefits (LDCF/SCCF)?

The global environmental benefits generated by the project will be underpinned by socio-economic benefits, such as improved livelihoods and water security stemming from improved delivery of ecosystem services and from integrated water resources management. Specific socioeconomic benefits, with positive implications for SDGs, expected to be delivered at the national level through the enhanced management and protection of coastal aquifers include:

1. the increase in the percentage of population covered by public water supply,

2. the increase in sustainable groundwater abstraction for domestic, industrial, and agricultural water supply,
3. the increase in the proportion of public water supply, industry, and irrigated land dependent on groundwater,

the increase in induced recharge derived from targeted land management interventions.

A.8. Knowledge Management

Elaborate on the Knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

As the project evolves, the three project countries will become both recipients of development cooperation and active South-South partners. The annual regional steering committee meetings will act as platforms for the three countries to exchange knowledge and experience learned prior to and during this project to replicate and adapt Southern development solutions and good practices. The three countries have different levels of groundwater resources development, supply, management and protection. Palau for example has a long-standing experience and has therefore a lot to share in terms of groundwater development but is facing challenges related to groundwater quality and shortage during droughts. RMI on the other hand, having a fully established groundwater monitoring network in Laura, Majuro, can provide valuable information on how to establish sustainable and cost-effective monitoring strategies to be adapted by the other countries.

The knowledge management approach addresses the following elements of program delivery:

1. Annual participation of national project managers, national and local governmental staff, and community members from the project sites in national training workshops for the development of capacities on specific topics and tasks related to water resources and land degradation and to proposed monitoring and management strategies developed under this project. These workshops will be an opportunity for knowledge exchange between project sites at the national level.
2. Annual participation of two governmental staff from each project country in short-term technical courses on water resources related topics to reinforce knowledge transferred during the in-country training workshops. Given the significant lack of women engaged in natural resource technical trades in project countries, preference will be given to female candidates. This activity will promote “Women in Water” development in line with national and regional gender equity objectives.
3. Participation of regional project team in IW:LEARN conferences and other regional conferences to ensure knowledge exchange at international level.
4. The proposed participatory management and reporting mechanism using mobile network technology will promote effective governance at the local level for aquifer and land management developing resilient communities against climate change and natural disasters.
5. The project website will offer a repository of information for project and other countries in the region, sharing similar issues, to engage and exchange knowledge and experiences. Successful demonstrations are expected to catalyze additional funding to replicate interventions and approaches implemented during this project.

6. Development and sharing of GEF IW Experience Notes showcasing specific project experiences that may be of interest to other projects in the portfolio to replicate.
7. Identification of mechanisms for ensuring end-user engagement in the program and understanding end-user needs and priorities.
8. Establishment of a plan to ensure the ongoing availability of project outputs beyond the life of the project for end-users.
9. Support mechanisms to bring the identified relevant stakeholders together to facilitate evidence-based decision-making.

Promotion of the MCAP outputs to end-users, particularly in the coastal communities.

B. Description of the consistency of the project with:

B.1. Consistency with National Priorities

Describe the consistency of the project with nation strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Relevance to national development priorities

The development challenge that the project seeks to address is well reflected in the national development priorities of the three project countries:

Republic of Marshall Islands

The RMI “National Strategic Plan (NSP) 2015-2017” includes five sectors with development objectives aligned with ten long-standing National Development Themes originating from the broader “Strategic Development Plan Framework 2003-2018” (Vision 2018) published in 2001. The proposed work will contribute in addressing the following national goals and targets of the RMI National Strategic Plan 2015-2017:

1. Efficient use of water resources under National Development Theme 1 “Ensuring and applying the practice of good governance principles to achieve effective governance through community planning and developing effective linkages between local and national government”,
2. Water security and access to reliable infrastructure under National Development Theme 8 “Building a sound infrastructure that provides energy environmental, infrastructure, and transportation security for all atolls”,
3. Environmental and coastal security under National Development Theme 9 “Mitigating the impacts of climate change and creating awareness of the importance of environmental assets through community, national, regional and international approaches and specifically the implementation of the Majuro Declaration”,
4. Environmental and infrastructure security for outer island populations under National Development Theme 10 “Ensuring outer islands populations receive access to all necessary services allowing all RMI citizens to enjoy a high quality of life”.

Moreover, the proposed work is expected to complement the monitoring of NSP implementation and progress with respect to

1. The “Environment, Climate Change and Resiliency” NSP Sector, which is monitored, among others, through the following indicators:
 - a. Saltwater intrusion to wells and crops,
 - b. Drinking water quality,
 - c. Maps and datasheets of natural resource and conservation targets and uses,

d. Number of completed resource management assessments.

2. The “Infrastructure Development” NSP Sector, which is monitored, among others, through the following indicators:

a. Reduction of gastroenteritis incidences by 50%,

b. Degree of IWRM implementation,

c. Improving access to water for disadvantaged households.

Within the context of extreme vulnerability to climate change impacts, the RMI has developed and formally endorsed in 2011 the “National Climate Change Policy Framework”, to provide a blueprint to build resilience in partnership with regional and global partners. The NCCPF identifies “Food and Water Security” among the nine national priority areas which need to be addressed via the following strategic goals of relevance to this project:

1. Strengthen the Enabling Environment for Climate Change Adaptation and Mitigation,

2. Adaptation and Reducing Risks for a Climate Resilient Future,

3. Disaster Preparedness, Response and Recovery.

The purpose of the *Marshall Islands National Climate Change Policy Framework* (NCCPF) is to set out the strategic priorities for scaling up the government’s commitments to address climate change, both in terms of current and future vulnerabilities. This policy promotes a coordinated approach to reducing projected climate-related risks that can lead to loss of life, economic disruption, environmental and property damage and increased poverty in vulnerable groups. From a GESI perspective, the NCCPF states that climate change is a cross-cutting development issues because it affects every aspect of the Marshallese way of life and livelihoods: “*Climate change impacts exacerbate existing cultural and socio-economic vulnerabilities....These impacts threaten the security of our nation... Adapting and mitigating the impacts of climate change on water security through well-designed water resiliency awareness, systems, and practices supported by well-organized and comprehensive institutions is urgently required, particularly in addressing the needs of the most vulnerable members of society.*”

Links also exist with the “Post Disaster Needs Assessment of the 2015-2016 Drought”. The PDNA document forms the basis for drought recovery by the Government of RMI and is useful for considering the economic and social impacts of drought and potential mitigation measures that can be considered, cost reduction mechanisms identified for future droughts, and recommendations from the lessons learnt that could be considered for inclusion.

Clear links also exist with the “RMI National Water and Sanitation Policy and Proposed Action Plan” that was drafted in 2014 to direct investment in the sector, improve water and sanitation services and sustainably manage the limited fresh water resources. This policy recognizes the “essential role of women in the provision, management and safe-guarding of water, sanitation and hygiene”. The proposed work is expected to support the Water and Sanitation Commission to take key decisions on resource allocation and utilize objective criteria to inform decision-making. The proposed set of project activities can be incorporated in all five policy areas and can support the achievement of the relevant strategic goals:

1. Reduce the occurrence of waterborne illnesses,

2. Ensure water resource sustainability,

3. Ensure water and sanitation utilities are financially solvent,

4. Target service improvements at the disadvantaged,

5. Be resilient to climate variability and extreme events.

Also of relevance, the “National Gender Mainstreaming Policy of the Marshall Islands” is directly linked to Priority Outcome 2; to support the role of women in household community adaptation strategies to climate change impacts and disaster risks, and Priority Outcome 4; to increase women’s participation in planning and decision-making and planning processes.

Tuvalu

The development challenge that the project seeks to address is reflected in the Tuvalu “National Strategy for Sustainable Development 2016 to 2020 (Te Kakeega III)”. The proposed project work will complement:

1. Strategic Area 8 "Natural Resources" as key performance indicator "increase in farmer productivity" implies availability of water including groundwater,
2. Strategic Area 9 "Infrastructure and Support Services" as performance indicator "Enough water in storage to last all the islands through 6 months of drought" is also dependent on groundwater,
3. Strategic Area 10 "Environment" which aims at protecting, restoring and promoting the sustainable use of terrestrial ecosystems including aquifers.

TK III has a strong focus on human rights and advancing gender equality, including the need to ensure that gender and disability perspectives are incorporated into natural resource and disaster risk management.

The need for promotion and enhancement of sustainable use of natural resources including groundwater through awareness and conservation was also highlighted in Tuvalu’s “National Adaptation Programme of Action” in 2007.

The proposed work will also address the 7 strategic goals stated in the “Sustainable and Integrated Water and Sanitation Policy 2012-2021” towards achieving a safe, reliable, affordable and sustainable water supply by the year 2021:

1. Provide a safe, reliable, affordable and sustainable water supply,
2. Manage and conserve scarce water supplies,
3. Establish and maintain effective early warning and response systems,
4. Enable effective, equitable and integrated governance of water and sanitation,
5. Increase community awareness and participation in the management of water and sanitation,
6. Improve access to reliable, affordable and environmentally friendly technologies,
7. Improve the affordability of water and sanitation services and increase access to sustainable sources of finance.

The proposed project activities are well aligned with the proposed strategies within the policy that address the 7 strategic goals.

The *Tuvalu Climate Change Policy TE KANIVA 2012-2021* includes strategies to assess and address the health and socio-economic implications (inclusive of gender) of climate change and disaster risks informing appropriate health and socio-economic adaptation programmes for each island. Upcoming revisions to this policy are expected to increase the focus on GESI issues.

Republic of Palau

The development challenge is clearly reflected in the “Palau 2020 National Master Development Plan” and the proposed work aims at developing and strengthening policy mechanisms, institutional capacity and data collection required for the protection of coastal aquifer systems and to ultimately enhance the natural environment. The project is also in line with the national strategies related to the conservation of environmental assets, which helped implementing the Economic Development Plan.

The “Management Action Plan for Palau”, approved in 2001, calls for comprehensive watershed management planning to achieve excellent water quality and quantity for the people of Palau. This has resulted in the development of a number of watershed management plans in Palau. Even though not explicitly mentioned, groundwater constitutes an integral component of the water cycle in every watershed and its management and protection is critical in achieving the envisaged water security. This links are also reflected in the “Updated Belau Watershed Alliance Action Plan 2018”, a product of the IW R2R project in Palau.

The immediate and root causes of the development challenge were also identified in the “Drought Report” drafted in 2016 and the “Water Use and Conservation Policy” signed by the President in 2017 in response to the 2016 drought which had severe impacts to the entire country.

Priority risks identified in the “Palau Climate Change Policy” of 2015 included salt water intrusion and land inundation, the damage of water infrastructure, the increase in water-borne diseases and the decrease in quantity and quality of water provided by utilities. It was recommended incorporating water security planning within watershed Conservation Action Plans, undertaking vulnerability assessments in various states including the state of Kayangel and undertaking field interventions with the objective to improve access to clean water.

The development challenge is well reflected in the 2011 “National Water Policy” aiming to protecting and conserving Palau’s water resources, ensuring Palauans have access to safe, affordable, sustainable water supply and wastewater services, and seeing that these services are managed and operated sustainably and effectively. The National Water Policy also includes a gender component.

C. Describe The Budgeted M & E Plan:

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ^[1] (US\$)		Time frame
		GEF grant	Co-financing	
Inception Workshop	Regional Project Manager, National Implementation Partners, UNDP Country Offices, UNDP GEF	USD 20,000	None	Within two months of project document signature
Inception Report	Project Team, UNDP Country Offices	None	None	Within one month of inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Quarterly
Risk management	Regional Project Manager and UNDP Country Office	None	None	Quarterly
Monitoring of indicators in project results framework	Oversight by Regional Project Manager, Project team	Per year: USD 25,000		Annually before PIR
GEF Project Implementation Report (PIR)	Regional Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	Per year: USD 3,000	None	Annually
Lessons learned and knowledge generation	Project team	None	None	Annually

Regional Steering Committee meetings	Regional Steering Committee, UNDP Country Office, Regional Project Manager	Per year: USD 7,500	None	Annually
Mid-term GEF Tracking Tool to be updated by	Oversight by Regional Project Manager, Project team	USD 10,000	None	Before mid-term review mission takes place.
Independent Mid-term Review (MTR) and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 40,000	None	Between 2nd and 3rd PIR.
Terminal GEF Tracking Tool to be updated by	Oversight by Regional Project Manager, Project team	USD 10,000	None	Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 60,000	None	At least three months before operational closure
Monitoring of environmental and social risks, and corresponding management plans as relevant	Regional Project Manager, UNDP Country Office	None	None	On-going
Stakeholder Engagement Plan	Regional Project Manager, UNDP Country Office	None	None	On-going
Gender Action Plan	Regional Project Manager, UNDP Country Office	None	None	On-going
Addressing environmental and social grievances	Regional Project Manager, UNDP Country Office	None	None	On-going
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		USD 282,000	-	

[1] Excluding project team staff time and UNDP staff time and travel expenses.

PART III: Certification by GEF partner agency(ies)

A. GEF Agency(ies) certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
Pradeep Kurukulasuriya, UNDP-GEF Executive Coordinator	12/20/2019	Jose Padilla		jose.padilla@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

This project will contribute to the following Sustainable Development Goal (s): 2, 3, 5, 6, 11, 13, 15					
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: Outcome 1: Environmental management, climate and disaster risk management. The UN will work to support an integrated approach to environmental sustainability and efforts by PICT governments and communities to adapt to climate change and reduce and manage disaster risk.					
This project will be linked to the following output of the UNDP Strategic Plan: Output 1.4.1: Solutions scaled up for sustainable management of natural resources, including sustainable commodities and green and inclusive value chains					
	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Data Collection Methods and Risks/Assumptions
Project Objective: To improve the understanding, use, management and protection of coastal aquifers towards enhanced water security in the context of a	<u>Mandatory indicator 1:</u> Land area with improved aquifer management and protection (hectares).	0	0	3615 (RMI: 453, Tuvalu: 947, Palau: 2215)	Indicator calculated from national datasets (Census data) and SPC's Statistics for Development Division datasets (POPGIS) for areas in which project interventions will take place.
					Risks: - Assumptions: Total area of all project sites will benefit by project interventions.
	<u>Mandatory indicator 2:</u> Number of direct project	0	0	12953 (6480 male, 6473 female, 3424	Indicator calculated from national datasets (Census data) and SPC's Statistics for Development Division datasets (POPGIS) for areas in which project interventions will take place.

changing climate.	beneficiaries.			children)	<p>Risks: -</p> <p>Assumptions: Total population of all project sites will benefit by project interventions either through increased knowledge or improved access and management of groundwater.</p>
<p>Component 1 / Outcome 1.1: Enhanced knowledge on the current status of coastal aquifers and enhanced understanding of aquifer vulnerabilities to climate changes and other factors.</p>	Indicator 3: Status of knowledge on the current state of coastal aquifers, measured by the completion of water resources assessment surveys.	0	5	8	<p><u>Relevant sites:</u> Ailinglaplap, Delap, Laura, Jaluit, Nui, Peleliu, Angaur, Kayangel</p> <p>Completion of water resources assessment surveys will enhance the knowledge on the current state of coastal aquifers. Consultations will be conducted prior to and after the assessment surveys have been conducted to ensure knowledge transfer is achieved.</p> <p><u>GESI requirements</u></p> <p>All coastal aquifer assessments are developed in consultation with women, men and youth and are inclusive of gender and social inclusion factors, cultural issues, traditional protocols and land access requirements.</p> <p>Risks: Consultations do not cover all members of the community. Consultations to be developed with GESI officer to ensure inclusivity.</p> <p>Assumptions: Beneficiaries participate in water resources assessment surveys and pre- and post-consultations</p>
	Indicator 4: Status of knowledge on the vulnerability of coastal aquifers, measured by the completion of inundation vulnerability surveys and	0	5	8	<p><u>Relevant sites:</u> Wotje, Ailinglaplap, Delap, Laura, Jaluit, Vaitupu, Nui, Kayangel</p> <p>Completion of inundation vulnerability surveys and land use surveys will enhance the knowledge on the vulnerability of coastal aquifers. Consultations will be conducted prior to and after the assessment surveys have been conducted to ensure knowledge transfer is achieved.</p> <p><u>GESI requirements</u></p> <p>All coastal aquifer assessments are developed in consultation with women, men and youth and are inclusive of gender and social inclusion factors, cultural issues, traditional protocols and land access requirements.</p>

	land use surveys				<p>Risks: Consultations do not cover all members of the community. Consultations to be developed with GESI officer to ensure inclusivity.</p> <p>Assumptions: Beneficiaries participate in consultations and land use surveys</p>
<p>Component 1 / Outcome 1.2: Improved access to groundwater for enhanced water security.</p>	<p>Indicator 5: Total population benefiting from improved access to groundwater through the development of new groundwater production infrastructure.</p>	0	0	<p>1267: 679 male and 588 female. Total children population benefiting: 377</p>	<p><u>Relevant sites:</u> Wotje, Nanumea</p> <p>Indicator calculated from national datasets (Census data) and SPC's Statistics for Development Division datasets (POPGIS) for areas in which project interventions will take place.</p> <p><u>GESI requirements</u></p> <p>Both women and men from MCAP communities are actively involved in development of ground water production galleries.</p> <p>Students from island schools learn about infiltration galleries and water supply development.</p>
					<p>Risks: No suitable land areas are made accessible for water supply infrastructure. Communities do not adopt long-term O&M ownership.</p> <p>Assumptions: Total population of the relevant sites will benefit by project interventions through improved access to and of groundwater.</p> <p>Communities are in agreement with and support the construction of proposed water supply infrastructure. Local government and community engaged in the development of an O&M plan.</p>

	Indicator 6: Total population benefiting from access to improved quality water through treatment of existing reticulated water and/or through the provision of new, higher quality water.	0	0	471: 247 male and 224 female (Total population of Peleliu island that is connected to reticulated water supplies). Total children population benefiting: 106	<p><u>Relevant sites:</u> Peleliu and/or Angaur</p> <p>Completion of up to two water conditioning systems which will improve the water quality of reticulated ground water provided to the community. Indicator calculated from national datasets (Census data) and SPC's Statistics for Development Division datasets (POPGIS) for areas in which project interventions will take place.</p> <p><u>GESI requirements</u></p> <p>Pre- and post-intervention surveys are conducted with equal numbers of men and women and show improved quality of ground water for household needs as evidenced by reduced illness, improved taste and wider use.</p> <p>Consultations with landowners & community leaders reveal no issues with land use due to gallery development and access.</p> <p>Risks: Water quality improvement technologies are not maintained by the water supplier, including purchase of consumables.</p> <p>Assumptions: Total population of the relevant sites will benefit by project interventions through improved access and management of groundwater.</p> <p>Water supplier participates in the fitting of the water conditioning equipment, and associated training and operations.</p>
Component 2 / Outcome 2.1: Strengthened capacity and monitoring of climate and water resources at the local and national level.	Indicator 7: Number of participants attending water resources monitoring workshops	0	30	90	<p><u>Relevant sites:</u> Wotje, Jaluit, Ailinglaplap, Laura, Delap, Vaitupu, Nanumea, Nui, Funafuti, Peleliu, Angaur, Kayangel</p> <p>Indicator will be measured through attendance lists for the 3 training workshops conducted over 3 consecutive years. 30 participants expected to attend 3 workshops over 3 consecutive years</p> <p><u>GESI requirements</u></p> <p>At least 50 percent of participants attending capacity development training are women.</p> <p>Results of training assessments are gender disaggregated.</p>

				<p>Risks: Personnel assigned to undertake the monitoring are not retained throughout the project or leave there after. Requiring a minimum of two participants trained per monitoring site</p> <p>Assumptions: Beneficiaries participate in training workshops. Same participants are maintained throughout the project.</p>
Indicator 8: Number of land degradation workshops conducted at national level in the 3 project countries	0	1	3	<p>Workshops to transfer knowledge and build capacity in assessment techniques and image analysis to identify land degradation over time.</p> <p><u>GESI requirements</u></p> <p>At least 50 percent of participants attending capacity development training are women.</p> <p>Results of training assessments are gender disaggregated.</p> <p>Risks: Personnel assigned to undertake the monitoring are not retained throughout the project or leave there after.</p> <p>Assumptions: Beneficiaries participate in training workshops. Same participants are maintained throughout the project</p>
Indicator 9: Status of monitoring systems in place for rainfall and water resources monitoring (number of aquifers with complete monitoring systems in place, including handheld equipment)	0	4	9	<p><u>Relevant sites:</u> Wotje, Laura, Jaluit, Ailinglaplap, Delap, Nui, Peleliu, Angaur, Kayangel</p> <p>Measured by the complete delivery and installation of rainfall and water resources monitoring infrastructure and instrumentation (monitoring boreholes, borehole equipment, and handheld equipment) per aquifer/site.</p> <p><u>GESI requirements</u></p> <p>Both women and men from MCAP communities are involved in borehole development and monitoring.</p> <p>Equal number of women and men/boys and girls receive information on aquifer use and conservation.</p> <p>Risks: Long term access to sites provided. Vandalism of monitoring bores – reduced with specific measures to minimize visibility and improve security</p> <p>Assumptions: Community support needed for monitoring.</p>

Component 3 / Outcome 3.1: Coordinated and inclusive approaches at the island-level for coastal aquifer management in place.	Indicator 10: Number of submitted water resources monitoring plans for review/adoption by the local island governance mechanism.	0	0	6	<p><u>Relevant sites:</u> Wotje, Jaluit, Ailinglaplap, Vaitupu, Nanumea, Nui</p> <p>Measured by the submission of water resources monitoring plans for review/adoption by the local island governance mechanism.</p> <p><u>GESI requirements</u></p> <p>Increase in the number of women involved in water planning and management forums at community and island level as evidenced by change in baseline survey data gathered during project inception.</p> <p>Risks: Local island governance does not support monitoring beyond the extent of the project. Demonstrate the value of water resource monitoring assisting with their daily water supply (quantity and quality) and water security needs.</p> <p>Assumptions: Community recognize the value that monitoring information provides to enhance operations and management of resource</p>
	Indicator 11: Number of sites/aquifers with appropriate land use zoning and land restoration techniques in place for aquifer protection.	0	0	8	<p><u>Relevant sites:</u> Wotje, Delap, Laura, Peleliu, Angaur, Kayangel, Vaitupu, Nanumea</p> <p>Protection refers to measures (e.g. fencing and zoning) put in place to protect recharge areas long term.</p> <p>Risks: Community unwilling to introduce land use control practices.</p> <p>Assumptions: Island communities and governance structure on board with proposed land protection measures to ensure aquifer protection.</p>
Component 3 / Outcome 3.2: Improved and accessible knowledge systems for decision support in	Indicator 12: Number of groundwater models developed.	0	0	1	<p><u>Relevant sites:</u> Laura</p> <p>Marked by the delivery of a fully functional, calibrated and validated groundwater numerical model.</p> <p><u>GESI requirements</u></p> <p>Women are consulted and actively engaged in the development of any proposed abstraction operation which may impact on water quality or quantity.</p>

place.					<p>Risks: Data needs for modelling are not sufficient or available</p> <p>Assumptions: Data sets of sufficient duration required for modelling are available from the relevant authorities or collected during this project.</p>
	Indicator 13: Number of technical guidance notes developed supporting aquifer management plans	0	0	6	<p><u>Relevant sites:</u> Laura, Wotje, Nanumea, Peleliu, Angaur, Kayangel</p> <p>Marked by the delivery of one technical guidance document per island where groundwater development infrastructure was installed (or existed already) supporting aquifer management and drought response plans. Developed “fit for purpose”, based on needs.</p> <p><u>GESI requirements</u></p> <p>Technical guidance notes are accompanied by user-friendly educational materials suitable for students and those with limited literacy.</p> <p>Technical guidance notes are developed in collaboration with women and women’s organisations at community and island level and used to measure project impacts.</p> <p>Risks: Necessary datasets for the development of technical guidance notes not complete during project timeframe. Undertake monitoring at early stages.</p> <p>Assumptions: Water supply operators or resource managers are able to include the technical guidance notes into operational policies</p>
<p>Component 4 / Outcome 4.1:</p> <p>M&E templates and communication platforms established.</p>	Indicator 14: Frequency of M&E training workshops for the national project managers	0	1	3	<p>M&E training will be held during the regional steering committee meetings.</p> <p><u>GESI requirements</u></p> <p>All project reports are inclusive of GESI targets, indicators, outcomes, issues and lessons learned.</p> <p>Risks: Lack of support for harmonized reporting</p> <p>Assumptions: Relevant participants available to take part</p>
	Indicator 15: Project website developed	0	1	1	<p>Project website is expected to be developed within the first year of project implementation and to be regularly updated.</p> <p><u>GESI requirements</u></p> <p>Project shares GESI approach and outcomes with regional and national stakeholders including women, youth and disabilities organisations.</p>

					Risks: - Assumptions: SPC IT provides for project websites to be hosted within its home website
	Indicator 16: Sharing of knowledge in international conferences (number of conferences)	0	1	2	IW:LEARN international conferences are held bi-annually so it is expected to attend 2 conferences by the end of the project. Risks: - Assumptions:

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

GEF SEC review

Comment: Please at time of CEO endorsement elaborate on how the projects activities will be supported by mainstreaming the management into the National IWRM plans (formulated through UNDP/GEF investments in the Pacific Region) and their subsequent implementation.

Response: As a result of the IWRM projects, National Water and Sanitation Policy and Proposed Action Plan was drafted for RMI in 2014 and is currently being reviewed for update. For Tuvalu, a Sustainable and Integrated Water and Sanitation Policy 2012-2021 was drafted in 2011. No national IWRM plan was formulated for Palau. We clearly highlight how the proposed set of activities and outputs will support the strategies presented in the existing policies towards the achievement of the strategic goals.

Comment: Include reference to how the proposed set of activities will be incorporated into the local and national IWRM plans (that were formulated under the Pacific IWRM GEF funded project).

Response: as above

Comment: This is the first project in the GEF SIDS portfolio to address the issue of shallow coastal aquifers, therefore please ensure that component 3 has activities that will support sharing of lessons learned not only with the Pacific SIDS, but other SIDS regions as well.

Response: Output 4.1.3 reflects the sharing of lessons learned with other SIDS regions through IW LEARN activities. The project will explore opportunities to link with other institutions such as the Caribbean Institute of Meteorology and Hydrology, CIMH, Barbados, through the organization/participation in seminars and short courses (links with Output 2.1.1).

Comment: Please ensure that the GEF gender action plan is reflected upon and that the project will be including activities to deliver towards the GEF gender action plan.

Response: A gender action plan and strategy were included in the project document and were fully integrated in the proposed set of activities.

Comment: please adjust the Tuvalu amount requested in the PIF, so that it is in coherency with the endorsed and available amount.

Response: The rounding off error is now corrected.

Comment: Due to funding constraints under LDCF, the project will be sitting in the pipeline of approved projects, if LDCF funding is requested. Please consider, if it makes more sense to move ahead without the LDCF funding request at this time.

Response: Refer to new LOEs that only include STAR and IW. All references to LDCF in the PIF are now deleted although climate resilience elements are maintained as these are supported by the IW focal area.

STAP review

STAP's only recommendation at PIF stage to improve this project relates to Project Outcome 3.2 "Knowledge platform put in place," noting that this is not an outcome. Rather, the outcome should describe some way in which the platform is used to further the project objective.

Response: Outcome 3.2 was rephrased as "Improved and accessible knowledge systems for decision support in place" encompassing the products and knowledge systems, deriving from components 1 and 2, aiming at facilitating aquifer management, governance and decision-making. Such products include technical guidance notes towards land management and aquifer management plans, island summary documents consisting of maps and figures describing hydrogeological, environmental and socio-economic parameters, numerical groundwater models, etc.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS.

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF:			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent Todate</i>	<i>Amount Committed</i>
Preparatory technical studies and reviews	83,000	41,874	41,126
Formulation of the UNDP-GEF Project Document	58,500	29,513	28,987
Validation Workshop and Report	88,500	44,648	43,852

Total	230,000	116,035	113,965
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ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

ANNEX E: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table G to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core Indicator 4	Area of landscapes under improved practices (hectares; excluding protected areas)					3615
		Hectares (4.1+4.2+4.3+4.4)				
		Expected			Expected	
		PIF stage	Endorsement		MTR	TE
Indicator 4.1	Area of landscapes under improved management to benefit biodiversity					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.2	Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations					

Third party certification(s):			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.3	Area of landscapes under sustainable land management in production systems					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			1500	3615		
Indicator 4.4	Area of High Conservation Value Forest (HCVF) loss avoided					
Include documentation that justifies HCVF			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 5	Area of marine habitat under improved practices to benefit biodiversity					(Hectares)
Indicator 5.1	Number of fisheries that meet national or international third-party certification that incorporates biodiversity considerations					
Third party certification(s):			Number			
			Expected		Achieved	

			PIF stage	Endorsement	MTR	TE
Indicator 5.2	Number of large marine ecosystems (LMEs) with reduced pollution and hypoxial					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Pacific Ocean Warm Pool Lme	<i>I</i>	<i>I</i>		
Indicator 5.3	Amount of Marine Litter Avoided					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management					(Number)
Indicator 7.1	Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.2	Level of Regional Legal Agreements and Regional Management Institutions to support its implementation					

		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.3	Level of National/Local reforms and active participation of Inter-Ministerial Committees					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.4	Level of engagement in IWLEARN through participation and delivery of key products					
		Shared water ecosystem	Rating (scale 1-4)			
			Rating		Rating	
			PIF stage	Endorsement	MTR	TE
		<i>Pacific Ocean Warm Pool LME</i>	<i>01</i>	<i>1</i>		
Core Indicator 8	Globally over-exploited fisheries Moved to more sustainable levels					<i>(Metric Tons)</i>
Fishery Details			Metric Tons			
			PIF stage	Endorsement	MTR	TE
Core Indicator 11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment					<i>12953</i>
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Female	<i>6473</i>	<i>6473</i>		

		Male	6480	6480		
		Total	12953	12953		

ANNEX: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input type="checkbox"/> Convene multi-stakeholder alliances		
	<input checked="" type="checkbox"/> Demonstrate innovative approaches		
	<input type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input type="checkbox"/> Indigenous Peoples		
	<input type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input type="checkbox"/> Financial intermediaries and market facilitators	
		<input type="checkbox"/> Large corporations	
		<input type="checkbox"/> SMEs	
		<input type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input checked="" type="checkbox"/> Beneficiaries		
	<input checked="" type="checkbox"/> Local Communities		
	<input type="checkbox"/> Civil Society		
		<input type="checkbox"/> Community Based Organization	
		<input type="checkbox"/> Non-Governmental Organization	
		<input type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input checked="" type="checkbox"/> Communications		
		<input checked="" type="checkbox"/> Awareness Raising	
		<input checked="" type="checkbox"/> Education	
		<input type="checkbox"/> Public Campaigns	
		<input checked="" type="checkbox"/> Behavior Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input type="checkbox"/> Learning		
		<input type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	
		<input type="checkbox"/> Indicators to Measure Change	
	<input checked="" type="checkbox"/> Innovation		
	<input type="checkbox"/> Knowledge and Learning		
		<input type="checkbox"/> Knowledge Management	
		<input type="checkbox"/> Innovation	
		<input type="checkbox"/> Capacity Development	

<input checked="" type="checkbox"/> Gender Mainstreaming		
	<input checked="" type="checkbox"/> Beneficiaries	
	<input checked="" type="checkbox"/> Women groups	
	<input checked="" type="checkbox"/> Sex-disaggregated indicators	
	<input checked="" type="checkbox"/> Gender-sensitive indicators	
<input checked="" type="checkbox"/> Gender results areas		
	<input checked="" type="checkbox"/> Access and control over natural resources	
	<input checked="" type="checkbox"/> Participation and leadership	
	<input checked="" type="checkbox"/> Access to benefits and services	
	<input checked="" type="checkbox"/> Capacity development	
	<input checked="" type="checkbox"/> Awareness raising	
	<input type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme		
	<input type="checkbox"/> Integrated Programs	
	<input type="checkbox"/> Commodity Supply Chains (10 Good Growth Partnership)	
		<input type="checkbox"/> Sustainable Commodities Production
		<input type="checkbox"/> Deforestation-free Sourcing
		<input type="checkbox"/> Financial Screening Tools
		<input type="checkbox"/> High Conservation Value Forests
		<input type="checkbox"/> High Carbon Stocks Forests
		<input type="checkbox"/> Soybean Supply Chain
		<input type="checkbox"/> Oil Palm Supply Chain
		<input type="checkbox"/> Beef Supply Chain
		<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Adaptive Management
	<input type="checkbox"/> Food Security in Sub-Sahara Africa	
		<input type="checkbox"/> Resilience (climate and shocks)
		<input type="checkbox"/> Sustainable Production Systems
		<input type="checkbox"/> Agroecosystems
		<input type="checkbox"/> Land and Soil Health
		<input type="checkbox"/> Diversified Farming
		<input type="checkbox"/> Integrated Land and Water Management
		<input type="checkbox"/> Smallholder Farming
		<input type="checkbox"/> Small and Medium Enterprises
		<input type="checkbox"/> Crop Genetic Diversity
		<input type="checkbox"/> Food Value Chains
		<input type="checkbox"/> Gender Dimensions
		<input type="checkbox"/> Multi-stakeholder Platforms
	<input type="checkbox"/> Food Systems, Land Use and Restoration	
		<input type="checkbox"/> Sustainable Food Systems
		<input type="checkbox"/> Landscape Restoration
		<input type="checkbox"/> Sustainable Commodity Production
		<input type="checkbox"/> Comprehensive Land Use Planning
		<input type="checkbox"/> Integrated Landscapes
		<input type="checkbox"/> Food Value Chains
		<input type="checkbox"/> Deforestation-free Sourcing
		<input type="checkbox"/> Smallholder Farmers
	<input type="checkbox"/> Sustainable Cities	
		<input type="checkbox"/> Integrated urban planning
		<input type="checkbox"/> Urban sustainability framework
		<input type="checkbox"/> Transport and Mobility
		<input type="checkbox"/> Buildings
		<input type="checkbox"/> Municipal waste management
		<input type="checkbox"/> Green space
		<input type="checkbox"/> Urban Biodiversity
		<input type="checkbox"/> Urban Food Systems
		<input type="checkbox"/> Energy efficiency
		<input type="checkbox"/> Municipal Financing
		<input type="checkbox"/> Global Platform for Sustainable Cities

	<input type="checkbox"/> Biodiversity		<input type="checkbox"/> Urban Resilience
		<input type="checkbox"/> Protected Areas and Landscapes	
			<input type="checkbox"/> Terrestrial Protected Areas
			<input type="checkbox"/> Coastal and Marine Protected Areas
			<input type="checkbox"/> Productive Landscapes
			<input type="checkbox"/> Productive Seascapes
			<input type="checkbox"/> Community Based Natural Resource Management
		<input type="checkbox"/> Mainstreaming	
			<input type="checkbox"/> Extractive Industries (oil, gas, mining)
			<input type="checkbox"/> Forestry (Including HCVF and REDD+)
			<input type="checkbox"/> Tourism
			<input type="checkbox"/> Agriculture & agrobiodiversity
			<input type="checkbox"/> Fisheries
			<input type="checkbox"/> Infrastructure
			<input type="checkbox"/> Certification (National Standards)
			<input type="checkbox"/> Certification (International Standards)
		<input type="checkbox"/> Species	
			<input type="checkbox"/> Illegal Wildlife Trade
			<input type="checkbox"/> Threatened Species
			<input type="checkbox"/> Wildlife for Sustainable Development
			<input type="checkbox"/> Crop Wild Relatives
			<input type="checkbox"/> Plant Genetic Resources
			<input type="checkbox"/> Animal Genetic Resources
			<input type="checkbox"/> Livestock Wild Relatives
			<input type="checkbox"/> Invasive Alien Species (IAS)
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangroves
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Sea Grasses
			<input type="checkbox"/> Wetlands
			<input type="checkbox"/> Rivers
			<input type="checkbox"/> Lakes
			<input type="checkbox"/> Tropical Rain Forests
			<input type="checkbox"/> Tropical Dry Forests
			<input type="checkbox"/> Temperate Forests
			<input type="checkbox"/> Grasslands
			<input type="checkbox"/> Paramo
			<input type="checkbox"/> Desert
		<input type="checkbox"/> Financial and Accounting	
			<input type="checkbox"/> Payment for Ecosystem Services
			<input type="checkbox"/> Natural Capital Assessment and Accounting
			<input type="checkbox"/> Conservation Trust Funds
			<input type="checkbox"/> Conservation Finance
		<input type="checkbox"/> Supplementary Protocol to the CBD	
			<input type="checkbox"/> Biosafety
			<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input type="checkbox"/> Forests		
		<input type="checkbox"/> Forest and Landscape Restoration	
			<input type="checkbox"/> REDD/REDD+
		<input type="checkbox"/> Forest	
			<input type="checkbox"/> Amazon
			<input type="checkbox"/> Congo
			<input type="checkbox"/> Drylands
	<input checked="" type="checkbox"/> Land Degradation		
		<input checked="" type="checkbox"/> Sustainable Land Management	
			<input type="checkbox"/> Restoration and Rehabilitation of

		<input type="checkbox"/> Integrated and Cross-sectoral approach
		<input type="checkbox"/> Community-Based NRM
		<input type="checkbox"/> Sustainable Livelihoods
		<input type="checkbox"/> Income Generating Activities
		<input type="checkbox"/> Sustainable Agriculture
		<input type="checkbox"/> Sustainable Pasture Management
		<input type="checkbox"/> Sustainable Forest/Woodland Management
		<input checked="" type="checkbox"/> Improved Soil and Water Management Techniques
		<input type="checkbox"/> Sustainable Fire Management
		<input checked="" type="checkbox"/> Drought Mitigation/Early Warning
	<input type="checkbox"/> Land Degradation Neutrality	
		<input type="checkbox"/> Land Productivity
		<input type="checkbox"/> Land Cover and Land cover change
		<input type="checkbox"/> Carbon stocks above or below ground
	<input type="checkbox"/> Food Security	
	<input checked="" type="checkbox"/> International Waters	
	<input type="checkbox"/> Ship	
	<input type="checkbox"/> Coastal	
	<input checked="" type="checkbox"/> Freshwater	
		<input checked="" type="checkbox"/> Aquifer
		<input type="checkbox"/> River Basin
		<input type="checkbox"/> Lake Basin
	<input type="checkbox"/> Learning	
	<input type="checkbox"/> Fisheries	
	<input type="checkbox"/> Persistent toxic substances	
	<input checked="" type="checkbox"/> SIDS : Small Island Dev States	
	<input type="checkbox"/> Targeted Research	
	<input type="checkbox"/> Pollution	
		<input type="checkbox"/> Persistent toxic substances
		<input type="checkbox"/> Plastics
		<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
		<input type="checkbox"/> Nutrient pollution from Wastewater
	<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
	<input type="checkbox"/> Strategic Action Plan Implementation	
	<input type="checkbox"/> Areas Beyond National Jurisdiction	
	<input type="checkbox"/> Large Marine Ecosystems	
	<input type="checkbox"/> Private Sector	
	<input type="checkbox"/> Aquaculture	
	<input type="checkbox"/> Marine Protected Area	
	<input type="checkbox"/> Biomes	
		<input type="checkbox"/> Mangrove
		<input type="checkbox"/> Coral Reefs
		<input type="checkbox"/> Seagrasses
		<input type="checkbox"/> Polar Ecosystems
		<input type="checkbox"/> Constructed Wetlands
	<input type="checkbox"/> Chemicals and Waste	
	<input type="checkbox"/> Mercury	
	<input type="checkbox"/> Artisanal and Scale Gold Mining	
	<input type="checkbox"/> Coal Fired Power Plants	
	<input type="checkbox"/> Coal Fired Industrial Boilers	
	<input type="checkbox"/> Cement	
	<input type="checkbox"/> Non-Ferrous Metals Production	
	<input type="checkbox"/> Ozone	
	<input type="checkbox"/> Persistent Organic Pollutants	
	<input type="checkbox"/> Unintentional Persistent Organic Pollutants	
	<input type="checkbox"/> Sound Management of chemicals and	

		<input type="checkbox"/> Emissions	<input type="checkbox"/> e-Waste
		<input type="checkbox"/> Disposal	
		<input type="checkbox"/> New Persistent Organic Pollutants	
		<input type="checkbox"/> Polychlorinated Biphenyls	
		<input type="checkbox"/> Plastics	
		<input type="checkbox"/> Eco-Efficiency	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> DDT - Vector Management	
		<input type="checkbox"/> DDT - Other	
		<input type="checkbox"/> Industrial Emissions	
		<input type="checkbox"/> Open Burning	
		<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
		<input type="checkbox"/> Green Chemistry	
	<input checked="" type="checkbox"/> Climate Change		
		<input checked="" type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance
			<input type="checkbox"/> Least Developed Countries
			<input type="checkbox"/> Small Island Developing States
			<input type="checkbox"/> Disaster Risk Management
			<input checked="" type="checkbox"/> Sea-level rise
			<input type="checkbox"/> Climate Resilience
			<input type="checkbox"/> Climate information
			<input type="checkbox"/> Ecosystem-based Adaptation
			<input type="checkbox"/> Adaptation Tech Transfer
			<input type="checkbox"/> National Adaptation Programme of Action
			<input type="checkbox"/> National Adaptation Plan
			<input type="checkbox"/> Mainstreaming Adaptation
			<input type="checkbox"/> Private Sector
			<input checked="" type="checkbox"/> Innovation
			<input type="checkbox"/> Complementarity
			<input checked="" type="checkbox"/> Community-based Adaptation
			<input type="checkbox"/> Livelihoods
		<input type="checkbox"/> Climate Change Mitigation	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input type="checkbox"/> Energy Efficiency
			<input type="checkbox"/> Sustainable Urban Systems and Transport
			<input type="checkbox"/> Technology Transfer
			<input type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input type="checkbox"/> Enabling Activities
		<input type="checkbox"/> Technology Transfer	
			<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
			<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
			<input type="checkbox"/> Endogenous technology
			<input type="checkbox"/> Technology Needs Assessment
			<input type="checkbox"/> Adaptation Tech Transfer
		<input type="checkbox"/> United Nations Framework on Climate Change	
			<input type="checkbox"/> Nationally Determined Contribution



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