



GEF IW R2R/ RSC.6/ WP.9

Date: 15 January 2021

Original: English

**Sixth Regional Steering Committee Meeting (Virtual) for the
GEF Pacific International Waters Ridge to Reef Project entitled:**

*Ridge to Reef – Testing the Integration of Water, Land, Forest &
Coastal Management to Preserve Ecosystem Services, Store Carbon,
Improve Climate Resilience and Sustain Livelihoods in Pacific Island Countries*

Suva, Fiji 20th to 21st January 2022

GEF-8 project concept & PIF (highlights)

Summary:

This paper presents the highlights of a proposal for a ‘next phase’ project for GEF-8 financing titled “Strengthening community resilience in a post-covid world: Mainstreaming integrated ridge to reef ecosystem-based management along the land-sea continuum in Pacific Island countries”. Based on past RSC decisions and brief consultations with stakeholders during the consultancy, the next new project is expected to focus on five components to deliver on the overall goal and objectives, as follows:

Component 1 – Strengthening governance arrangements

Component 2 – Strengthening the science

Component 3 – Conservation, ecosystem restoration and sustainable livelihood projects and innovations

Component 4 – Communications

Component 5 – Regional coordination and enabling activities

The next four-year funding cycle of GEF-8 will formally launch and start in July 2022 and project concepts and PIFs considered in the 63rd meeting of the GEF Council schedule to occur 5-9 December 2022. The GEF Secretariat can start receiving project concepts & PIFs in September 2022. Generally, we need an indication of approval of concepts as the first step before GEF could allow the next steps of formulating a full project proposal.

Recommendations:

The meeting is invited to discuss and provide clear advice and recommendations to the RSC, such as:

- (i) Approve with no further work to enhance the concept and PIF
- (ii) Approve with enhancements based on outcomes of discussions
- (iii) Not approve the concept and PIF

The paper also recommends clear advice to the RSC to inform discussion and decisions on countries participating in the next project. The outcomes of the online polling on country positions conducted in the past can assist in this discussion.

GEF-8 project concept & PIF (highlights)

Purpose & Intent

1. The formulation of the proposed GEF-8 project concept builds on the previous regional GEF funded Pacific IWRM Project (2009-2014) and the Pacific R2R Programme (2015-2022). Put together, these GEF projects serve as ‘building blocks’ mainstreaming IWRM and R2R approaches in the management of linked and integrated catchment¹ and coastal areas in the Pacific region.
2. This paper presents the proposal for a ‘next phase’ project² for GEF-8 financing titled “Strengthening community resilience in a post-covid world: Mainstreaming integrated ridge to reef ecosystem-based management along the land-sea continuum in Pacific Island countries”.
3. The exact number of participating countries in the next project is uncertain hoping that the discussion and decisions at this meeting will be captured in the formulation of a full proposal at a later stage. An indicative budget is provided in the PIF assuming full participation of all fourteen (14) PICs. The meeting will discuss this subject plus polling outcomes on participation of PICs.

A full project concept and PIF is appended as **Attachment 1**.

Rationale

4. The terms “green growth” and its sister concepts “blue-green growth”, the “green economy,” and the “blue-green economy”, have gained considerable traction in the Pacific Island region following the UN Oceans Conference in 2019 (co-hosted by Fiji). A Sustainable Blue Economy seeks to halt the loss of biodiversity and to harness the power of natural capital and benefits that marine ecosystem provide where collaboration, resilience, opportunity, circularity and inter-dependence is reflected in the economy.
5. The next R2R project provides the opportunity to support enabling environment through mainstreaming R2R in natural resources governance, policy and legislative frameworks. It also assists in scaling up and replicating R2R innovative technologies, management approaches and blue-green initiatives in a post-covid Pacific. The project also seeks to strengthen science and evidence-based covering applied research, testing and trialing innovative technologies, and practical application of results to maintain ecosystem goods and services.
6. The Covid-19 pandemic and its impacts in the Pacific Island region have highlighted the importance of the connectivity and linkages between the health of our ecosystem, food security and public health. The economies in the region would greatly benefit through the diversification of primary sectors (fisheries, forestry, and commercial agriculture) so that they are less reliant on the tourism sector.

Root Causes

7. Generally, the root causes of global environmental problems are associated with the management of linked ecosystems along the land-sea continuum. These problems are well documented, and include, amongst others, the following:
 - Poor land husbandry.
 - Intensification of land-use and settlement in river catchments.
 - Deforestation and soil erosion associated with forestry, agriculture, mining and

¹ Integrated catchment management, ICM

² Integrated coastal management, ICM

infrastructure development.

- Pollution from agro-chemicals, solid and waste.
- Invasive species.
- Engineering and physical disturbances to river morphology and hydro-dynamic functioning.
- Inadequate planning, coordination and regulation of land-uses that have ecosystem health and functioning as a central management objective in catchments and coastal and marine areas.

Barriers

8. A key barrier to the sustainable management of linked land-sea ecosystems is the deficiency of effective integrated spatial planning and management processes implemented along the land-sea continuum using an integrated multi-sector ridge-to-reef ecosystem-based management approach. Associated barriers include:

- Institutional and sectoral silos at country level
- Lack of policy coherence at country level
- Decision-making based on poor quality or outdated data
- Weak governance capacity to implement and enforce regulations
- Limited use of spatial planning instruments
- Political imperative for short-term economic growth
- Financing
- Loss of traditional ecological knowledge concerning sustainable land management
- Insufficient acknowledgement of environmental values in national accounts
- 'Knee-jerk' management responses (reactive rather than proactive)

9. Due to the negative effects of the Covid-19 pandemic, there has been heightened awareness of the societal risks associated with 'business-as-usual' economic development models. Linked issues such as 'ecological sustainability' and 'self-reliance' have become elevated policy priorities with a greater emphasis relating to concepts of 'Blue' and 'Green' development.

Next Phase R2R Project

10. The next GEF-8 funded project is intended to shift the focus slightly from 'testing' to 'mainstreaming R2R', which generally covers balancing natural resource models relative to conservation, sustainable use and development. Like the current, the next project broadly ensures the maintenance of ecosystem goods and services through strengthening governance arrangements, science, ecosystem restoration & livelihoods blue-green initiatives, and effective communications.

11. A summary of the GEF-8 project proposal relative to components, outcomes and key outputs are set out below:

COMPONENT 1 – STRENGTHENING GOVERNANCE ARRANGEMENTS

Outcome 1.1 – Demonstrated high-level government support for Integrated Ridge-to-reef Ecosystem-based Management and for the development of institutional capacity towards scaling up innovative technologies and management approaches

Outcome 1.2 – Lead and support management agencies have the capacity to effectively and sustainably implement Integrated Ridge-to-reef Ecosystem-based Management including the scaling up of innovations and management approaches.

Outcome 1.3 – Capacitated multi-stakeholder local governance structures coordinating Integrated Ridge-to-reef Ecosystem-based Management and promoting the use of sustainable innovative

technologies and management approaches in accordance with existing and new integrated catchment and coastal management plans.

COMPONENT 2 – STRENGTHENING THE SCIENCE

Outcome 2.1 - Robust scientific and technical data providing the evidence-base for Integrated Ridge-to-Reef Ecosystem-based Management and supporting blue-green recovery initiatives.

COMPONENT 3 – CONSERVATION, ECOSYSTEM RESTORATION AND SUSTAINABLE LIVELIHOODS PROJECTS AND INNOVATIONS

Outcome 3.1 – Increase in the productivity of terrestrial, coastal, and marine ecosystem services that provide social and economic resilience and climate change adaptation and mitigation benefits.

COMPONENT 4 - COMMUNICATIONS

Outcome 4.1 - Project stakeholders at all levels in participating countries and catchments understand the benefits and are motivated to participate in integrated planning and management of ecosystems along the land-sea continuum.

COMPONENT 5 – REGIONAL COORDINATION AND ENABLING ACTIVITIES

Outcome 5.1 – Project is effectively managed and coordinated at the regional level and regional enabling activities are taking place.

GEF-8 Project General Alignments & Justifications

12. Recall the International Waters focal area addresses UN SDG 6 and SDG 14, and SDG 6 aims to ensure availability and sustainable management of water and sanitation for all. Three targets particularly relevant to the proposed project are:

- Improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and substantially increasing recycling and safe reuse globally.
- Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes.
- Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

13. UN SDG 14 aims to conserve and sustainably use the oceans, seas and marine resources. Targets that are relevant to the current project include:

- Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
- Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and taking action for their restoration in order to achieve healthy and productive oceans.
- Conserve at least 10 percent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

14. The proposed project is also strongly aligned with the proposed actions in the Strategic Action Plan (SAP) for International Waters of Pacific Islands developed in 1997 which addressed land-based pollution of linked coastal and marine environments likely to remain a key priority in an updated SAP.

15. Proposed objectives for the International Waters Focal Area under GEF-8 that are relevant to the proposed project include:

- i. Accelerating joint action to support Blue Economic Development
- ii. Sustainable Fisheries Management.
- iii. Enhancing water security in freshwater ecosystems.

16. The proposed GEF-8 project also aligns with the proposed GEF-8 Integrated Programme areas of:

Blue and Green Islands Integrated Program – the objective is to apply nature-based solutions in key ecosystems that support socio-economic development in SIDS.

Blue Economies and Healthy Oceans – the focus is on curbing coastal pollution from agricultural and municipal sources through infrastructure investments combined with Nature-based Solutions.

Land Restoration Integrated Programme – will contribute to blue recovery through restoration efforts in coastal areas and through the application of a ridge-to-reef approach that helps to improve water quality and pesticide and harmful chemical load.

Greening Infrastructure Development Integrated Program – the objective is to enable countries to develop integrated portfolios of nature-based infrastructure solutions and sustainably engineered infrastructure projects at national or land/seascape levels that will deliver needed infrastructure services sustainably and aligned with achieving the goals of the CBD, UNFCCC and UNCCD.

Conclusion

17. The current socio-political context provides a strategic opportunity to step-up advocacy and support to countries for application of integrated ridge-to-reef ecosystem-based management as an appropriate policy and management response to protect essential ecosystem goods and services along the land-sea continuum with the aim of achieving pathways to an equitable, nature-positive and carbon neutral world beyond Covid-19.

18. To prevent the return to ‘business as usual’ fragmented sectorally-based management approaches, the proposed project needs to be supported. A strong focus on supporting governments to mainstream the IWRM and R2R approaches into existing natural resource management systems to ensure that associated spatial planning and management processes are internalized and financed, and that the necessary institutional capacity exists to effectively implement them.

19. The meeting is invited to discuss and provide clear advice and recommendations to the RSC specific to points outlined in the cover page of this paper.



GEF-7 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT INFORMATION

Project Title:	STRENGTHENING COMMUNITY RESILIENCE IN A POST-COVID WORLD: MAINSTREAMING INTEGRATED RIDGE TO REEF ECOSYSTEM-BASED MANAGEMENT ALONG THE LAND-SEA CONTINUUM IN PACIFIC ISLAND COUNTRIES		
Country(ies):	Cook Islands, Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Niue, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu	GEF Project ID:	
GEF Agency(ies):	UNDP (select) (select)	GEF Agency Project ID:	
Project Executing Entity(s):	Pacific Community	Submission Date:	
GEF Focal Area(s):	International Waters	Project Duration (Months)	60

A. INDICATIVE FOCAL/NON-FOCAL AREA ELEMENTS

Programming Directions	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
(select) (select)	(select)		
Total Project Cost			

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To strengthen environmental governance capacity in Pacific island countries to effectively implement Integrated Ridge to Reef Ecosystem-based Management and support the role-out of innovative and appropriate technologies						
Project Components	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
COMPONENT 1 - STRENGTHENING GOVERNANCE ARRANGEMENTS	Technical Assistance	1.1 Demonstrated high-level government support for Integrated Ridge-to-Reef Ecosystem-based Management and for the development of institutional capacity towards scaling up innovative technologies and management approaches	1.1.1 Targeted advocacy engagement, processes and communication products to mobilise high-level decision-makers 1.1.2 Institutional and policy options/gap analyses incorporating lessons learned from the Pacific Ridge to Reef Programme an incorporating sustainable		4,000,000	

		<p>1.2 Lead and support management agencies have the capacity to effectively and sustainably implement Integrated Ridge-to-Reef Ecosystem-based Management, including the scaling up of innovations and management approaches</p> <p>1.3 Capacitated multi-stakeholder local governance structures coordinating Integrated</p>	<p>financing options for ridge-to-reef coordination, planning and implementation</p> <p>1.2.1 Country-specific action plans to guide institutional strengthening programmes</p> <p>1.2.2 R2R post graduate programme for officials and practitioners from project countries (James Cook Uni)</p> <p>1.2.3 Multi-purpose GIS spatial ridge-to-reef prioritisation and modelling tool to inform planning and decision-making developed and required individual and institutional capacity built</p> <p>1.2.4 Suite of proven innovative livelihood technologies and socio-economic measures tested and implemented</p> <p>1.3.1 Sub-national ICCM Forums that contribute to planning and implementation of management actions and monitoring at</p>			
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<p>COMPONENT 2: STRENGTHENING THE SCIENCE</p>		<p>Ridge-to-Reef Ecosystem-based Management and promoting the use of sustainable innovative technologies and management approaches in accordance with existing and new integrated catchment and coastal management plans</p> <p>2.1 Robust scientific and technical data providing the evidence-base for Integrated Ridge-to-Reef Ecosystem-based Management and supporting blue-green recovery initiatives</p>	<p>the catchment level established and supported</p> <p>1.3.2 Adaptive ICCM plans, or the equivalent developed</p> <p>1.3.3 Conservation, ecosystem restoration and sustainable livelihoods projects implemented</p> <p>2.1.1 Training and mentoring to strengthen in-country scientific research capacities</p> <p>2.1.2 Peer-reviewed standardised field methodologies, indicators and data recording templates developed</p> <p>2.1.3 Species distribution models developed for local species</p> <p>2.1.4 Checklists developed for assessing ecological connectivity</p> <p>2.1.5 Rapid Assessments of Priority Coastal Areas (RapCa) and Island Diagnostic</p>		<p>2,600,000</p>	
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			<p>Analyses (IDA) conducted for priority sites</p> <p>2.1.6 Research programme on the links between climate change, ecosystem health, biodiversity and people established</p> <p>2.1.7 Technical assistance to strengthen in-country capacity to conduct ecosystem goods and services valuation and economic policy studies</p> <p>2.1.8 Research, development and training on innovative technologies to support sustainable livelihoods with interventions tailored to suit local context (volcanic islands, atolls)</p> <p>2.1.9 Common guideline on participatory planning process and development of ridge-to-reef integrated catchment and coastal management plans</p>			
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<p>COMPONENT 3: CONSERVATION, ECOSYSTEM RESTORATION AND SUSTAINABLE LIVELIHOODS PROJECTS</p>		<p>3.1 Increase in the productivity of terrestrial, coastal and marine ecosystem services that provide social and economic resilience and climate change mitigation benefits</p>	<p>3.1.1 Ecosystem-nature based solutions and climate adaptation actions that increase resilience</p> <p>Infrastructure & built environment (%) - river & coastal areas engineering & modelling; construction of units to help with erosion and inundation or slow down sediment export downstream.</p> <p>Ecosystem and ecosystem services (%) - EGS valuation & RapCA; Research & Development; establish rights & limits (e.g. TACs, TAEs); Protected Areas, zonation vs multiple uses; artificial reefs</p> <p>Health & well-being, and Food & Water Security (%) - SMEs, farmers, fishermen (direct assistance or through associations); DLTs, septic upgrades, sand-filters, compost, water quality monitoring; support for aquifers and boreholes water</p>		<p>4,000,000</p>	
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			<p>management, desalination plants</p> <p>Most Vulnerable people and communities (Livelihoods) (%) - Direct grant to finance home gardens, animal husbandry, feeds/seeds, nurseries, direct grants to support small blue/green projects to secure water and food – e.g. women and youth groups projects to farm seaweed, oysters, mangrove crabs, and others</p> <p>3.1.2 Ecosystem-nature based solutions and climate mitigation actions that reduce emissions</p> <p>Forestry and land use (%) - reforestation, replanting & rehabilitation; agriculture & vegetation; and land-use strategies & plans</p> <p>Renewable energy % - solar farms (light and water pumps); windmills (uptake water from boreholes to storage facilities</p>			
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<p>COMPONENT 4 - COMMUNICATIONS</p>		<p>4.1 Project stakeholders at all levels in participating countries and catchments understand the benefits and are motivated to participate in integrated planning and management of ecosystems along the land-sea continuum</p>	<p>4.1.1 Social marketing campaigns to raise awareness, stimulate discussion, participation and action</p> <p>4.1.2 comprehensive project communications campaign utilising social marketing and tailored to different groups of stakeholders including decision-makers developed and implemented</p>		<p>1,600,000</p>	
<p>COMPONENT 5 – REGIONAL COORDINATION</p>		<p>5.1 The Project is effectively managed and coordinated at the regional level and regional agencies collaborate in working with countries on developing a coherent and dedicated regional policy framework and a suite of consistent processes, methodologies and tools.</p>	<p>5.1.1 Regional Project Management Unit and associated project governance structures established</p> <p>5.1.2 Regional enabling policy and/or planning framework to guide implementation of Integrated Ridge-to-Reef Ecosystem-based Management</p> <p>5.1.3 A regionally standardised set of planning processes, methods and tools developed and promoted</p>		<p>1,000,000</p>	

			by regional organisations			
			Subtotal	GEFTF	13,200,000	
			Project Management Cost (PMC)	GEFTF	1,800,000	
			Total Project Cost		15,000,000	

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (\$)
(select)		(select)	(select)	
Total Co-financing				

Describe how any "Investment Mobilized" was identified.

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b)	Total (c)=a+b
UNDP	GEFTF	Regional	International Waters	(select as applicable)	15,000,000		
Total GEF Resources							

E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee (b)	Total c = a + b
UNDP	GEFTF	Regional	International Waters	(select as applicable)	300,000		
Total PPG Amount					300,000		

F. PROJECT'S TARGET CONTRIBUTIONS TO GEF 7 CORE INDICATORS

Provide the relevant sub-indicator values for this project using the methodologies indicated in the Core Indicator Worksheet provided in Annex B and aggregating them in the table below. Progress in programming against these targets is updated at the time of CEO endorsement, at midterm evaluation, and at terminal evaluation. Achieved targets will be aggregated and reported at anytime during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Project Core Indicators		Expected at PIF
1	Terrestrial protected areas created or under improved management for conservation and sustainable use (Hectares)	

2	Marine protected areas created or under improved management for conservation and sustainable use (Hectares)	
3	Area of land restored (Hectares)	
4	Area of landscapes under improved practices (excluding protected areas)(Hectares)	
5	Area of marine habitat under improved practices (excluding protected areas) (Hectares)	
6	Greenhouse Gas Emissions Mitigated (metric tons of CO ₂ e)	
7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management	
8	Globally over-exploited marine fisheries moved to more sustainable levels (metric tons)	
9	Reduction , disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)	
10	Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ)	
11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	

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

G. PROJECT TAXONOMY

Please fill in the table below for the taxonomic information required of this project. Use the GEF Taxonomy Worksheet provided in Annex C to help you select the most relevant keywords/ topics/themes that best describe this project.

Level 1	Level 2	Level 3	Level 4
Influencing Models	(multiple selection)	(multiple selection)	(multiple selection)
Stakeholders	(multiple selection)	(multiple selection)	(multiple selection)
Capacity, Knowledge and Research	(multiple selection)	(multiple selection)	(multiple selection)
Gender Equality	(multiple selection)	(multiple selection)	(multiple selection)
Focal Area/Theme	(multiple selection)	(multiple selection)	(multiple selection)
Rio Marker	(multiple selection)		

PART II: PROJECT JUSTIFICATION

1a. *Project Description*. Briefly describe:

- 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description); 2) the baseline scenario and any associated baseline projects, 3) the proposed alternative scenario with a brief description of expected outcomes and components of the project; 4) alignment with GEF focal area and/or Impact Program strategies; 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 7) innovation, sustainability and potential for scaling up.

2)

- 3) 1a) Global Environmental Problems

Growth focused economic development models, globalisation and population expansion continue to degrade the earth's natural resources and ecosystems at an alarming rate undermining our ability to achieve our social development aspirations of health, prosperity and improved quality of life. With climate change, environmental degradation and emerging pandemics, it is increasingly recognised that the long-term sustainability of human life on planet Earth depends on sustainable use, maintenance and protection of terrestrial, freshwater, coastal and marine resources and ecosystems. However, biodiversity loss, deforestation, land and soil degradation, declining ocean

health, water scarcity, hazardous chemicals, excessive waste, pollution and zoonotic diseases are global environmental problems that erode development gains and pose serious threats to our future health and well-being. Two crises – the ‘environmental crisis’ and the ‘climate crisis’ - are existential threats in urgent need of addressing through concerted and coordinated global efforts, incorporating international, regional, national and sub-national conservation actions that protect ecosystems and address the root causes/drivers of ecosystem degradation and climate change.

Recent years have seen an increase in our understanding and appreciation of the socio-economic and ecological linkages that exist between ecosystem types along a land-sea continuum, and the negative impacts that upstream unsustainable terrestrial land-uses associated with agriculture, forestry, mining, human settlement and industry have on downstream riverine, coastal and marine ecosystems and the services that they provide. Anthropogenic disturbance of the water cycle has caused considerable changes in the fluxes of freshwater, sediment and nutrients to coastal marine waters and the ocean which disturbs the dynamic balance of coastlines and delicate ecosystems including coral reefs. Coral reefs are particularly susceptible to sedimentation caused by accelerated soil erosion from upland forest land clearance, eutrophication from (over)use of agricultural fertilisers and human and animal waste, and pollution from pesticides, solid and liquid waste. UNEP estimates that 25% of the world’s coral reefs are affected by watershed-based pollution. Many of the 500 million people that depend on coral reefs are in poor nations living in small islands or rural settings where they are directly dependent on reefs for food security, coastal protection, building materials and income from tourism and fisheries. Among countries and territories rated as being highly vulnerable to social and economic disturbance due to coral reef decline, the majority are small island states (World Resources Institute 2012).

Wastewater from agriculture and municipal settlements is a major threat to coastal ecosystem health and integrity. Excessive amounts of nitrogen, phosphorous and organic matter lead to hypoxic zones which push living organisms out of the ecosystem and ultimately lead to deadzones. On top of these devastating effects, that leaves the coastal ecosystems fragile to climate induced impacts and bereft of resources to support economic development and human basic needs, untreated wastewater brings viruses and bacteria to the coastal zones, such as E.coli and SARS-CoV-19. In the midst of the global pandemic, the case for why wastewater treatment is essential is clearer than ever before. If we want to get a handle on the current pandemic and avoid future similar devastating developments, wastewater treatment investments need to be part of the short- and long-term investment strategies. Currently, somewhere between 70-80% of the global wastewater, is being transported untreated into the ocean, via rivers or directly discharged.

Uncoordinated catchment development is also impacting the health of freshwater aquatic systems and biodiversity, leading to a reduction in the ecosystem goods and services that they provide to society. Deforestation associated with catchment development continues to degrade forest ecosystems despite the tropical forest ecosystems being globally significant biomes for the role they play in supporting high levels of habitat and species diversity, formation and retention of organic soil material, and absorption of carbon from the atmosphere. Native forests are therefore a high priority for conservation not only in their own right, but also as a strategy to curb soil erosion, sedimentation and flood control in downstream ecosystems.

To be effective, management of ecosystems and land use along a land-sea continuum requires holistic and integrated planning approaches that incorporate catchments and adjacent coastal and marine areas in the planning domain. While existing planning tools and processes such as Integrated Catchment Management (ICM), Integrated Coastal Zone Management (ICZM) and Marine Spatial Planning (MSP) are relevant tools in this regard, they do not themselves facilitate holistic ridge-to-reef planning as their respective foci are either on the coastal or the catchment area. Rather an integrated ridge-to-reef approach that incorporates all these available tools is needed. In addition, effective management of ecosystems and land use along a land-sea continuum is greatly facilitated by the application of the ecosystem goods and services concept first introduced by the Millennium Development Assessment in 2000. Since then Ecosystem-based Management (EbM) has arisen as an established integrated, science-based approach to the management of natural resources that aims to sustain the health, resilience and diversity of ecosystems while allowing for sustainable use by humans of the goods and services they provide.

While Integrated Catchment Management, Integrated Coastal Zone Management, and Ecosystem-based Management planning approaches have proven themselves as effective components of a ridge-to-reef planning approach, they remain challenging planning processes to implement as they require the facilitation of multi-stakeholder dialogues, integrated spatial planning, inter-sectoral cooperation, and the balancing of competing social, economic and environmental interests. To be effective they therefore require strong governance and institutional planning and coordination capacity on the part of implementing agencies. These conditions are generally lacking in developing countries and regions, and as a result catchment development in much of the world continues to be unplanned and haphazard with negative impacts on biodiversity and the health and optimal functioning of terrestrial (green) and marine (blue) ecosystems. With increasing intensification of land-use in river catchments, addressing the drivers of catchment based terrestrial, freshwater, coastal and marine ecosystem degradation continues to be a challenge worldwide, and one that is increasingly urgent in the face of climate change and the emergence of environment-related public health pandemics.

Root Causes

The root causes of global environmental problems associated with management of linked ecosystems along the land-sea continuum include:

- Intensification of land-use and settlement in river catchments
- Poor land husbandry
- Deforestation and soil erosion associated with forestry, agriculture, mining and infrastructure development
- Pollution from agro-chemicals, solid and liquid waste)
- Invasive species
- Engineering and physical disturbances to river morphology and hydro-dynamic functioning
- Inadequate planning, coordination and regulation of land-uses that have ecosystem health and functioning as a central management objective in catchments and coastal and marine areas

Barriers

- A key barrier to the sustainable management of linked land-sea ecosystems is the deficiency of effective integrated spatial planning and management processes implemented along the land-sea continuum using an integrated multi-sector ridge-to-reef ecosystem-based management approach. Associated barriers include:
 - o Institutional and sectoral silos at country level
 - o Lack of Policy coherence at country level
 - o Decision-making based on poor quality or outdated data
 - o Weak governance capacity to implement and enforce regulations
 - o Limited use of spatial planning instruments
 - o Political imperative for short-term economic growth
 - o Financing
 - o Loss of traditional ecological knowledge concerning sustainable land management
 - o Insufficient acknowledgement of environmental values in national accounts
 - o ‘Knee-jerk’ management responses (reactive rather than proactive)

The Covid-19 pandemic has heightened awareness of the societal risks associated with the ‘business-as-usual’ economic development model. As countries emerge from the Covid-19 pandemic, the linked issues of ‘self-reliance’ and ‘ecological sustainability’ have become elevated as policy priorities, accompanied by a greater emphasis on concepts relating to ‘Blue’ and ‘Green’ development. The current socio-political context provides a strategic opportunity to step-up advocacy and support to countries for application of integrated ridge-to-reef ecosystem-based management as an appropriate policy and management response to protect essential ecosystem goods and services along the land-sea continuum with the aim of achieving pathways to an equitable, nature-positive and carbon neutral world beyond covid-19.

1b) Pacific Islands Regional Context

As Small Island Developing States (SIDS) surrounded by the world's largest ocean, the significance of coastal and marine resources and the importance of ocean health is much greater for Pacific island countries (PICs) than for many other countries. With 19 million km² of combined exclusive economic zones, the 14 PICs in this Regional Project are custodians of one-sixth of the earth's surface, of which less than 2% is land.

Viewed globally, the international waters of the Pacific island region are of considerable importance. The region is a major centre in the world for marine biodiversity and has remarkably high levels of terrestrial biodiversity and endemism as well. The Pacific island region hosts some of the last remaining near pristine coral reefs and associated mangrove and seagrass habitats in the world. The region therefore represents a potential global refuge for coral reef, mangrove and seagrass resilience. However, without urgent intervention even the most remote Pacific reefs and associated ecosystems will succumb to human impacts, including rising and warming seas, coral bleaching, and ocean acidification.

In particular, coral reefs are extremely important geologically, geographically, ecologically, economically and socially to the Pacific islands, forming the very foundation of coral atolls and also the lagoons and fringing reefs around the high volcanic islands. The Pacific islands in their current form simply would not exist without coral reefs. They protect, nourish and stabilize shorelines, are a vital source of dietary protein for many people, and provide income through tourism and fishing. The region is also home to or provides migratory, nursery, breeding or feeding grounds for globally significant populations of vulnerable, rare and endangered species, including marine turtles, dugong, seabirds and cetaceans. The Pacific island region has the most extensive system in the world of marine habitats that are critical to maintaining this biodiversity. The global role of these extraordinarily productive systems as carbon sinks, and thus as potential moderators of the effects of climate change, cannot be underestimated, though it remains to be precisely quantified. These habitats are also globally significant as natural filters of land-based pollution and as natural protection against storms and sea-level rise. The natural filters help maintain the health of offshore waters, ecosystems and associated species including oceanic fisheries. The natural coastal protection helps maintain the physical security of people, their homes and their livelihoods, and of commercial enterprises that also depend on a protected coast, such as international tourism and shipping.

Furthermore, through their function as breeding, nursery and feeding grounds, these habitats help maintain internationally important fish stocks, some of which range over the full width of the Pacific Ocean. In addition to providing an important source of food to the rest of the world (tuna fishery), the health of the coastal and marine ecosystems is also important to maintain domestic food security, as a source of income and employment, and for social and cultural cohesion and welfare, in particular through coastal fisheries and other resources.

Being small in size, and with high coast to land ratios, the islands of the Pacific island region can be considered wholly coastal in nature with strong linkages between terrestrial, freshwater and marine ecosystems. Key habitats and ecosystems include montane cloud and lowland dry tropical forests, grasslands, freshwater river systems, estuaries, lakes, salt marshes and wetlands, mangroves, seagrass, shoreline and coral reefs.

These ecosystems provide a range of ecosystem goods and services to Pacific Islanders and it is increasingly acknowledged that the ecological status of these ecosystems is linked to economic

growth prospects and ensuring sustainability and security of water, biodiversity, food, and livelihoods in PICs.

A number of national ecosystem service valuation studies have been published in recent years that for the first time show the true economic value of ecosystems to national production. The 2010 IUCN report, *Economic Value of the Pacific Ocean to Pacific Island Countries & Territories* (Seidel & Lal, 2010)[2], found that tourism is the most valuable coastal and marine dependent economic sector at US\$2.27 billion Gross Value of Product (GVP) per year, followed by fisheries (both coastal and offshore) at \$1.04 billion GVP per year, together contributing 10.5% of regional GDP. The report authors also estimated the Total Economic Value (TEV) of ecosystem services for coral reefs and mangroves to be about US\$3.8 billion and US\$3.9 billion per year, respectively, for the entire Pacific Island and Territory Region, giving a combined total of US\$7.7 billion, or twice the value of the combined economic value of tourism and fisheries. These, and other studies and projects, have also shed light on how healthy and intact ecosystems provide a range of resilience benefits to society in coping with climate change and natural disasters.

Following the first UN Oceans Conference co-hosted by Fiji in 2019, the term “green growth” and its sister concepts “blue-green growth,” the “green economy,” and the “blue-green economy,” have gained considerable traction in the Pacific island region. As ‘large-ocean states’, there is growing interest in developing the potential of the region’s oceanic ecosystems to facilitate sustainable economic production. A Sustainable Blue Economy is one that seeks to halt the loss of biodiversity and to harness the power of natural capital and the benefits that marine ecosystems provide. It is an economy based on circularity, collaboration, resilience, opportunity, and inter-dependence. Its growth is driven by investments that ensure the sustainable use of marine and coastal resources while also reducing carbon emissions and pollution, enhancing energy efficiency, promoting economic growth, and preserving and improving livelihoods across a range of sectors.

The impact of the Covid-19 pandemic has raised awareness of the linkages between ecosystem health, public health and food security as well as the need to diversify Pacific island economies to be less dependent on tourism. Primary sectors such as commercial agriculture, fisheries, forestry and mining are being targeted for expansion in this regard. While exports are being promoted to increase GDP, there is also a focus on promoting national food security and ‘self-sufficiency’. In addition, the disruption to livelihoods brought about by retrenchments in the tourism sector, the general downturn in economic activity and disruptions to imported food supplies experienced in most PICs has led to an increase in the number of people taking up small-scale agricultural and fishery activities. This takes place against the backdrop of climate change which is resulting in a myriad of slow (e.g. sea level rise) and fast onset (e.g. cyclones) hazards, further disrupting people’s ability to secure sustainable livelihood, food and water security.

The development aspirations of building national resilience to climate change, achieving greater self-sufficiency, and developing the potential of ‘blue-green’ economies are, in large, contingent on protecting and enhancing the flow of beneficial ecosystem goods and services, which in turn is dependent on the efficient functioning and health of the region’s land, water, coastal and marine ecosystems. The reality however is that ecosystems in the region continue to be threatened, fragmented and degraded by human and developmental activities associated with, amongst others, forestry (logging), agriculture, mining, infrastructure development, introduction of invasive species, expanding human settlement and fishing, leading to a decrease in the quality and quantity of the socially beneficial goods and services that these ecosystems provide. In turn community livelihoods

and local economic activity is undermined, exacerbating social and economic vulnerability to climate change and other hazards.

Ecosystems (and the beneficial services they provide) are themselves under threat from climate change, with increasing intensity of high (and low) rainfall events, increasing severity of cyclones, increasing land and ocean surface temperatures, increasing frequency of storm surges, and sea-level rise all anticipated to impact on the ecological integrity of ecosystems. In many cases the direct impacts of climate drivers on the health and functioning of ecosystems are not yet well-understood, but it is an established principle that healthy ecosystems (as evidenced by intact levels of biodiversity) are generally better able to adapt to these changes than those that are ecologically compromised, and that the cumulative impact of human stressors over time can reduce their resilience to climate-related hazards.

With the general state and condition of ecosystems declining in the Pacific island region [REF], it is clear that building national resilience to climate change, achieving greater self-sufficiency, promoting public health and developing the potential of ‘blue-green’ economies (in addition to achieving many of the Sustainable Development Goals) requires an increased investment in the proactive integrated management of ecosystems along the land-sea continuum to secure their beneficial services to society, and to build resilience to climate change.

While progress is being made in the region (mostly with the support of development partners), government investments in integrated ecosystem-based ridge-to-reef planning and management systems remain insufficiently applied to stem the tide of environmental degradation. This is largely a result of limited government institutional capacity in spatial planning and effectively applying relevant ridge-to-reef planning tools such as Integrated Catchment Management, Integrated Coastal Management, Marine Spatial Planning, Nature-based Solutions and Ecosystem-based Management.

Wastewater pollution is a priority concern and curbing pollution loading into rivers, aquifers and the ocean will be a part of enabling a change across the entire ocean economy, leading to a healthy ocean ecosystem, that in turn will be able to sustain substantial increases in protein production, and a host of cultural, social and economic benefits.

Root causes

It remains the case that the Ridge-to-Reef approach has not yet been effectively mainstreamed and institutionalised by governments in the region and that the governance and institutional systems required to enable integrated spatial planning and management using a climate-sensitive ridge-to-reef ecosystem-based management approach require strengthening.

Barriers

Barriers to effective integrated management of linked terrestrial, freshwater and coastal marine ecosystems can be summarised as:

- Increasing population pressures and uncontrolled economic development in coastal and marine areas.
- Financial and human resource capacity limits in management agencies.
- Limited coordination among national government agencies and lack of integrated decision-making and planning, resulting in inconsistent approaches and decisions across sectors that are responsible for natural resource management.

- Insufficient knowledge on ecosystem distribution, health and the financial value of associated goods, services and natural capital, resulting in insufficient recognition or undervaluation of marine and coastal natural capital in macro-economic and sectoral policies.
- Existing economic models that promote short-term use of natural resources, and lack accountability and responsibility for the longer-term negative consequences.

2) Baseline Scenario: Regional

The need for PICs to adopt and mainstream integrated catchment and coastal management systems has been advocated in the region for some time. Indeed, the mutually agreed principal environmental concerns of the Pacific island region to the United Nations Conference on Environment and Development in 1992 were:

- Proliferation of waste in various forms on land and into adjacent waters
- Degradation of land (including deforestation (high islands), agro-deforestation (high & low islands), soil erosion and coastal erosion
- Depletion or loss of coastal/inshore living marine resource and other species
- Degradation of freshwater quality
- Degradation and loss of habitats.

A systematic review by countries in 1997 under a GEF initiative to develop a Strategic Action Programme for International Waters of Pacific Islands proposed Integrated Coastal and Watershed Management as key to addressing the shared regional concerns of Degradation of water quality and Degradation of associated critical habitats. Imminent threats were considered to be Pollution from land-based activities; Modification of critical habitats; and Unsustainable exploitation of resources. Root causes were linked to management deficiencies, particularly concerning governance (institutional capacity), and understanding (scientific evidence). Targeted actions were proposed under the categories of management, capacity-building, awareness/education, research/information for decision-making, and investment.

The current framework for regional cooperation is embodied in the Framework for Pacific Regionalism, which was adopted by the Pacific Islands Forum (PIF) Leaders in 2014. It aims to deepen regional cooperation and integration by enhancing the sharing of institutions, resources and markets to overcome common development constraints. The Framework for Pacific Regionalism evolved into the Blue Pacific concept of a single, united, ocean-based Blue Continent, as articulated at the 48th Pacific Islands Forum Leaders Meeting held in Apia, Samoa in September 2017: To act as one Blue Continent and to reinforce our shared stewardship of the Pacific Ocean and reaffirm the connections of Pacific peoples with their natural resources, environment, culture and livelihoods. At present, a 2050 Strategy for the Blue Pacific Continent is under development, led by a Pacific Island Forum Officials Sub-Committee.

The Pacific Islands Region has developed a collaborative and integrated ocean management framework over the years, consisting of the following:

- Pacific Islands Regional Ocean Policy (PIROP), adopted by PIF leaders in 2002, intended as a voluntary framework for guiding the formulation and implementation of sustainable development within the region.

- Pacific Islands Regional Ocean Framework for Integrated Strategic Action (PIROF-ISA), prepared by the Council of Regional Organizations in the Pacific Marine Sector Working Group (CROP-MSWG) in 2005 to guide and coordinate the implementation of PIROP.
- Framework for a Pacific Oceanscape (FPO), adopted by PIF leaders in 2010, aimed to catalyse the implementation of PIROP by strengthening coordination and resourcing and providing the overarching ocean-governance policy framework for the Pacific Islands Region.
- The Palau Declaration on The Ocean: Life and Future, adopted by the PIF Leaders meeting in 2014, and the Pohnpei Ocean Statement: A Course to Sustainability, adopted by the PIF Leaders meeting in 2016, giving additional political endorsement at the highest level to the FPO.
- The Pacific Road Map for Sustainable Development (2017) was prepared under the direction of the Pacific Islands Forum to guide regional responses for the achievement of the 2030 Agenda and the Sustainable Development Goals within the context of national plans and priorities, the SAMOA Pathway and the Framework for Pacific Regionalism.
- The SIDS Accelerated Modalities of Action (S.A.M.O.A) Pathway is an internationally agreed program of action for small island developing States (SIDS) for the decade 2014 – 2024, developed as the outcome of the Third International Conference on Small Island Developing States (SIDS Conference). Fifteen (15) key priority areas are identified in the SAMOA Pathway, inclusive of oceans and seas, and sustainable and inclusive equitable growth with decent work for all. In addition to the collaborative and integrated ocean management framework that the PICs have forged over the years, there is also strong legal obligation for the environmental protection aspects of the regional island and ocean management framework in the form of the Noumea Convention (i.e., Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (1986) and its protocols on pollution and ocean dumping), for which SPREP is the Secretariat. The Noumea Convention is part of the global network of Regional Seas conventions.

Technical implementation of the regional ocean management framework forms part of the mandates and work programs of the regional technical agencies who are members of the Council of Regional Organizations in the Pacific (CROP). These include:

- Secretariat for Pacific Regional Environment Programme (SPREP), with programs on environmental governance, monitoring and reporting, coastal and marine biodiversity, coastal and oceans aspects of climate change, and waste management and marine pollution. The coasts and ocean work of SPREP facilitates implementation of the environmental aspects of the FPO.
- Pacific Community (SPC), with programs on coastal and offshore fisheries, coastal management and adaptation, coastal mining, deepsea minerals, maritime transport, disaster risk management, agriculture, aquaculture, forestry and integrated water resource management.
- Forum Fisheries Agency (FFA), with programs covering tuna and other offshore fisheries.
- CROP Marine Sector Working Group (CROP-MSWG) as the mechanism for coordinating the coastal and oceans-related work of the CROP agencies.

Complementing the over-arching PIROP, FPO and subsequent PIF Leaders ocean statements, the regional baseline scenario also consists of programs, projects and initiatives of regional organizations, including, but not limited to:

- GEF IW Pacific Strategic Action Programme for International Waters of the Pacific Islands (1997-2004), which focuses on Integrated Coastal and Watershed Management (ICWM) and Oceanic Fisheries Management (OFM)(currently being updated)
- SPREP Strategic Plan 2017-2026
- SPREP Framework for Nature Conservation & Protected Areas in the Pacific Islands Region 2014-20

- SPREP/JICA Cleaner Pacific 2025: Pacific Regional Waste and Pollution Management Strategy 2016–2025
- SPREP / UN Environment Programme Pacific Regional Action Plan on Marine Litter 2018-2025

Projects

- GEF/UNDP Pacific R2R Program (Pacific Ridge-to-Reef (r2r) Program) 2019-2024, executed by SPC, that is assisting Pacific Island Countries to implement their respective national priorities in relation to integrated water, land, forest and coastal management to preserve biodiversity and ecosystem services, store carbon, improve climate resilience, and sustain livelihoods.
- PEBACC Project (Pacific Ecosystem Based Adaptation of Climate Change) 2017-2020, implemented by SPREP with German funding, and providing support to three Pacific Island Countries (i.e., Fiji, Solomon Islands and Vanuatu). A follow-on project called PEBACC+ and funded by the Kiwa Initiative is pending and will, in addition to the above mentioned countries, also include New Caledonia and Wallis and Futuna
- PEUMP (Pacific-European Union Marine Program), that seeks to improve Ecosystem-based Management of fisheries including promotion of ridge to reef integrated environmental management in support of coastal fisheries management.
- EU supported Intra-ACP PACRES (Pacific Resilience) project implemented by SPREP, SPC, PIFS and USP spans 15 countries and includes a focus on promoting Ecosystem-based Adaptation.
- IKI funded GIZ SPREP project: Strengthening Coastal Biodiversity Conservation and Management through Protection and Rehabilitation Incentives for Coastal Carbon Sinks in Pacific Island Countries. (2018 – 2023) Fiji, Papua New Guinea, Solomon Islands, Vanuatu
- GEF-7 funded Pacific I2I Regional Project: Ocean Health for Ocean Wealth - The Voyage to a Blue Economy for the Blue Pacific Continent. UNEP, ADB, SPREP. Pending. Project objective is to preserve and safeguard the health of ocean ecosystems while catalysing the development and growth of sustainable blue economies (SBE) in Pacific Island Countries In 2019, ADB launched the Action Plan for Healthy Oceans and Sustainable Blue Economies (Healthy Oceans Action Plan) to scale up investments and technical assistance to \$5 billion between 2019 and 2024. The aim of the plan is to protect and restore coastal and marine ecosystems, promote inclusive livelihood opportunities, build resilient coastal communities, and contribute to food security in Asia and the Pacific. The Healthy Oceans Action Plan has three focus areas: (a) ecosystem and natural resources management, (b) pollution control, and (c) sustainable coastal and marine development.

3) Alternative Scenario: Expected Outcomes and Components

While governance systems for environmental management have generally strengthened over time in the region, significant challenges remain, with countries hard-pressed to stem the tide of environmental degradation. In the main, environmental governance continues to be natural resource focused and sector based, with inadequate coordination between sectors and a lack of strategic planning at the landscape/seascape level. While more integrated ‘ecosystem-based’ environmental management approaches are increasingly finding their way into relevant policies and plans, many countries have limited experience in implementing them and there is a need to build the institutional capacities required to ‘mainstream’ them as an integral part of development planning.

A key constraint reported by in-country project partners is insufficient high-level commitment needed to unlock resources and provide leadership to enable a process of institutionalisation to take place.

Apart from institutional strengthening and capacity building, additional work is also required with regard to strengthening the science underpinning Integrated Ridge to Reef Ecosystem-based Management. The scientific understanding of socio-ecological relationships and the functioning of ecosystems are critical to designing effective and targeted management systems. Data on species occurrence and distributions in the Pacific island region is accumulating, but there are still major gaps in knowledge and many areas/sites still exist for which very little data is available. With the growing policy imperative to explore and promote the direct and in-direct benefits of ecosystems to climate, disaster, social and economic development, advances are being made in research methods and approaches focusing on ecosystem health, functioning, connectivity, modelling and valuation. However, this is a major undertaking and work to address gaps in knowledge and to effectively apply the science for planning and management purposes needs to be an on-going and reflexive process. Under IWRM and R2R, processes were established to link countries with scientific support from regional and international sources and it is proposed that this modality continue in order to further build on the relationships and processes established. These include a cascading ‘science-to-policy’ model that entails a detailed assessment of the ecological state and health of an area, identifies and prioritises human activities and the main risks, and generates priority policy options for interventions based on collated data and stakeholder input. Key components of the model include Rapid Assessment of Priority Coastal Areas (RapCA), Island Diagnostic Analysis (IDA), State of the Coast Report (SoC Report), and Strategic Action Framework and Planning (SAF, SAP). A number of technical templates and guides have been developed and shared with countries, and under the proposed follow-on project countries will be supported and mentored in applying these methodologies and tools.

The Pacific Ridge-to-Reef Programme partnered with James Cook University in Australia in designing a tailor made Post Graduate Programme in Ridge to Reef Sustainable Development through which over 30 Pacific Islander environmental practitioners and government officials from 14 countries were able to improve their qualifications. As an enabler of targeted capacity building for Integrated Ridge to Reef Ecosystem-based Management, it is important that the Post Graduate Programme with James Cook University continues to be made available to Pacific Islanders and that its impact is tracked.

In addition to the imperatives to continue to strengthen governance arrangements and technical capacity (building on the work started by IWRM and R2R), there is also a need to ramp up direct support to countries with regard to actionable ecosystem management and sustainable livelihoods projects. In some countries, integrated catchment and coastal management action plans have already been developed for priority sites often through the support of donor-funded initiatives. However, funding for the implementation of the actions identified is often lacking. With limited financial resources, countries look to donors and the private sector to assist and partner with them in supporting the implementation of actions prioritised in the plans. For donors there is value in supporting these actions as they offer tangible resilience benefits to communities, present learning opportunities for lead agency staff, and there is some assurance that the actions result from participatory planning processes that are multi-stakeholder and inclusive; i.e. due process has been followed. Not only does this direct support address immediate environmental and social issues of

concern, it can also serve to promote and raise the profile, and perceived value, of Integrated Ridge to Reef Ecosystem-based Management thereby helping it to gain institutional traction as an effective development response to secure the livelihoods and social well-being of communities and economies in the face of uncertainty.

Post-Covid economic recovery strategies have the capacity to exacerbate existing, or introduce new, pressures on ecosystem functioning and health. With tourism earnings seriously impacted by the pandemic, some Pacific island countries are looking to increase investments in primary sectors such as agriculture, mining, forestry and fisheries as part of their mitigation and recovery programmes. The renewed interest in the development of the primary sector brings with it the risk that environmental and social safeguards such as Environmental Impact Assessment and Social Impact Assessment processes may be compromised in the effort to boost production. This underscores the timeliness of strengthening multi-stakeholder engagement, awareness raising, collaborative planning and coordinated management processes in priority water catchment and coastal areas. Capacities and capabilities cultivated under donor funded projects such as IWRM and Pacific R2R require reinforcing, supporting and further developing particularly at the sub-national level, which is often where operational mandates for land-use planning, natural resource and environmental management are located.

The importance of designing and implementing targeted communications campaigns to raise awareness of linked social-ecological development issues, and as a basis for advocacy and for stimulating action at all levels is well documented. Communications activities are important in facilitating learning through the exchange and sharing of technical knowledge. Communications is therefore an essential enabler of Integrated Ridge to Reef Ecosystem-based Management. Another important element in advancing Integrated Ridge to Reef Ecosystem-based Management is the work taking place at the regional level by regional inter-governmental technical agencies. While Ridge-to-Reef and Ecosystem-based Management are mentioned as preferred approaches in a number of regional policies and plans relating to sustainable development, natural resource management and climate change, there is currently no coherent or dedicated regional strategic framework in place to guide countries in its implementation and/or to serve as advocacy tools to secure high-level political support. There is also insufficient coordination taking place between regional agencies with regard to achieving consistency in the development and promotion of methodologies and processes to enable Integrated Ridge to Reef Ecosystem-based Management. Having each piloted similar approaches under a number of guises and forms over the past 10-15 years, the time is ripe for regional agencies to pool their experiences and work towards i) putting in place a dedicated regional framework of governance, and ii) consolidating and developing consistency in the currently divergent tools and methods being promoted.

The follow-on project for Pacific R2R has been designed to target the above mentioned key strategic areas that are in need of strengthening to actively support governments in the region effectively integrate and mainstream Integrated Ridge to Reef Ecosystem-based Management into their governance systems with particular relevance to spatial, physical and economic planning, natural resource management, climate adaptation and disaster risk reduction. It builds continuity by taking into account the many lessons learned through the experiences of the Integrated Water Resource Management project and the Pacific Ridge-to-Reef programme by seeking to build, replicate and upscale the developmental gains made by these and other similar projects.

PROJECT DESIGN

LONG-TERM VISION (PROJECT GOAL)

Productive island communities deriving livelihood and resilience benefits from healthy island ecosystems that sustain and enhance ecosystem goods and services from the land to the sea.

LONG-TERM DESIRED OUTCOME

Effective science-informed sustainable land, water, and coastal/marine management embedded in government planning, regulatory and outreach processes with innovative technologies being supported.

PROJECT PURPOSE (OVERALL OBJECTIVE)

To strengthen environmental governance capacity in Pacific island countries to effectively implement Integrated Ridge to Reef Ecosystem-based Management and support the role-out of innovative and appropriate technologies.

INTERMEDIATE OUTCOMES

1. Demonstrated high-level government support for Integrated Ridge-to-Reef Ecosystem-based Management and for the strengthening of institutional capacity at the national and sub-national levels to lead and coordinate its implementation
2. Effective and sustainable Integrated Ridge-to-Reef Ecosystem-based Management being facilitated and led by governments, which includes scaling up of innovations and management approaches
3. Capacitated multi-stakeholder governance structures coordinating Integrated Ridge-to-Reef Ecosystem-based Management and promoting the use of sustainable innovative technologies and management approaches at the local level in accordance with existing and new Integrated Catchment Management and Integrated Coastal Management plans
4. Robust scientific and technical data providing the evidence-base for Integrated Ridge-to-Reef Ecosystem-based Management and supporting blue-green recovery initiatives
5. Increase in the productivity of terrestrial, coastal and marine ecosystem services that provide social and economic resilience and climate change mitigation benefits
6. Project stakeholders at all levels in participating countries and catchments understand the benefits and are motivated to participate in integrated planning and management of ecosystems along the land-sea continuum
7. The Project is effectively managed and coordinated at the regional level and regional agencies collaborate in working with countries on developing a coherent and dedicated regional policy framework and a suite of consistent processes, methodologies and tools.

COMPONENTS, OUTCOMES, OBJECTIVES & OUTPUTS

COMPONENT 1 - STRENGTHENING GOVERNANCE ARRANGEMENTS

OUTCOME 1.1 – Demonstrated high-level government support for Integrated Ridge-to-Reef Ecosystem-based Management and for the development of institutional capacity towards scaling up innovative technologies and management approaches

OBJECTIVE - Obtain high-level government support for ridge-to-reef planning and programming through targeted advocacy and capacity building that clearly demonstrates the societal and economic benefits of taking an integrated R2R ecosystem-based management approach to the management of ecosystem goods and services and provides guidance on policy, financing, planning and institutional options to mainstream the approach.

Achieving the desired outcome of embedding science-informed sustainable land, water, and coastal/marine management using an Integrated Ridge to Reef Ecosystem-based Management approach in government planning, regulatory and outreach processes requires that changes are made to 'business as usual' processes and methods of planning and decision-making, which in many cases requires that changes be made to existing institutional procedures. In most Pacific island countries, however, government planning systems and institutional cultures are rigid, top-down and resistant to change. Proposals to introduce new ways of doing things, or to elevate the importance of a particular government programme in relation to others, would normally need to be debated and agreed upon by cabinet, and/or parliament. Decision-makers and change-facilitators in government would need to see and support a particular programme or topic as an emerging development priority. In most cases institutional action is contingent on receiving this high-level support and, in this sense, high-level government decision-makers are 'enablers of change' and, to achieve the institutionalisation of ridge-to reef planning approaches, it is critical that they are brought on board and are supportive of the changes being introduced. It is therefore necessary that those proposing the institutional changes are able to provide a compelling argument to convince decision-makers of the importance of the issue, why the change is needed and how governance and society would benefit. It may also be necessary to demonstrate the benefit-cost relationship of the changes being proposed and how they would impact on economic performance in the short, medium and long-term. Outcome 1.1 is therefore focused on supporting proponents of Integrated Ridge-to-Reef Ecosystem-based Management with a package of strategic instruments to conduct an effective advocacy campaign targeting decision-makers in participating countries with the aim of unlocking high-level support for mainstreaming/institutionalising Integrated Ridge to Reef Ecosystem-based Management.

Key outputs include: Targeted advocacy engagement, processes and communication products to mobilise high-level decision-makers; Institutional and policy options/gap analyses incorporating lessons learned from the Pacific Ridge to Reef Programme; Sustainable financing options for ridge-to-reef coordination, planning and implementation.

OUTCOME 1.2 - Effective and sustainable Integrated Ridge-to-Reef Ecosystem-based Management being implemented, which includes scaling up of innovations and management approaches

OBJECTIVE - Strengthen institutional capacity to effectively implement Integrated Ridge-to-Reef Ecosystem-based Management planning, management and monitoring through provision of institutional development support (training, equipping, provision of tools, corporate planning and budgeting, mentoring, etc.) to country-designated lead agencies.

Outcome 1.2 seeks to actively support the institutionalisation of Integrated Ridge-to-Reef Ecosystem-based Management in participating countries through the provision of technical and organisational development measures. Key amongst these will be working with nominated lead agencies to develop action plans that identify and describe the areas in which institutional capacity requires building, together with the steps required to achieve the required technical capability.

Based on their experiences from participating in the IWRM, GEF STAR and Pacific R2R programmes, relevant country officials already have a good idea of what is needed in the context of their respective governance architecture. However, achieving the desired outcomes will require an injection of resources and a period of sustained facilitation, mentorship and technical support drawing on the expertise of technical partners.

Key outputs include: Country-specific action plans to guide institutional strengthening programmes; R2R post graduate programme for officials and practitioners from project countries (James Cook University); Multi-purpose GIS spatial ridge-to-reef prioritisation and modelling tool to inform planning and decision-making developed; Suite of proven innovative livelihood technologies and socio-economic measures tested and implemented.

OUTCOME 1.3 - Capacitated multi-stakeholder multi-sector governance structures supporting Integrated Ridge-to-Reef Ecosystem-based Management and promoting the use of sustainable innovative technologies and management approaches at the local level in accordance with existing and new integrated catchment and coastal management plans

OBJECTIVE - Support lead agencies to establish multi-stakeholder, multi-sector governance structures to support collaborative Ridge-to-Reef planning, monitoring and implementation and to promote the use of sustainable innovative technologies at the local level in accordance with existing and new integrated catchment and coastal management plans.

This outcome is geared at supporting lead agencies to establish sub-national and local level multi-stakeholder forums as mechanisms to facilitate collaborative participatory planning, management and monitoring. Linked land-sea Integrated Ridge-to-Reef Ecosystem-based Management uses river catchments and their adjacent coastal areas as ‘functional management units’. Depending on the geography, these can be large areas involving a diverse array and large number of stakeholders and interest groups. These stakeholders need to be mobilised and brought together on a regular basis for purposes of participatory planning, management and monitoring and this is best done through the establishment of multi-stakeholder forums that are linked with existing local governance arrangements.

Key outputs include: Sub-national ICCM Forums that contribute to planning and implementation of management actions and monitoring at the catchment level established and supported; Adaptive Integrated Catchment and Coastal Management plans, or the equivalent, developed; Conservation, ecosystem restoration and sustainable livelihoods projects implemented.

COMPONENT 2 – STRENGTHENING THE SCIENCE

OUTCOME 2.1 - Robust scientific and technical data providing the evidence-base for Integrated Ridge-to-Reef Ecosystem-based Management and supporting blue-green recovery initiatives

OBJECTIVE - Enhance the technical basis for ridge-to-reef planning and monitoring through strengthening in-country research capacities, standardising procedures for data collection, selection and monitoring of indicators, conducting valuation studies, enhancing spatial planning tools and R&D into context specific innovative and appropriate technologies.

Research, analysis and modelling are essential inputs to inform effective Integrated Ridge-to-Reef Ecosystem-based Management and to ensure that actions taken are backed up by the best available science. This is particularly important when dealing with the management of ecosystems given the complex biological ecological relationships within and between ecosystems, and the linkages between ecosystems and socio-economic systems. It is therefore important that there is sufficient data and research capacity at the disposal of lead planning agencies. A number of data and research capacity gaps were identified to exist in participating countries by the Regional Scientific and Technical Committee established under the Pacific IW R2R project. This outcome details activities designed to address these gaps and strengthen the basis for evidence-based planning and decision making in implementing effective climate sensitive Integrated Ridge-to-Reef Ecosystem-based Management systems.

Key outputs include: Training and mentoring to strengthen in-country scientific research capacities; Peer-reviewed standardised field methodologies, indicators and data recording templates developed; Species distribution models developed for local species; Checklists developed for assessing ecological connectivity; Rapid Assessment of Priority Coastal Areas (RapCa) and Island Diagnostic Analysis (IDA) conducted for priority sites; Research programme on the links between climate change, ecosystem health, biodiversity and ecosystem goods and services established; Technical assistance to strengthen in-country capacity to conduct ecosystem goods and services valuation and economic policy studies; Research, development and training on innovative technologies to support sustainable livelihoods with interventions tailored to suit local context (volcanic islands, atolls); Common guideline on participatory planning process and development of Ridge-to-Reef Integrated Catchment and Coastal Management Plans developed.

COMPONENT 3 - CONSERVATION, ECOSYSTEM RESTORATION AND SUSTAINABLE LIVELIHOODS PROJECTS AND INNOVATIONS

OUTCOME 3.1 - Increase in the productivity of terrestrial, coastal and marine ecosystem services that provide social and economic resilience and climate change adaptation and mitigation benefits.

OBJECTIVE - To strengthen socio-economic resilience by supporting implementation of measures directed at protecting and enhancing ecosystem services provided by upland forests, rivers, wetlands, aquifers, coastal and marine ecosystems.

Component 3 will support countries in implementing tangible actions directed at ecosystem conservation and restoration, sustainable use of natural resources, and sustainable livelihoods in catchment and coastal areas. These could be actions identified and screened through current and past integrated catchment or coastal management planning processes where inclusive plans exist but resources are lacking to fund implementation. They could also be actions coming out of any new participatory catchment and/or coastal management planning processes supported by the project. Component 3 is also the vehicle to support the roll-out of innovative technologies and nature-based solutions that address the drivers of ecosystem degradation, e.g. rocket stoves, composting, dry litter piggeries, sediment traps, etc.

Component 3 includes R2R blue-green recovery initiatives based on the current R2R project lessons and realistic considerations, for implementation at different scales and levels, particular focusing on ‘hot-spot’ spatial areas where the impact of COVID-19, ecosystem degradation and climate change is prominent.

R2R blue-green recovery initiatives that will be supported include:

- (i) ecosystem-nature based solutions and climate adaptation actions that increase resilience
- (ii) ecosystem-nature based solutions and climate mitigation actions that reduce emissions

The initiatives will be rolled out in accordance with country/regional priorities and commitments, preference and selection based on the following elements and subsections.

- (i) ecosystem-nature based solutions and climate adaptation actions that increase resilience
Infrastructure & built environment (%) - river & coastal areas engineering & modelling; construction of units to help with erosion and inundation or slow down sediment export downstream.

Ecosystem and ecosystem services (%) - EGS valuation & RapCA; Research & Development; establish rights & limits (e.g. TACs, TAEs); Protected Areas, zonation vs multiple uses; artificial reefs and coral reef restoration

Health & well-being, and Food & Water Security (%) - SMEs, farmers, fishermen (direct assistance or through associations); DLTs, septic upgrades, sand-filters, compost, water quality monitoring; support for aquifers and boreholes water management, desalination plants

Most Vulnerable people and communities (Livelihoods) (%) – these are people and communities hard hit by the COVID-19 pandemic as well as well as impact of ecosystem degradation and climate change that may have crippled dominant sectors supporting economic growth, livelihoods. Therefore, immediate support in the form of direct grant to finance home gardens, animal husbandry, feeds/seeds, nurseries, direct grants to support small blue/green projects to secure water and food – e.g. women and youth groups projects to farm seaweed, oysters, mangrove crabs, and others.

These investments minimize the scale and intensity of exposure to poor health and climate risks for the beneficiaries, which could include the exposure of people, social or economic assets or capital to risks derived from COVID-19 pandemic, ecosystem degradation and climate change. The proposed activities may support specific beneficiary groups identified as particularly vulnerable in national nature-based, climate or development strategies, which will be highlighted with relevant sex disaggregation.

- (ii) ecosystem-nature based solutions and climate mitigation actions that reduce emissions
Forestry and land use (%) - reforestation, replanting & rehabilitation; agriculture & vegetation; and land-use strategies & plans
Renewable energy % - solar farms (light and water pumps); windmills (uptake water from boreholes to storage facilities)

COMPONENT 4 – COMMUNICATIONS

OUTCOME 4.1 - Project stakeholders at all levels in participating countries and catchments understand the benefits and are motivated to participate in integrated planning and management of ecosystems along the land-sea continuum

OBJECTIVE –To raise the awareness of all stakeholders in participating countries of the value of managing ecosystems using an Integrated Ridge-to-Reef Ecosystem-based Management approach and to support the development, sharing and uptake of knowledge.

This outcome includes developing and implementing a multi-faceted communications strategy with activities tailored to the information requirements of different stakeholder groups (including decision-makers) and designing and conducting communications campaigns and education (train the trainer programmes) for local stakeholders.

Key outputs include: Social marketing campaigns to raise awareness, stimulate discussion, participation and action; Comprehensive project communications strategy tailored to different groups of stakeholders including decision-makers developed and implemented.

COMPONENT 5 - REGIONAL COORDINATION AND ENABLING ACTIVITIES

OUTCOME 5.1 - Project is effectively managed and coordinated at the regional level and regional enabling activities are taking place.

OBJECTIVE – To ensure participating countries are well-supported in the implementation and coordination of the project and that support from relevant regional agencies is streamlined. This outcome includes the establishment of an effective Regional Project Management Unit and associated project governance structures, Advocacy and support for the development of a dedicated regional policy and/or planning framework to guide implementation of Integrated Ridge-to-Reef Ecosystem-based Management; and support for the consolidation and standardisation of integrated ridge to reef management processes, methodologies and tools among regional organisations. Key outputs include: Regional Project Management Unit and associated project governance structures established; Regional enabling policy and/or planning framework to guide implementation of Integrated Ridge-to-Reef Ecosystem-based Management; regionally harmonised planning processes, methods and tools developed and promoted by regional organisations.

4) Alignment with GEF Focal Areas

The proposed project: Strengthening community resilience in a post-Covid world: Mainstreaming integrated ridge to reef ecosystem-based management along the land-sea continuum in Pacific Island Countries is strongly aligned with the International Waters GEF Focal Area. International Waters include oceans, large marine ecosystems, enclosed or semi-enclosed seas and estuaries as well as rivers, lakes, groundwater systems, and wetlands with transboundary drainage basins or common borders.

The water-related ecosystems and critical habitats associated with these waters are integral parts of the system. International Waters extend far inland and far out to sea. This is because the global hydrological cycle links watersheds, airsheds, estuaries, and coastal and marine waters through transboundary movement of water, pollutants and living resources.

The importance of the health of International Waters to Pacific islands cannot be overstated. Although separated by vast distances, Pacific islands are linked and controlled by their marine environment. Land to sea ratios are generally so small that all the islands are wholly coastal in character.

The International Waters focal area addresses a number of the Sustainable Development Goals, in particular SDG's 6 and 14. SDG 6 aims to ensure availability and sustainable management of water and sanitation for all. Three targets are of particular relevance to the proposed project:

- Improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes
- Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

SDG 14 aims to Conserve and sustainably use the oceans, seas and marine resources

Targets relevant to the programme include:

- Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
- Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
- Conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information

The proposed project is also strongly aligned with the actions proposed in the Strategic Action Programme for International Waters of Pacific Islands developed in 1997 which is currently in the process of being updated. Addressing land-based pollution of linked coastal and marine environments is likely to remain a key priority in the updated SAP.

Proposed objectives for the International Waters Focal Area under GEF-8 that are relevant to the proposed project include Objective i) Accelerating joint action to support Blue Economic Development; and Objective iii) Enhancing water security in freshwater ecosystems. Sustaining healthy blue ecosystems is one of two key areas of strategic action under i) Accelerating joint action to support Blue Economic Development. Under this key area, GEF-8 will support actions that:

- Establish and support marine protected areas in key biodiversity hotspots and coastal habitats,
- Restore degraded key habitats through deployment of Nature-based Solutions and Paying for Ecosystems Services demonstrations
- Create multi-state cooperation frameworks in transboundary deltas including an integrated source-to-sea approach,
- Engage with national, regional and global stakeholders to increase collaboration and cross support to investments and processes, including through IW-LEARN

Under the Sustainable Fisheries Management key area GEF-8 will support actions that:

- Formulate (including updates to) Transboundary Diagnostic Analysis and Strategic Action Programmes
- Standard setting for sustainable aquaculture to enhance marine ecosystem health and improving food and nutrition security
- Development of sustainability indicators and monitoring systems in respect to the local ecological carrying capacities

Under International Waters Objective iii) Enhance water security in freshwater ecosystems, GEF-8 will support:

- Formulation of (including updates to) Transboundary Diagnostic Analysis and Strategic Action Programmes.
- Implementation of SAP priorities through regional and national actions.
- Policy reforms and improved management strategies to support sustainably management of freshwater fisheries and aquaculture
- Nature-based solutions to curb floods, droughts, river/lake shoreline deterioration and to further aquifer recharge
- Build capacity to gather and synthesize scientific, local and people science and mainstream into decision making processes
- Ensure the inclusion of the ecosystem dimension into the water, energy, food nexus, to further environmental and water security
- Increase water efficiency, reuse, and reduce point and non-point sources of pollution addressing both primary and emerging pollutants, along the source-to-sea continuum

The proposed project: Strengthening community resilience in a post-Covid world: Mainstreaming integrated ridge to reef ecosystem-based management along the land-sea continuum in Pacific Island Countries also aligns strongly with the proposed GEF-8 Integrated Programme areas of: Blue and Green Islands; Blue Economies and Healthy Oceans; Greening Infrastructure Development and Land Restoration.

Blue and Green Islands Integrated Program

The objective of the Blue and Green Islands Integrated Program is to apply nature-based solutions in key ecosystems that support socio-economic development in SIDS.

- implement landscape and seascape level innovative Nature-based Solutions tied to one or more key sectors.
- technical support for small farmers and fishers to move towards more sustainable practices;
- Urban - innovative nature-based solutions to wastewater management, water security, urban flooding, renewable energy, and/or solid waste management; and restoration of degraded productive landscapes

Blue Economies and Healthy Oceans - will focus on curbing coastal pollution from agricultural and municipal sources through infrastructure investments combined with Nature-based Solutions.

Actions that will be supported include:

- Management strategies such as implementing riparian buffers or reducing inefficient fertilizer use to reduce nutrient pollution.
- Combining Grey wastewater infrastructure with nature-based solutions for secondary or tertiary treatment of municipal effluents and agricultural non-point run off.
- Funding of low-cost, nature-based solutions in coastal areas
- Incentivize management strategies such as implementing riparian buffers or reducing inefficient fertilizer use to reduce nutrient pollution.

Land Restoration Integrated Programme - will contribute to blue recovery through restoration efforts in coastal areas and through the application of a ridge-to-reef approach that helps to improve water quality and pesticide and harmful chemical load.

The Integrated Program focuses on restoration in a landscape approach for multiple benefits and will include three main categories of land:

- Degraded agricultural land (formerly productive land), through investments in sustainable land management, including agro-silvo-pastoral models and agro-ecological intensification and diversification, and rangeland restoration;
- Degraded forest landscapes, applying a range of best practices and focusing mainly on cost-effective interventions such as natural regeneration and assisted natural regeneration to restore ecosystem functions and services.
- Converted or degraded habitats in various ecosystem types in mosaic landscapes, including for example stepping stone habitats and corridors, woodlands, shrub and grasslands, wetlands, watersheds, estuaries, riverine forests, etc. using best practices for ecological restoration.

Greening Infrastructure Development Integrated Program

The objective is to enable countries to develop integrated portfolios of nature-based infrastructure solutions and sustainably engineered infrastructure projects at national or land/seascape levels that will deliver needed infrastructure services sustainably and aligned with achieving the goals of the CBD, UNFCCC and UNCCD.

At the country and landscape/seascape scale, the program will simultaneously address three key areas:

1. Improve the policy enabling environment for decision-making and investing in the delivery of infrastructure services through nature-based and sustainable engineered approaches;
2. Strengthen integrated, multi-sectoral, and participatory upstream planning and design.
3. Enhance financing and de-risking mechanisms for delivery of nature-based and sustainable built approaches to providing infrastructure services (incl. Enhancing the development and standardization of biodiversity targets for both traditional (gray) and nature-based infrastructure alternatives (green).

At the global level, a platform will be created for information exchange and learning across participating countries. Potential areas to be addressed through the knowledge management elements of the platform include:

- a. Assessing and promoting the true environmental costs of traditional infrastructure and the value of integrated, multi-sectoral sustainable infrastructure planning and development, including nature-based infrastructure solutions;
- b. Learning around the design of nature-based infrastructure solutions; and
- c. Shared understanding of innovative approaches to facilitating the financing of sustainable infrastructure.

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

In 1997 the GEF IW funded Strategic Action Programme for International Waters of Pacific Islands was a pioneering effort by Pacific SIDS to integrate national and regional sustainable development priorities with shared global environmental concerns for protecting International Waters. The SAP proposed to address the root causes of degradation of International Waters through regionally consistent, country-driven targeted actions that integrated development and environment needs with actions designed to encourage comprehensive, cross-sectoral, ecosystem-based approaches to mitigate and prevent threats to International Waters. The SAP was thus providing an initial regional framework with targeted actions in two complementary, linked consultative contexts: Integrated Coastal and Watershed Management (ICWM) and Oceanic Fisheries Management (OFM). Through

the ICWM and OFM approaches, the SAP set out an initial path for the transition from sectoral to integrated management of International Waters as a whole.

Two regional GEF-funded projects: Implementing Sustainable Water Resources and Wastewater Management in Pacific Island Countries aka Pacific Integrated Water Resource Management (PIWRM)(2009-2014, GEF contribution: USD9mil) and Ridge to Reef: Testing the Integration of Water, Land, Forest & Coastal Management to Preserve Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods in Pacific Island Countries aka Pacific Ridge to Reef (PR2R)(2015-2022, GEF contribution:USD10mil) represent major donor investments in promoting the uptake of integrated natural resources management systems and approaches in the region.

Through a range of diverse activities tailored to the needs of thirteen participating Pacific island countries, the PIWRM project aimed to improve water resource and wastewater management and increase water use efficiency in PICs in order to balance overuse and conflicting uses of scarce freshwater resources. The Terminal Evaluation of the PIWRM project maintained that it achieved a level of commitment to and practice of IWRM principles across the Pacific that would not have been reached in its absence.

The IW PR2R project was a ‘child project’ of a larger multi-focal area GEF-funded Pacific Ridge to Reef Programme comprising of 14 national STAR projects all dedicated to country-prioritised aspects of ridge to reef environmental management. The PR2R ‘child project’ and the R2R programme sought to sustain momentum by building on the developmental gains made by the PIWRM project with the scope of activities extended from a water security focus to include sustainable land management and climate change issues in linked river catchments and adjacent coastlines (ridge-to-reef approach). The PR2R project will end in March 2022 and despite the challenges associated with implementing the programmatic approach, much solid progress has been achieved which is likely to be reflected in the Terminal Evaluation.

These two large GEF-funded regional initiatives served as important ‘building blocks’ towards mainstreaming IWRM and R2R approaches in the management of linked catchment and coastal areas in the region. Despite the progress made across a number of fronts (policy, capacity building, demonstration projects, development of innovative technologies, etc.), participating countries report that further assistance is needed to sustain momentum and to fully realise the developmental gains made under these initiatives.

Lessons learned from the IWRM project and PR2R programme indicate that for Integrated Catchment Management and Integrated Coastal Management to be implemented successfully, governments need to put in place relevant policy frameworks, internalise Ridge-to-Reef integrated planning processes, invest in building targeted human and technical capacity, and mandate agencies to take the lead in applying Integrated Ridge to Reef Ecosystem-based Management.

An independent PR2R study on mainstreaming the R2R approach also recommended that mainstreaming involve: Scaling up communication, advocacy and social marketing campaigns based on spatial, bio-geological, climatic, policy, governance and stakeholders’ integrated analysis; Replicating participatory integrated R2R site planning with envisioned R2R benefit flows at the local, sub-national and national levels; and Replicating R2R implementation of approved integrated R2R site plans to realise R2R benefit flows at the local, sub-national and national levels.

The proposed project therefore has a strong focus on supporting governments to mainstream the IWRM and R2R approaches into existing natural resource management systems to ensure that associated spatial planning and management processes are internalised and financed, and that the necessary institutional capacity exists to effectively implement them. This is seen as the main pathway to sustainably up-scaling and replicating the learnings made under the PIWRM and PR2R projects and, hence, to optimising returns on these investments.

Natural resource management agencies in the region continue to face a number of institutional challenges which, despite a willingness, constrain the effective uptake, integration and institutionalisation of IWRM and R2R approaches, which are by nature complex and resource intensive.

Without the support of the proposed project which will assist countries in ‘going the final mile’, and in light of the growing intensification of pressures on natural resources and ecosystems from development activities and climate change, the likely scenario is that momentum will be lost, experienced managers will leave, and that countries will slip back into the ‘business as usual’ fragmented sectorally-based management approach.

6. Global Environmental Benefits (GEFTF) and/or Adaptation Benefits (LDCF & SCCF)

The proposed project makes a number of significant contributions to the delivery of Global Environmental Benefits (GEBs). The Regional Project will result in meaningful reductions in impacts on globally significant marine and coastal ecosystems with co-benefits in conservation of globally significant biodiversity. The Pacific Ocean as a whole comprises nearly one third of the planet’s surface area, and the combined area of Pacific island country EEZs (20million km) constitutes a core part of the Pacific ocean. By promoting, supporting and catalysing the vital transformations that are needed across such a large proportion of the globe, the impact of the Regional Project will be at a scale that will have global ramifications and benefits.

The proposed project aligns with GEF’s ambition to deliver multiple environmental benefits through integrated investments across the various dimensions of the global environment. With regard to the International Waters focal area, the project will contribute to global environmental benefits in i) reducing pollution loads in international waters from nutrient enrichment and other land-based activities; ii) restoring and sustaining freshwater, coastal, and marine ecosystems goods and services, including globally significant biodiversity, as well as maintaining the capacity of natural systems to sequester carbon; and iii) reducing vulnerability to climate variability and climate-related risks, and increased ecosystem resilience.

With its focus on the improved management of ‘productive landscapes’ situated in water catchments, the proposed project will also contribute to the global environmental benefits under the Land Degradation focal area, including: i) Improved provision of agro-ecosystem and forest ecosystem goods and services; ii) Mitigated/avoided greenhouse gas emissions and increased carbon sequestration in production landscapes; iii) Conservation and sustainable use of biodiversity in productive landscapes, and iv) Reduced pollution and siltation of international waters.

With regard to Climate Change Mitigation the proposed project will contribute to i) Mitigated GHG emissions; ii) Increased use of renewable energy and decreased use of fossil energy resources; iii) Conservation and enhanced carbon stocks in agriculture, forest, and other land use.

GEF-8 financing will allow a number of new approaches and technologies that have demonstrated encouraging results under the PR2R project, to be further developed, up-scaled and expanded to effect transformational change in the Pacific island context.

7. Innovation, Sustainability and Potential for Scaling Up

The proposed project includes a strong emphasis on research and development on innovative and appropriate technologies and solutions to address priority drivers of ecosystem degradation. A number of innovative technologies were developed and trialled under the PR2R project, for example, guidelines were developed for improving the management of pig waste (converting to dry-litter piggeries) to reduce and avoid pollution to waterways which is a key environmental issue in many Pacific island countries.

SPC has specialised expertise in modelling and managing sediment dynamics and coastal processes and is well-placed to conduct technical work relating to soil erosion control (e.g. sediment traps, bunds, etc.), mitigating coastal erosion (nature-based hybrid seawalls) and river bank stabilisation (nature-based engineering). SPC also has technical expertise in the development of agricultural and forestry innovations (e.g. agro-forestry, organic farming and composting, climate-smart crops, etc.) which will be utilised to address ecosystem health issues on production landscapes. Innovative technologies will also be used to support the productivity and sustainability of rural livelihood activities, including the introduction of low-environmental impact alternatives. Aquaculture and non-fed freshwater and marine aquaculture will be supported drawing on the Coastal Fisheries technical capabilities available at SPC.

With regard to sustainability, the proposed project has a strong focus on strengthening the institutional capacity of government and other relevant agencies to achieve Integrated R2R Ecosystem-based Management in linked land-sea systems through implementation of associated planning and management tools such as Integrated Catchment Management, Integrated Coastal Management, Island Diagnostic Analyses, Rapid Assessment of Priority Coastal Areas, and tying in with existing and new Marine Spatial Planning initiatives.

Participating countries will be supported to scale-up proven planning and management processes and innovative technologies. The project will support innovative technologies established under PR2R regarding management of domestic pig waste and construction of composting toilets taking into account the lessons learned during their piloting. Further country and catchment application will be sought for the GIS modelling guidelines developed by PR2R and piloted in Vanuatu as a spatial tool to assist in selecting priority sites and interventions.

1b. *Project Map and Coordinates.* Please provide geo-referenced information and map where the project interventions will take place.

2. *Stakeholders.* Select the stakeholders that have participated in consultations during the project identification phase:

- Indigenous Peoples and Local Communities;
- Civil Society Organizations;
- Private Sector Entities;
- If None of the above, please explain why.

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

The need for a successor project to the PR2R project was first raised, discussed and agreed to by members of the PR2R Regional Steering Committee at its Meeting in 2019. The Regional Steering Committee comprises mid to senior government representation from the 14 participating Pacific island countries as well as executing and implementing entities: UNDP, UNEP, FAO and SPC.

A working group of the Regional Scientific Technical Committee comprising regional technical inter-government agencies including the University of the South Pacific was established to oversee the development of the successor project proposal.

A consultant was commissioned and a generic concept proposal was developed with input from the 'working group' and in consultation with country representatives. The generic concept was converted into this PIF, a draft of which was shared with the countries as well as UNDP who is the preferred executing agency.

During the PPG phase, more extensive stakeholder consultations will be undertaken with countries, local communities, CSOs, the private sector, universities, and other organizations working on sustainable development and related programs and projects in the Pacific Island Region.

3. Gender Equality and Women's Empowerment. Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? yes /no / tbd ; 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;
- improving women's participation and decision-making; and/or
- generating socio-economic benefits or services for women.

Will the project's results framework or logical framework include gender-sensitive indicators? yes /no / tbd

The project will review and update the Gender Mainstreaming Strategy developed under the GEF Pacific Ridge to Reef Programme in pursuit of the following objectives,

- Increase the effective representation of women, and women's interests, through leadership at all levels of decision-making,
- Ensure women's and men's equal participation in project processes, and their equal benefits from services and outcomes,
- Enhance government and program partner's capacity to effectively mainstream gender,
- Enhance the gender evidence-base knowledge to inform policy and practice.

Gender balance will be considered in all facets of the project - staff recruitment, project governance structures, planning, capacity building, and identification of priority local actions to address catchment management issues. Emphasis will also be placed on ensuring that the youth are represented and their voices and opinions are captured. The Gender Mainstreaming Strategy will contain updated strategic entry points, actions and indicators to mainstream gender under each of the project's Outcomes. It will also articulate how gender will be institutionalised within the project governance.

4. Private sector engagement. Will there be private sector engagement in the project? (yes /no). Please briefly explain the rationale behind your answer. Direct engagement with the private sector will be sought in instances where private sector activities are identified as sources of catchment and coastal water pollution. Tourism sector private operators and resorts are likely to be engaged with respect to wastewater and sewerage treatment and management practices. Catchment based private sector entities will be invited to join and actively participate in Catchment Forums and will be encouraged to contribute to catchment and coastal ecosystem rehabilitation plans.

[To be discussed further]

5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved or may be resulting from project implementation, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

The project does not present a high level of risk in terms of institutional set-up:

- The proposed institutional set-up is simple, operational and based on known actors;
- The project implementing and executing agencies (UNDP, SPC) are reliable and have proven implementation and project management skills;
- The project's intervention logic is in line with the PR2R project and has demonstrated its relevance;
- The programme is part of an institutional dynamic of adaptation to climate change led by national and sub-regional authorities.

Public health crisis

Level of risk = medium; ability to influence = low

Pandemic leading to a health crisis (Covid-19)

The active vaccination programmes being applied in the region is working to protect the populations of participating Pacific island countries and to effectively curb infection rates in those countries where Covid-19 is present (Fiji, PNG, SI). However, the risk of break-through infections and/or a new wave as a result of variants remains possible.

These risks will be mitigated by the establishment of in-country Project Management Units with sufficient dedicated financial and human resources; i.e. the project will not be over-reliant on the presence of regional expertise.

The project will adapt to the circumstances by implementing the measures recommended by the health authorities in the various countries (e.g. confinement, social distancing, wearing of masks, systematic hand washing, limiting meetings, etc.).

Political risks

Level of risk = medium; ability to influence = medium

Changed political situation or agenda reducing political support

Periodic disruptions to governance arrangements such as caused by elections and appointment of new ministers and senior officials, political instability, or emergencies such as the Covid-19 pandemic can serve to undermine political support for projects.

This risk will be mitigated by the signing of MoUs, or similar agreements, with participating governments which will serve to secure their on-going support should any disruptions occur. Governments will be encouraged to integrate project workplans into relevant departmental and ministerial corporate plans to ensure visibility and commitment.

Through engagements facilitated by the PR2R project, it is known that this project fits very strongly into current national priorities, and also higher and lower governance levels, where those priorities are documented

Environmental risks

Level of risk = medium - high; ability to influence = low
Natural disasters impacting sites or drawing capacity to other needs.

The target countries are susceptible to tropical cyclones, earthquakes, tsunamis, volcanic eruptions, flooding where all implementing partners may be involved in targeted recovery effort for many months. Depending on the severity of the event, it is possible that this may lead to project implementation delays, or significant setbacks to initiated implementation.

Technical risks

Level of risk = medium; ability to influence = high
Insufficient staff capacity or overburdened capacities in the target countries

There is a risk that it will not be possible to recruit appropriate staff, or more likely that partner agencies within target countries may not have the absorption capacity for the actions and activities comprising this project. To minimize this risk, the project has been designed to be capacity building in country, with a core team of staff to supplement this effort and provide expertise. SPC additionally has a large staff with targeted technical expertise that can provide support periodically to meet specific needs. The chosen target countries are currently seen as medium risk in this regard, however the project has been designed to have high ability to meet these challenges, should the risk be realized.

Technical risks

Level of risk = medium; ability to influence = high
Weak overall coherence of the project due to the diversity of the activities implemented

SPC will promote the Integrated R2R Ecosystem-based Management approach as the unifying concept to ensure consistency of action between the R2R projects in the different countries throughout the course of the project.

Technical risks

Level of risk = medium; ability to influence = high
Lack of robust ecological data to inform decision-making

The Pacific island region remains data-poor with large gaps in the ecological database. Where data does exist it is often fragmented and housed by different institutions. Addressing this situation is a key focus of the project under 'Strengthening the Science' (Component 2). Scientifically-rooted data collection processes and procedures were developed and introduced by the PR2R project and these will be further refined and applied to priority sites. The Regional Scientific and Technical Committee established under the R2R project will be maintained to provide support to countries in this regard.

Coordination risks

Lack of coordination with comparable projects

The Pacific islands region is fortunate to be the recipient of a high level of donor supported projects. Often implemented by different organisations and with different donors, coordination between like projects with potential to synergise remains a challenge.

For the proposed project there is a high potential for synergizing with a number of current and up-coming SPREP projects. In particular the proposed project will establish a robust engagement strategy with the

GEF-7 funded regional Island-to-Island project and will seek to put in place an enduring and effective coordination mechanism between the two projects.

6. *Coordination.* Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The project will be administered and coordinated by a Regional Project Management Unit (RPMU) to be established at SPC's Geoscience, Energy and Minerals Division in Suva, Fiji (or another SPC division to be decided). As with the Pacific IW R2R project the RPMU will be supported by a Regional Scientific and Technical Committee (RSTC). Each participating country will establish multi-agency Steering Committees and Project Management Units to oversee and coordinate implementation at the country level. Steering Committees will be chaired by the agency nominated to lead the project in respective countries. Depending on country interest and funding, the modality of including a Regional Steering Committee will be considered. This may however be adapted to accommodate a desire amongst participating countries for a sub-regional (or clustering of volcanic island countries and atolls) approach to project implementation.

The Regional Project Management Unit will comprise a Regional Project Manager supported by three Sub-Regional Project Coordinators (Melanesia, Polynesia and Micronesia), a Communications Specialist, a Monitoring and Evaluation Adviser and a Finance and Administration Officer. Country-level Project Management Units will comprise of Country Managers supported by Communications, Monitoring and Evaluation and Finance and Administration technical staff.

7. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how:

- National Bio Strategy Action Plan (NBSAP)
- CBD National Report
- Cartagena Protocol National Report
- Nagoya Protocol National Report
- UNFCCC National Communications (NC)
- UNFCCC Biennial Update Report (BUR)
- UNFCCC National Determined Contribution
- UNFCCC Technology Needs Assessment
- UNCCD Reporting
- ASGM National Action Plan (ASGM NAP)
- Minamata Initial Assessment (MIA)
- Stockholm National Implementation Plan (NIP)
- Stockholm National Implementation Plan Update
- National Adaptation Programme of Action Update
- Others

The proposed project has been designed to complement the implementation of relevant national priorities and commitments to international conventions and agreements, including: UNFCCC NDC and NAPA, UNFCCC National Communications; CBD National Biodiversity Strategy & Action Plan (NBSAP), CBD Program of Work (POW) on Protected Areas; and UNCCD National Action Programs, and UNCCD Reports.

8. Knowledge Management

The project design includes provision for a strong internal monitoring and evaluation system to guide project implementation. Comprised of the Regional Monitoring and Evaluation Adviser and a network of country-level Monitoring and Evaluation Officers, the Monitoring and Evaluation system will seek to strengthen the monitoring of

ecosystems, the services that they provide and the associated benefits to communities. It will at the same time focus on institutionalising monitoring and evaluation by building capacity and developing and integrating effective monitoring and evaluation systems at the country level. In addition, the monitoring and evaluation team will facilitate effective flow of relevant information concerning project administration between countries and Regional Project Management Unit and will take the lead in facilitating and documenting project learnings for national and regional upscaling. The Monitoring and Evaluation team in conjunction with the Communications team will ensure project learnings and knowledge generated continues to contribute towards regional and international knowledge management systems and databases. In this regard SPC will utilise its strategic position as focal organization for the replication of IWLEARN (International Waters Learning Exchange and Resources Network) to inter-regional SIDS mechanism for biodiversity and land degradation focal areas through Pacific R2R and UNEP Caribbean BD and LD project portfolio (in-progress).

8. *Knowledge Management.* Outline the “Knowledge Management Approach” for the project and how it will contribute to the project’s overall impact, including plans to learn from relevant projects, initiatives and evaluations.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S)

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

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)

PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES
(when possible)

GEF 7 Core Indicator Worksheet

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

Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part I, item G by ticking the most relevant keywords/ topics/themes that best describe this project.