



NATIONAL ADVISORY BOARD
on Climate Change and Disaster Risk Reduction
GOVERNMENT OF VANUATU

PROJECT PROFILE FORM

[Please keep responses brief and limit each to 200 words]

NAB Project No

[completed by NAB]

GIP code/Project No

[obtain from DSPPAC]

Cost Centre/Activity No

[obtain from Dept.]

Donor/DSPPAC file No

[obtain from DSPPAC]

1. Project title: Enhancing water-food security and climate resilience in volcanic island countries of the Pacific

Project description:

Volcanic island countries in the Pacific are facing severe issues related to environmental degradation and climate variability. Deforestation and unsustainable land and water use, uncontrolled livestock grazing on fragile lands and poorly planned settlements in environmental and hazard-sensitive areas are drivers of environmental degradation. Drought is a major natural hazard all Pacific Island Countries (PICs) are facing, with agricultural drought presenting a particular problem for the leeward side of larger volcanic islands.

Alongside land resources, the economic and social well-being of PICs are dependent upon the quality and quantity of their freshwater resources. However, the ability of small island countries to effectively develop and manage their water sectors is often constrained by their small size and limited human resource base. In many island countries, factors such as increasing demand for water, rainfall variability, storm water runoff, inadequate sanitation, and waste disposal, threaten economic development and human health.

Fresh groundwater resources in volcanic islands of the Pacific are particularly abundant, as demonstrated by the plethora of freshwater springs, private and public groundwater bores and of major water bottling industries, abstracting substantial volumes of fresh groundwater, particularly in the larger volcanic islands of Fiji. These volcanic aquifers, bearing good potential to meet the needs of domestic and agricultural water demands have barely been developed. On the contrary, groundwater development is concentrated along the more densely populated coastal areas, targeting highly vulnerable shallow coastal aquifers.

In December 2020, the GEF-7 project concept "Enhancing water-food security and climate resilience in volcanic island countries of the Pacific" was approved by the GEF Council for design by FAO (Implementing Agency) in collaboration with SPC (Executing Agency). The USD 6 million full-size regional project sits under the International Waters GEF focal area and will be implemented in Fiji, Vanuatu, and Solomon Islands over a period of 5 years. A project preparation grant was administered by the GEF to assist with the project design aiming for submission of the complete project documentation by December 2021 to the GEF Secretariat for consideration.

The overall project objective is *"to enhance water and food security and climate resilience, sustain ecosystem services, and relieve pressure on over-exploited coastal aquifers by expanding and assessing the role of volcanic aquifers and by introducing sound groundwater governance frameworks in selected volcanic island states of the Pacific."*

A project framework was developed in 2020 for the purposes of submitting the Project Identification Form (PIF) to the GEF. The framework was developed through preliminary consultations between SPC, FAO, and the lead government agencies from the three project countries. The national project design workshop for Vanuatu, conducted on 29 June 2021, was an opportunity for the framework to

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be presented to a larger stakeholder audience and reviewed in terms of current national relevance, alignment with national strategies, and opportunities to address pressing issues which may have missed during the concept stage. The project components with associated Outcomes and expected activities are presented below:

Component 1. Expanding and assessing the role of groundwater resources.

Outcome 1.1 The knowledge of the exploitable groundwater resources is improved in the three project island states.

In many of the larger volcanic islands in the Pacific there are indications of the presence of large, exploitable groundwater resources at economically reachable depths and resilient to climate variability. Such indications include the presence of perennial springs and of mineral bottling industries producing significant volume of drinking water. It is proposed that the following main activities take place under this component during implementation:

1. Reconnaissance aquifer mapping at the national scale to expand the knowledge on the current state of major aquifers (up to 2 major islands per country).
2. In-depth technical and economic feasibility studies for the identification of strategic use and development of volcanic aquifers.
3. Facilitated dialogue between governments and public and private investors (e.g.: BOT schemes) on the exploitation of the most attractive “prospects” emerging from the feasibility assessments.

Component 2. Introducing sound groundwater governance frameworks.

Outcome 2.1. Sound groundwater governance frameworks and policies are adopted.

The main objective under this component is to facilitate the adoption of aquifer management plans following the recommendations and methodologies of the “Groundwater Governance Project” (GEF/FAO/World Bank/UNESCO/IAH), further supporting the implementation of key priority areas of the Strategic Action Programme (SAP) of the Pacific SIDS. Outputs under this component are expected to support governments with the drafting of water resources legislations and national groundwater exploitation policies. Main proposed activities would include:

1. Development of the conceptual models of identified primary aquifers and diagnostic studies of their current state.
2. Development of participatory future scenarios of water-food security management with local communities through a set of recommendations towards informed management of groundwater resources.
3. Drafting of Aquifer Management Plans.

Component 3. Tackling hot spots.

Outcome 3.1. Groundwater is integrated into IWRM policies and practices.

The proposed activities under this component include targeted on-the-ground interventions necessary to achieve the proposed Outputs under Components 1 and 2 and other specific objectives under Component 3. To the extent possible and in consultation with the project countries, “hot spots” will be identified within the “primary aquifer” areas identified under Component 1. The intention is to address and potentially resolve priority issues of concern related to groundwater, including groundwater production infrastructure for agricultural and drinking water purposes. An additional objective will be to demonstrate on-the-ground ways to integrate groundwater governance principles and methodologies within the context of IWRM policies and practices. Main proposed activities include:

1. The drilling of test holes and monitoring bores to support aquifer assessments and groundwater monitoring, respectively, to improve aquifer management and to address conflicts between industry, agriculture, domestic and environment users.
2. The implementation of land use management measures (land contouring, fencing, land use mapping) to strengthen environmental and water resources sustainability and to address land degradation.

3. The demonstration of small-scale groundwater development schemes to address water supply issues, enhance agricultural activities, and strengthen water and food security.
4. The drafting of national operational plans to better coordinate the management and operation of drilling activities.

Component 4. Reinforcing institutional capacity.

Outcome 4.1. Enhanced national capacities in groundwater assessment, monitoring and management.

The main objective under this component is to enhance the institutional capacities in groundwater assessment, management, and monitoring in the three project countries. This will be achieved through:

1. Participation of national staff from relevant ministries in groundwater investigations, reconnaissance surveys, and remotely sensed data analysis.
2. Active participation of stakeholders in the development of Aquifer Management Plans and their application.
3. Ad hoc trainings organized at regional level replicating previous successful training models (e.g. Melanesian drillers training) which also provided direct water security outcomes for communities in fragile areas.
4. Knowledge exchanges at regional and global level (North-South and South-South Cooperation).
5. Active participation in IW LEARN activities.

The project components are closely connected to regional and international agreements (Sendai framework, Sustainable Development Goals, Framework for Resilient Development in the Pacific), and will strengthen, through an inclusive approach, the linkages between government and the community, and between previous and existing GEF-funded projects (IWRM, R2R, MCA). Further, the project components are consistent with a number of national goals and strategic targets identified in the “2016-2030 National Sustainable Development Plan” for Vanuatu. Recognising that water security is an issue relevant to multiple sectors and actors, the project will also focus on the development and strengthening of existing and new partnerships with government and non-government organisations at the local, national, and regional levels.

2. Approval sought: Identification* Concept Funding Proposal
**For identification of project, use first page only* Continuation of existing project

3. Funding envelope: GEF

4. Total funding (Vatu and USD):
649,311,648.00 VUV (6,000,000 USD)

5. Access modality: combination of direct and international

6. Implementing entity/organisation:
As per GEF terminology, FAO is the implementing agency of the project and has partnered with the Pacific Community (SPC) to execute the project in the three project countries

7. Executing entity/lead government agency:
As per GEF terminology, the Pacific Community (SPC) is the executing agency for the project. The lead government agency through which funds will be channeled and who will implement parts of funded activities is the Department of Water Resources of the Ministry of Lands and Natural Resources.

8. Other government / partner agencies:
Department of Agriculture and Rural Development (Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity), Department of Environmental Protection and

9. Project contact details:

- Mr Peter Sinclair, Water Resources Assessment and Monitoring Coordinator, Pacific Community, petes@spc.int +679 9922113, Private Mail Bag, Suva, Fiji

Conservation (Ministry of Climate Change and Planning)	<ul style="list-style-type: none"> Mr Matthew Hardwick, National Project Consultant, hardwickmt@gmail.com, +678 5544445
10. Location: <ul style="list-style-type: none"> Espiritu Santo (Component 1) Sarakata catchment (Component 2, 3) Luganville (Component 3) East Santo (Component 3) West Ambae OR NW Malekula (Component 3) <p>Please note that these sites were identified during the national design workshop and site visits will be conducted by the National Project Consultant and DoWR staff in August to confirm the sites and meet with relevant stakeholders.</p>	11. Duration: Years: 5 From: mid-2022 to mid-2027
12. Theme(s): <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> Adaptation <input type="checkbox"/> Cross cutting <input type="checkbox"/> DRR / DRM	13. Climate/DRR relevancy (% of budget) <input type="checkbox"/> High (≥80%) <input checked="" type="checkbox"/> Medium (≥50%) <input type="checkbox"/> Low (≥25%) <input type="checkbox"/> Marginal (≥5%)
14. Sector(s) by ministry: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Agriculture, livestock, forestry, fisheries and biosecurity <input checked="" type="checkbox"/> Lands and natural resources (geology, mines, water) <input checked="" type="checkbox"/> Climate change adaptation, meteorology, geo-hazards, environment, energy and disaster management <input type="checkbox"/> Education and training <input type="checkbox"/> Finance and economic management <input type="checkbox"/> Foreign affairs, international cooperation and external trade <input type="checkbox"/> Health <input type="checkbox"/> Infrastructure and public utilities <input type="checkbox"/> Internal affairs (custom and culture, labour and employment services) <input type="checkbox"/> Justice and community services <input type="checkbox"/> Trade, tourism, industry and commerce <input type="checkbox"/> Youth and sports development 	15. Scope: <input checked="" type="checkbox"/> Regional <input checked="" type="checkbox"/> National <input type="checkbox"/> Provincial <input checked="" type="checkbox"/> Community 16. Number of people impacted/affected: <input checked="" type="checkbox"/> Direct: 24,500 <input checked="" type="checkbox"/> Indirect: 106,000 <input type="checkbox"/> Women <input type="checkbox"/> Youth (<30 years) 17. Project Type: <input checked="" type="checkbox"/> Capacity building <input type="checkbox"/> Community awareness <input type="checkbox"/> Disaster response <input checked="" type="checkbox"/> Field implementation <input type="checkbox"/> Formal education program <input type="checkbox"/> Funding - small grants <input type="checkbox"/> Informal training courses <input type="checkbox"/> Knowledge communication <input checked="" type="checkbox"/> Pilot / trial / demonstration Project <input checked="" type="checkbox"/> Planning and governance <input type="checkbox"/> Policy formulation and integration <input checked="" type="checkbox"/> Policy support <input type="checkbox"/> Research (feasibility study etc.) <input type="checkbox"/> Other

STOP HERE IF PROJECT ONLY AT IDENTIFICATION STAGE

CONTINUE FROM HERE ONLY IF PROJECT AT CONCEPT OR FUNDING PROPOSAL STAGE

18. Project rationale: <i>[What is the rationale for the project? What is its strategic context? What is the primary need, and how was it identified? Is this program building on any previous activities, projects or policy?]</i> Volcanic island countries in the Pacific are facing severe issues related to environmental degradation and climate variability. Deforestation and unsustainable land and water use, uncontrolled livestock grazing on fragile lands and poorly planned settlements in environmental and hazard-sensitive areas are drivers of environmental degradation. Drought is a major natural hazard all Pacific Island

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Countries (PICs) are facing, with agricultural drought presenting a particular problem for the leeward side of larger volcanic islands.

Alongside land resources, the economic and social well-being of PICs are dependent upon the quality and quantity of their freshwater resources. However, the ability of small island countries to effectively develop and manage their water sectors is often constrained by their small size and limited human resource base. In many island countries, factors such as increasing demand for water, rainfall variability, storm water runoff, inadequate sanitation, and waste disposal, threaten economic development and human health.

Fresh groundwater resources in volcanic islands of the Pacific are particularly abundant, as demonstrated by the plethora of freshwater springs, private and public groundwater bores and of major water bottling industries, abstracting substantial volumes of fresh groundwater, particularly in the larger volcanic islands of Fiji. These volcanic aquifers, bearing good potential to meet the needs of domestic and agricultural water demands have barely been developed. On the contrary, groundwater development is concentrated along the more densely populated coastal areas, targeting highly vulnerable shallow coastal aquifers.

The conclusions and final recommendations of the GEF/UNEP project “Assessment of the groundwater systems of Small Island Developing States” – part of the larger “Transboundary Waters Assessment Program - TWAP” – published in 2016, highlighted the importance, and the fragility, of groundwater resources of small island states, in particular those of the Pacific:

“On many small islands, groundwater abstraction only occurs within small, thin, alluvial (or carbonate) aquifers along the coastlines. In many cases, these aquifers may constitute the main groundwater supply for the island, as accessing the groundwater contained within more complex, albeit possibly highly productive, fractured volcanic formations at higher elevations poses significant challenge.The situation that emerges from this analysis calls for immediate attention. In the absence of coordinated, sustained remedial national and international action, low-lying islands in the Pacific, highly dependent on scarce, polluted and growingly saline groundwater resources and impacted by climatic variability and change, face dramatic choices. In many mountainous islands, degradation of groundwater quality and growing demands are posing short-medium term threats to human health and impairing the provision of ecosystem services of great economic relevance.”

The involvement of the GEF International Waters Focal Area in the protection of the freshwater resources of Pacific SIDS had started in 2000, many years before the TWAP assessment, with the approval of the project “Implementation of the Strategic Action Programme (SAP) of the Pacific Small Island Developing States”, completed in 2005. The SAP addressed issues of concern related to both freshwater and coastal and oceanic living marine resources, and promoted integrated water and coastal resources management, and the ecosystem approach to fisheries. The SAP identified priority concerns including 1) pollution, 2) longterm sustainable use of freshwater resources, 3) physical, ecological, and hydrological modification of critical habitats, 4) unsustainable exploitation of non-living resources. The root causes which threaten water resources, identified in the SAP, included deficiencies in management specifically with regards to governance and understanding. The initial SAP project included the 14 PICs, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. This project will continue this support with focused investment in Fiji, Solomon Islands and Vanuatu to further strengthen the earlier investments from GEF under SAP, IWRM (GEF ID 2586), and R2R.

This SAP was the starting point and guiding framework of a long-lasting commitment of the GEF IW to Pacific SIDS - the “sentinels” of the global environment - which brought about a number of

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achievements, particularly in the field of IWRM, fisheries management and habitat protection through a series of regional projects and programs involving all 14 SIDS members of the GEF, and, more recently, projects targeting selected islands (see Table 1).

In response to the request of Fiji, Solomon Islands, and Vanuatu – PICs characterized by the high percentage (> 80%) of population living in volcanic islands, and by the elevated number of households relying on agriculture - the present project expands GEF IW action in the Pacific by targeting for the first time the groundwater resources contained in volcanic aquifers - less impacted by climatic variability and SLR. The present project will focus on addressing the SAP identified root cause of management of groundwater resources in a high volcanic island setting. Both governance and understanding will be strengthened with project support to establish governance framework mechanisms, which consider environmental, and social – economic considerations as well as techniques to provide evidenced based information for improved impact assessment, groundwater abstraction and allocation determination, and aquifer potential. The project is designed to address the SAP identified root cause of management deficiencies, - with the aim of enhancing water-food security and resilience to climate change, in the three countries, while acknowledging the role of groundwater in sustaining environmental and spring flows, and to set an example for other volcanic or complex geology islands to follow.

19. Project objective against the baseline: *[What is the objective of the project? Describe the baseline scenario (i.e. emissions baseline, climate vulnerability baseline, key barriers, challenges and/or policies) and the outcomes and the impact that the project will aim to achieve in improving the baseline scenario. Refer to the logical framework and theory of change template below]*

The overall project objective is “to enhance water and food security and climate resilience, sustain ecosystem services, and relieve pressure on over-exploited coastal aquifers by expanding and assessing the role of volcanic aquifers and by introducing sound groundwater governance frameworks in selected volcanic island states of the Pacific.”

Vanuatu is a country composed of about 80 islands of which only 65 are inhabited. The country has total area of 12 190 km. Only 12 islands are considered significant in terms of their economy and population. The largest are Santo in Sanma province (4 010 km²), Malekula in Malampa province (2 069 km²), Efate in Shefa province (980 km²), and Erromango in Tafea province (975 km²). The capital city is Port Vila and is located on Efate island. Main islands are either mountainous or steeply undulating, covered by tropical forest. The highest peak in the country, located on Santo island, is Mount Tabwemasana at 1 879 m. The climate is tropical, with about nine months of warm to hot rainy weather and the possibility of cyclones and three to four months of cooler, drier weather characterised by winds from the southeast. The distribution of water in the country varies with the topography of the island. The high raised volcanic islands have rivers and streams and groundwater. Despite the high precipitation in the country, most of its territory does not have perennial streams, because of the islands size and rugged topography. River courses are short and the flows are short lived especially in dry periods. The only exception is on the main islands namely Efate, Malekula, Espiritu Santo and Pentecost. Vanuatu is ranked as the most vulnerable country globally to natural disasters, including droughts, floods, cyclones, earthquakes and volcanic activity, all which can impact on water and food security.

It is estimated that in many parts of Vanuatu there are substantial amounts of groundwater even during severe drought periods. In Vanuatu, both surface water and groundwater are used for domestic purposes. In urban areas the main water source are shallow coastal aquifers whereas in rural areas various sources are used such as dug wells, springs, rivers and rainwater catchments. The urban and rural tourism industry is serviced by the same water supplies as domestic users. Tourism is

a fast growing sector, with resort development occurring across Vanuatu, while industry is not significantly developed.

The Table below presents the results of a Theory of Change exercise conducted with the key national stakeholders and identifies national and local issues related to groundwater which could fit under the scope of the project. The Table also identifies opportunities for these issues to be addressed in specific sites of high national importance and priority.

Issues	Opportunities	Potential sites/islands	Relevant stakeholders
Limited national knowledge and data on aquifers and groundwater quantity and quality.	National reconnaissance aquifer mapping	1. Espiritu Santo 2. Ambae* 3. Malekula* *subject to funding	DoWR, DEPC, DGM, DARD
<ul style="list-style-type: none"> Lack of drilling practice standards (private and public) Lack of bore registry Lack of operational management for public operated drilling 	Drilling industry development support	National-level activity	DoWR, DARD, DEPC, private drilling industry, UNICEF, ADB
<ul style="list-style-type: none"> Unreliable water supply in urban centers Flooding Reduced river flows post TC events Deforestation Lack of catchment management 	Addressing competing uses of groundwater in highly developed aquifers	Sarakata catchment, Espiritu Santo island	DoWR, DEPC, Cattle industry rep, Livestock industry working group, Livestock, IOM, Public Works Department (Water utility), Fisheries (aquaculture), Sanma Province, Luganville Municipality
Water security of drought-prone communities in outer islands	Exploring the groundwater potential for drinking water supply	<ul style="list-style-type: none"> North Pentecost West Gaua North Tanna NW Malekula (Area A and B) Nguna island West Ambae 	DoWR, DEPC, DARD, IOM, Penama Province, North Pentecost Area Council, Torba Province, West Gaua Area Council, Tafea Province, North Tanna AC, Malampa Province, NW Malekula AC, Shefa Province, Nguna / Pele AC, West Ambae Area Council
Vulnerable agricultural activities (incl. livestock) in water-scarce areas	Exploring the groundwater potential for agricultural water supply	Eastern Santo	DoWR, Livestock, DEPC, DARD, Sanma Province, Cattle Industry Rep, East Santo Area Council
Current national water resource legislation has limitations	Revision of Water Resource Management Act and development of policy	National-level activity	

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Issue 1: Limited national knowledge and data on aquifers and groundwater quantity and quality.

Apart from geological maps (1:100,000) published by the British Government between 1971-1983, no other information exists in Vanuatu that could facilitate the identification of aquifer systems and the reconstruction of hydrogeology at the island level. Recently, the Department of Water Resources (DoWR) of Vanuatu undertook a rapid national hydrogeological assessment covering most islands of Vanuatu for the identification of potential drilling sites for community water supply. This rapid assessment made use of available geological maps and field observations. There is an opportunity to support the current efforts made by DoWR through a national-level (1-2 major islands) reconnaissance mapping activity, utilizing available information, remote sensing technology, and field investigations (spring mapping, water sampling) to reconstruct the island hydrogeological model, identify the major aquifer systems, and possibly conduct feasibility studies for their development. Espiritu Santo island was proposed as a suitable island for this activity due to increasing economic activities taking place on the island, a large number of groundwater users, and alignment with other issues identified on Santo and presented below. It was agreed that the decision would be later revisited if necessary, should objections arise. Depending on project design and budget, there may be an opportunity to include a second island under this activity.

Issue 2: Drilling industry development needs

It has been identified that there is a lack of drilling practice standards among the private and public sector to ensure optimal yields, longevity of infrastructure, and protection of groundwater resources around the country. There is also a lack of a centralized, open-access, borehole registry and database allowing for drilling information to be accessed to better inform future drilling operations and increase their success. Finally, there is a lack of operational management policies for national drilling units that would ensure financial sustainability, equity, and transparency. It was concluded that these issues should be addressed at the national level through the development of training programs and policies to improve operational drilling practices and water resource information.

Issue 3: Competing uses of groundwater in highly developed aquifers

The Tagabe catchment in Efate and the Sarakata catchment in Espiritu Santo are the two most utilized catchments from a water perspective in Vanuatu. The Sarakata catchment (Figure 2) was highlighted during the workshop as it has generally received less attention over the last years. Moreover, there is an opportunity to build on the GEF IWRM project outcomes which focussed on improving the management of the Sarakata catchment through mapping, monitoring, and sectoral engagement activities. Competing groundwater uses include the water supply for Luganville town (with added population pressures due to Ambae relocation and urban drift), livestock developments, agricultural activities, and hydropower. The Luganville water supply is unreliable as it relies on an old bore (1943) with reducing water levels resulting in frequent water outages. Natural vulnerabilities such as flooding and reduction in river flow rates post tropical cyclone events are frequently manifesting themselves while deforestation activities are putting additional pressures on environmental vulnerability. Finally, there is no catchment management plan in place. For these reasons, it was concluded that the Sarakata catchment and associated aquifer would be a suitable project site to demonstrate the impact and benefits of project interventions to competing groundwater users.

Issue 4: Water security of drought-prone communities in outer islands

Most outer island communities generally rely on rainwater harvesting for potable water needs, while during prolonged dry periods, communities resort to streams for all their water needs. Rainwater catchment systems are often inadequate, and tanks are frequently uncovered and vulnerable to

contamination. Vulnerable areas identified by the DoWR include Luganville, East Santo, North Pentecost, West Gaua, North Tanna, NW Malekula (Area A and B), Nguna island, and West Ambae. There is an opportunity to demonstrate the groundwater potential lying in volcanic aquifers for drinking water supply while at the same time achieving direct benefits for a number of vulnerable communities. Whilst it would not be possible to address the needs of all identified locations, it was proposed that a prioritization process takes place to identify the most vulnerable site. Workshop participants completed individually a spreadsheet consisting of subjective criteria indicating their opinions about the proposed sites, while at the same time, an objective criteria approach was followed in parallel. It was also suggested by participants for this prioritization process to align as much as possible with the priorities of the DoWR, and in particular with the areas of concern identified through various assessments conducted by the DoWR. SPC highlighted the need to manage expectations within communities in the identified areas. The prioritization process revealed Luganville (#1) as the highest priority area, followed by West Ambae (#2) and NW Malekula (#3).

Issue 5: Vulnerable agricultural activities (incl. livestock) in water-scarce areas

This particular issue was proposed with reference to the East Santo area, where a large number of agricultural activities are taking place while communities depend on rainwater and agriculture is rainfed reliant. Activities in this area include copra plantations, whitewood plantations, palm oil farms, forestry, livestock, and piggeries. It was concluded that there may be an opportunity for this project to investigate the potential of groundwater to address agricultural water supply needs and support further development. This opportunity will be further explored during the upcoming field visit and consultation with local stakeholders and communities present in the area.

Issue 6: Current national water resource legislation has limitations

The DoWR raised this issue indicating that the current Water Resource Management Act only considers customary/domestic use of water and there is no consideration for agricultural and livestock users (which would require a permit for water use). It was recommended by the DoWR Director that the national water resource legislation should be reviewed and the possibility to develop groundwater-specific policy should be considered. It was highlighted that the current project framework would benefit from an additional Output (under Component 2) addressing the national legislation requirements. A similar request was also received from Fiji and the Solomon Islands.

20. Policy coherence and alignment: *[provide details as to how the project aligns with the National Sustainable Development Plan (pillar, goal and objective), the Climate Change and Disaster Risk Reduction Policy, and other policies, plans, strategies and priorities]*

The project is aligned with Vanuatu's 2016-2030 National Sustainable Development Plan's three pillars of Society, Environment and Economy, and will address some of the specific objectives identified in the NDSP. These include:

Society Goals

SOC 4. An inclusive society which upholds human dignity and where the rights of all Ni-Vanuatu including women, youth, the elderly and vulnerable groups are supported, protected and promoted in our legislation and institutions; links to development and implementation of the GESI action plan and increased engagement of women in water resource management.

SOC 6. A dynamic public sector with good governance principles and strong institutions delivering the support and services expected by all citizens of Vanuatu; links to the development of operational drilling practices, Component 3, and governance Component 2, as well as support for institutional capacity in component 4.

Environment goals

ENV 1. A nation that ensures our food and nutrition security needs are adequately met for all people through increasing sustainable food production systems and improving household production; links to Component 3, development of groundwater resources for agriculture, and improved land management practices

ENV 3. A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards; links to Component 3, and the potential development of groundwater to communities for water supply.

ENV 4. A nation which utilises and sustainably manages our land, water and natural resources; links to Component 2 Governance, and the development of land management practices in Component 3.

Economy goals

ECO 2.2 Ensure all people have reliable access to safe drinking water and sanitation infrastructure; links to Component 3 drilling operations and also infrastructure associated with construction of groundwater supply bores

21. Current status: *[progress to date and current activities]*

In December 2020, the GEF-7 project concept “Enhancing water-food security and climate resilience in volcanic island countries of the Pacific” was approved by the GEF Council for design by FAO (Implementing Agency) in collaboration with SPC (Executing Agency). The USD 6 million full-size regional project sits under the International Waters GEF focal area and will be implemented in Fiji, Vanuatu, and Solomon Islands over a period of 5 years. A project preparation grant was administered by the GEF to FAO to develop the full project proposal.

FAO assigned the technical support for the development of the full project proposal to SPC through a Letter of Agreement (LoA) outlining the approach, activities and resources assigned. The LoA was signed by both parties on 24th May 2021. The full project proposal will be submitted by FAO, in its capacity as Implementing Agency, to GEF for CEO endorsement.

A regional inception workshop was held virtually on 25 May 2021 to introduce the project concept and its objectives; to clarify roles and responsibilities of all parties during the project preparation phase; to present on the workplan and timeline of the project design activities; reaffirm commitments and achieve a common understanding of the next steps amongst the SPC Project Team, the FAO Regional and Sub-regional Offices, GEF Operational Focal Points and National Lead Agencies.

The Vanuatu national design workshop was conducted on 29 June 2021 at the Vanuatu Cultural Centre in Port Vila. A number of stakeholders representing various Government departments, UN agencies, and NGOs came together to become familiar with the project, identify national issues and opportunities which the project could address, confirm the proposed project outcomes and outputs, identify potential project sites, and introduce the GESI project components. The workshop was preceded by a key stakeholders meeting, conducted on 10 June, aiming at aligning the project’s direction with the priorities of the key national stakeholders, the Department of Water Resources (Ministry of Lands and Natural Resources), the Department of Agriculture and Rural Development (Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity), and the Department of Environmental Protection and Conservation (Ministry of Climate Change and Planning). The workshop consisted of presentations given by SPC followed by interactive sessions with the purpose of identifying issues of national and local relevance which the project could address, as well as suitable project sites. Presentations included the project concept with proposed Outcomes, Outputs, and preliminary national budget, the proposed GESI strategy and Action Plan, the proposed stakeholder engagement plan, and the Environmental and Social Safeguards (ESS) approach.

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Interactive sessions were facilitated by the National Project Coordinator for Vanuatu and consisted of participants completing individual spreadsheets with subjective criteria indicating their opinions about the proposed sites, while at the same time, an objective criteria approach was followed in parallel.

The National Design Workshop identified a number of issues and relevant sites which could be addressed under this project. SPC and DoWR will organize a reconnaissance site visit in Espiritu Santo to obtain a better appreciation of the issues and opportunities identified and consult with relevant stakeholders, local governments, and communities. It is expected that the National Project Coordinator and a DoWR representative will travel to Luganville and meet with the Secretary General of Sanma Province and other stakeholders operating in the Sarakata catchment (agriculture/livestock sector, hydropower, Luganville water supply, forestry, etc). They will then travel to East Santo to consult with the Area Administrator, local stakeholders, and farming communities. Community consultations will follow a GESI approach with the intention to capture the issues, underlying causes, and needs which the project could address. The information collected will be used to finalize the project's results framework, budget, GESI strategy, and stakeholder engagement plan.

The Solomon Islands national design workshop was held on 24 June and progress is currently made with the design of the national activities, confirmation of project sites, and follow-up stakeholder consultations. In Fiji, the national design workshop is planned for mid August and stakeholder meetings are currently held to align the project's direction with the priorities of the key national stakeholders.

22. Market overview: *[If the project involves a particular market describe the products or services including the historical data and forecasts. If applicable, provide the key competitors with market shares and customer base. Also provide, if any, pricing structures, price controls, subsidies available and government involvement.]*

Not applicable

23. Implementing / executing entity background / justification: *[Quality of the management team, overall strategy, financial profile, equity investment, management, operations, production and marketing]*

The Pacific Community (SPC) is the principal scientific and technical organisation in the Pacific region, proudly supporting development since 1947. SPC is an international development organisation owned and governed by our 26 country and territory members. SPC works for the well-being of Pacific people through the effective and innovative application of science and knowledge, guided by a deep understanding of Pacific Island contexts and cultures.

The Geoscience, Energy and Maritime (GEM) Division of SPC provides technical and scientific solutions to Pacific Island Countries and Territories (PICTS) in the three key sustainable development areas: Oceans and Maritime, Georesources and Energy, Disaster and Community Resilience. The GEM Division was created after a merger between SPC's Economic Development Division (EDD) and the Geosciences Division (GSD) in 2017. From 1972-2011 the Division was known as SOPAC or the South Pacific Applied Geoscience Commission before joining SPC in 2011.

The GEM Division is the regional agency mandated to support PICS efforts in water and sanitation and have the long-term understanding, coverage and convening power to represent the water and sanitation issues of the region. GEM has over the past years maintained a programme of water and sanitation support to PICS through the development and delivery of work through technical support, capacity building, awareness, advocacy and governance related to the management of water resources, the provision of safe water supply and adequate sanitation services and more broadly strengthening water security in the region.

GEM Divison Water & Sanitation



Monitor, assess &
manage their
freshwater resources



Improve access
to safe drinking water &
sanitation



Support PICTs
to better manage
vulnerability & risks



Support through
convening
& coordination

GEM is uniquely placed to link the disciplines of water resources management and water and sanitation services (a critical nexus in Pacific SIDS) and hold region-leading expertise in water resources monitoring and assessment (particularly with respect to groundwater) and water security and governance (particularly with respect to small islands). GEM's work in Water and Sanitation includes:

- Water Security and Governance – supporting Pacific SIDS to sustainably manage water resources and sanitation services and manage risk
- Hydrology for Resilience – supporting Pacific SIDS to reduce the impacts of flood and drought
- Appropriate technology – supporting Pacific SIDS to secure access to sustainable water and sanitation technological solutions
- Safe Water, Sanitation and Hygiene (WASH) Practice – Supporting Pacific SIDS to reduce the impacts of water borne diseases
- Communications, Knowledge and Behaviour Change – supporting Pacific SIDS to build WASH-aware, resilient communities.
- WASH Advocacy – supporting Pacific SIDS in convening, consultation and multilayered advocacy
- actions to enable the change required to address obstacles to access to safe water and adequate sanitation in the pacific.

24. Institutional / implementation arrangements: *[Governance structure of the project, organisation structure, roles and responsibilities of the project management unit, steering committee, executing entities and flow of funds structure. construction and supervision methodology with key contractual agreements, operational arrangements with key contractual agreements following the completion of construction]*

PROJECT INSTITUTIONAL STRUCTURE



The project Implementing Agency, FAO, will be responsible for the correct project implementation vis a vis the GEF. FAO will provide project oversight and quality assurance role involving FAO staff in Country Offices and at regional and headquarters levels. Project Assurance shall be totally independent of the Project Management function. The quality assurance role supports the SC and EA by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. This role is covered by the GEF Agency.

The Steering Committee - The Government nominated Representatives of the beneficiary countries, FAO and SPC will form the project's Steering Committee (SC). The SC will meet periodically and be responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure FAO's ultimate accountability, decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. The Beneficiary Representatives represent the interests of those who will ultimately benefit from the project. The Beneficiary Representatives primary function within the is to ensure the realization of project results from the perspective of project beneficiaries and in accordance with the objectives of the project.

The Executing Agency - The Pacific Community (SPC) will be the Executing Agency (EA) for the project, based on the standard Operational Partnership Agreement (OPA) to be signed between FAO and SPC. The EA has the authority to run the project following the guidance of, and within the constraints laid down by, the Steering Committee (SC). The EA's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The Director of the Geoscience, Energy and Maritime Division will be ultimately responsible to the SC for the project and will attend the project SC meetings. The EA's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes.

Project Management Unit – The EA will nominate a Project Manager/Chief Technical Advisor that will work full time for the duration of the project and be responsible for day to day execution of project activities and procurement, including coordination at the country/island level. She/he will act as Secretary of the SC meetings, responsible for providing the required documentation and support.

National Leads Agencies - Project activities at the national and island level, will be executed by the Government nominated Lead Agency under the oversight and coordination of the EA. Existing governance mechanisms will be involved in decision-making processes relevant for the project sites. Collaboration with local community groups, private sector, and local water committees will be valuable in ensuring successful implementation of proposed project interventions. Island communities will have the opportunity to participate in decision-making through meetings and focus-group discussions and through feedback mechanisms. At the national level, participation in the RSC ensures the direct role of these target groups in governing and managing the project.

25. Results Areas [GCF projects only]

Reduced emissions from (mitigation):	Increased resilience of (adaptation):
<input type="checkbox"/> Energy access and power generation	<input type="checkbox"/> Most vulnerable people and communities
<input type="checkbox"/> Low emission transport	<input type="checkbox"/> Health/well-being, & food/water security
<input type="checkbox"/> Buildings, cities, industries & appliances	<input type="checkbox"/> Infrastructure and built environment
<input type="checkbox"/> Forestry and land use	<input type="checkbox"/> Ecosystems and ecosystem services

26. Expected performance against investment criteria [GCF projects only] [brief description]

- a) **Impact Potential:** *[Potential of the project to contribute to the achievement of the GCF's objectives and result areas]*
- b) **Paradigm Shift Potential:** *[Degree to which the proposed activity can catalyse impact beyond a one-off project investment]*
- c) **Sustainable Development Potential:** *[Environmental, social and economic co-benefits, including gender-sensitive development impact]*
- d) **Needs of the Recipient:** *[Vulnerability and financing needs of the beneficiary country and population]*
- e) **Country Ownership:** *[Beneficiary country's ownership of, and capacity to implement, a funded project]*
- f) **Efficiency and Effectiveness:** *[Economic and financial soundness of the project]*

27. Consultation [Specify the plan for multi-stakeholder engagement, and what is been done so far in this regard, e.g. National, Provincial, Community, Civil Society, Private Sector]

Considering the cross-cutting nature of water and the nature of investigations and infrastructural interventions planned for this project, properly designed engagement plans will be required to ensure the flow and exchange of relevant information and to encourage support and active engagement of all private sector groups who may either benefit or be affected by the project activities and findings.

Consultations with the line ministries and broader group of stakeholders have been taking place during the various national design meetings. These consultations helped identifying national issues and opportunities which the project could address, confirming the proposed project outcomes and outputs, and identifying potential project sites. Consultations at the provincial and community level will be taking place during the site visits currently planned for mid-August 2021 in Luganville and East Santo area.

Opportunities exist for private sector engagement, ideally through industry recognised bodies. An example of this may include the identification of development opportunities of groundwater resources for commercial ventures; including improved livestock farming, aquaculture, high value crop irrigation, and mineral water bottling.

It will be essential that clear communication strategies, including participatory exercises and engagement plans, be established in an inclusive and collaborative manner. These consultation activities will be designed to promote collaboration between private and public sectors, enhance relationships through information exchange during and beyond the project period, and importantly to safeguard the interests of the different sectors.

It is envisaged that the mapping of primary aquifers and the associated feasibility studies may also attract private investors for water supply or commercial development. It is expected that these new findings will provide a suitable platform for the national governments to either ramp up their investments in groundwater development or to market the new information to attract private investors and generating further economic benefits.

28. Potential overlaps / duplication to be resolved: *[What related projects are being undertaken in the area?]*

SPC will be identifying during project design and implementation phase relevant water security projects and initiatives taking place in Vanuatu. This will ensure alignment of project activities with other efforts towards a strengthened achievement of project outcomes. This will also ensure achievement of co-financing requirements.

At this stage, potential synergies have been identified with the GCF-funded “Enhancing Adaptation and Community Resilience by Improving Water Security in Vanuatu” which will be focusing on drinking water safety and security planning aspects. Synergies have also been identified with the ADB-funded “Luganville Urban Water Supply and Sanitation” which is aiming to improve access to integrated and resilient urban water supply and sanitation services in greater Luganville, Vanuatu.

29. Technical feasibility/evaluation: *[Brief summary of technical feasibility of project. Will the project fund local staff? If so, where? Are there additional staff required (e.g. counterparts, proposed T/A Positions)? TOR must be included for all T/A positions.*

It is expected that the project will fund one national project coordinator who will be responsible for driving the national activities over the course of the entire project. A technical assistance position may possibly be required to support with the reviewing/drafting of water resources legislation under project component 2. Additional TA positions will be considered as per project requirements, targeting local expertise in geology, hydrogeology, and drilling techniques.

30. Economic and financial analysis/viability: *[Brief summary of the economic and financial viability of the project]*

The total cost of the project is USD 29,400,000. This is financed through a GEF grant of USD 6,000,000, to be administered by FAO and USD 23,400,000 in parallel co-financing. FAO, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to FAO bank account only.

The actual realization of project co-financing will be monitored during the mid-term review and terminal evaluation process and will be reported to the GEF. The planned parallel co-financing will be used as follows:

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	FAO	In-kind	400,000
Recipient Country Government	Fiji	In-kind	4,000,000
Recipient Country Government	Solomon Islands	In-kind	2,000,000
Recipient Country Government	Vanuatu	In-kind	2,000,000
Other	SPC (The Pacific Community)	Grant	15,000,000
Total Co-financing			
23,400,000			

31. Financial management and procurement: *[Describe the project's financial management and procurement, including financial accounting, disbursement methods and auditing]*

Project implementation: The project will maintain financial management in accordance with FAO's requirements. It is expected that on the results of the capacity assessment negotiations between FAO and SPC that SPC policies and procedures will be applied for procurement and financial management. Project accounts will be operated in USD.

Budget Revision and Tolerance: As per FAO requirements, the Regional Steering Committee will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Regional Steering Committee. Should the following deviations occur, the Chief Technical Advisor/ Project Manager and FAO Subregional Office for the Pacific Islands will ensure accurate reporting to the GEF: a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more; b) Introduction of new budget items/or components that exceed 5% of original GEF allocation. Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. cash co-financing).

Audit: The project will be audited as per FAO Financial Regulations and Rules and applicable audit policies. Audit cycle and process must be discussed during the Inception workshop.

Refund to GEF: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by FAO.

Transfer or disposal of assets: In consultation with the Implementing Partner and other parties of the project, FAO programme manager is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the Regional Steering Committee following FAO rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file.

Financial completion: The project will be financially closed when the following conditions have been met: a) The project is operationally completed or has been cancelled; b) The Implementing Partner has reported all financial transactions to FAO; c) FAO has closed the accounts for the project; d) FAO and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

32. Environmental and social considerations: *[e.g. environmental and social impact safeguards / assessments, vulnerability framework]*

Consistent with relevant policies of the [GEF](#) and [FAO](#), environmental and social consideration will be a cross-cutting element in all the project components and activities. At the programme and field level, FAO Environmental and Social Standards (ESS) 1-9 are designed to help manage and improve FAO environmental and social performance through a risk and outcome-based approach. The nine ESS standards set out specific requirements relating to different social and environmental issues. Projects approved and supported by FAO must meet these environmental and social standards. The FAO Environmental and Social Standards relate to the following areas:

ESS 1: Natural Resource Management

ESS 2: Biodiversity, Ecosystems and Natural Habitats

ESS 3: Plant Genetic Resources for Food and Agriculture
ESS 4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture
ESS 5: Pest and Pesticide Management
ESS 6: Involuntary Resettlement and Displacement
ESS 7: Decent Work
ESS 8: Gender Equality
ESS 9: Indigenous Peoples and Cultural Heritage

Application of the standards is determined during FAO's social and environmental screening and categorization process. Where it is determined that a project may present certain risks and/ or impacts and requirements of the relevant standard (s) are triggered.

At inception stage the project was preliminarily characterized as "low" risk from an environmental and social risk perspective. An independent external assessment is currently being conducted to review the ESS risk, and it is possible that during the project design phase with the identification of project sites and activities and the nature and significance of potential environmental and social impacts, the project's risk classification may be changed to "moderate". Moderate risk are projects with:

- a. Identified potential adverse environmental and /or social impacts.
- b. Potential impacts are not unprecedented in the project area.
- c. Potential impacts are limited to the project's footprint.
- d. Potential impacts are neither irreversible nor cumulative.
- e. Potential adverse impacts can be addressed by the use of recognized good management or pollution abatement practices, and there is a demonstrated record of their successful use in the project area (upstream and downstream).

If the project is indeed classified as moderate risk, FAO will require further risk assessment including an Environmental and Social Analysis (ESA) carried out by an independent, separately contracted external expert. Such analysis should be conducted by considering the relevant national laws and systems. For moderate -risk projects an Environmental and Social Commitment Plan (ESCP) should be prepared during project development to set out the measures and actions required for the project to manage and effectively mitigate environmental and social risks and achieve compliance with ESS over a specified timeframe. The ESCP sets out the project commitments and lists actions that the project will take and a timeframe for these actions to achieve compliance with the standards and manage the identified risks and impacts throughout the entire life of the project. The ESCP will incorporate the mitigation recommendations of the ESA, as well as the results of the stakeholder engagement process. It will summarize concrete measures and actions required to avoid, minimize, reduce or otherwise mitigate the potential environmental and social risks and impacts of the project.

33. Gender and social inclusion considerations: *[e.g. gender, disability, indigenous concerns, assessment of any benefits from project to women, youth, children and vulnerable groups]*

Consistent with relevant policies of the [GEF](#) and [FAO](#), gender consideration will be a cross-cutting element in all the project components and activities. The community and stakeholder engagement work will be particularly centered on strengthening the participation of women, youth, and vulnerable groups, in water resources management. A gender analysis is currently being undertaken by a Gender Specialist to identify needs and roles of women and men in water resources management. A Gender Equality and Social Inclusion Action Plan is also being developed and will be used to challenge traditional gender roles and encourage development of women's skills and involvement in water management practices. Gender-related considerations and actions – based on the collection of sex-disaggregated water data - will be explicitly incorporated in the formulation and

implementation of the Aquifer Management Plans related to competing water users and land management.

34. Monitoring, reporting and evaluation: *[How will the project be monitored and evaluated? Provide project specific institutional and implementation arrangements for monitoring, reporting and evaluation. Provide methodologies for monitoring and reporting of the key outcomes of the project]*

The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results. Supported by Component 4, the project monitoring and evaluation plan will also facilitate learning and ensure knowledge is shared and widely disseminated to support the scaling up and replication of project results.

Project-level monitoring and evaluation will be undertaken in compliance with FAO requirements as outlined in the FAO Evaluation Policy. The FAO Subregional Office will work with the relevant project stakeholders to ensure FAO M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the GEF M&E policy and other relevant GEF policies.

In addition to these mandatory FAO and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Core Indicators) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Core Indicators for all GEF-financed projects in the country, including projects supported by other GEF Agencies.

35. Sustainability measures: *[Exit strategy/ how will the project be sustained after project funding? What is the Vanuatu Government funding source? What is the future maintenance requirement? What are the future recurrent cost implications for the Government?]*

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

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

Human capacities will be enhanced by setting up and trialling monitoring schemes which will allow the project countries to monitor and report on water resources data through available mobile networks and smartphone applications. Over the course of the project, regional training workshops will be conducted to develop national human capacity and transferring the knowledge. It is expected that this bottom-up approach will help in sustaining monitoring activities at the island level past the project closure and consequently ensure national ownership of project results and interventions.

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

36. Supporting documents *[where applicable]*

- Budget template *[mandatory]*
- Concept note
- Environmental analysis
- Consultation evidence
- Risk assessment *[mandatory]*
- Funding proposal
- Project timetable
- Location map *[detailed plans where construction is involved]*
- Logical framework
- Financial analysis
- Letter of support

37. Provincial consultation certification by implementing/executing entity

I certify that the Province has been consulted with and the project is consistent with the Provincial Governments Provincial Plan. I also confirm that I am not aware of any ongoing disputes or disagreements that may adversely impact on the implementation of the project. A letter of support is attached.

Please note that consultations with Provincial Government will be conducted in the second week of August.

Name	Signature	Date
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38. Director of Lead Government Agency

I certify I have checked the project profile, and any other supporting information for screening this project. I am satisfied that this project proposal is ready for presentation for approval.

Name: Erickson Sammy	Signature	Date
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39. DSPPAC Sectoral Specialist sign off

I certify I have checked the project profile, and any other supporting information for screening this project. I am satisfied that this project proposal is ready for presentation for approval.

Name	Signature	Date
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40. Director General's Certification

I certify that I have checked the project profile, and any other supporting information for screening this project. I am satisfied that this project proposal is ready for presentation for approval. I understand that no Government funding will be released for the project until the project has been approved by the appropriate government authorities, any additional government contribution has been appropriated, the approved donor funding has been released and a detailed project income and expenditure form has been submitted.

Name	Signature	Date
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41. Logical framework (objectives, impacts, outcomes, outputs, activities and inputs) *

Objective *[The theory of change represents the long-term vision of the project (adaptation, mitigation or disaster risk reduction) and how this can be achieved through short-, medium- and long-term changes]*

[Adaptation, mitigation, disaster risk reduction]	[Elaborate on the objectives to which the project contributes] [For GCF projects a shift to low-emission sustainable development pathways, or increased climate-resilient sustainable development]					
Expected Result	Indicator	Means of Verification	Baseline	Target		Assumptions
				Mid-term	Final	
Impacts (that contribute to the objective)						
[For GCF projects refer to the performance measurement framework]						
Project outcomes (that contribute to impacts)						
Project outputs (that contribute to outcomes)						
1.						
Activities	Description	Inputs	Description			
1.1		1.1.1.	[Expand tables as needed]			

*please use this format only if there is not a mandatory format required by the implementing/executing entity

The project's results framework inclusive of target indicators will be fully developed in August 2021. Presented below is the project's framework with project Components, Outcomes, Outputs, and associated budget.

Project Objective: The project aims to enhance water and food security and climate resilience, sustain ecosystem services, and relieve pressure on over-exploited coastal aquifers by expanding and assessing the role of volcanic aquifers and by introducing sound groundwater governance frameworks in selected volcanic island states of the Pacific					
Project Components/ Programs	Component Type	Project Outcomes	Project Outputs	(in \$)	
				GEF Project Financing	Co-financing
1. Expanding and assessing the role of groundwater resources.	Technical assistance	1.1 The knowledge of the exploitable groundwater resources is improved.	1.1.1 An assessment of the potential and current state of the groundwater resources is produced. 1.1.2 Technical-economic feasibility studies of the exploitation of fractured volcanic aquifers, and of their strategic uses are produced. 1.1.3 The dialogue with potential public and private investors is facilitated by presenting outputs 1.1.1 and 1.1.2 to Governments.	1,500,000	6,090,000
2. Introducing sound groundwater	Technical assistance	2.1 Sound groundwater	2.1.1 Conceptual models and diagnostic analyses of the current state are developed	1,000,000	4,260,000

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governance frameworks.		governance frameworks and policies are adopted.	<p>for one selected “primary aquifer” and relevant catchment area in each of the project countries.</p> <p>2.1.2 Aquifer management plans are drafted to complement existing catchment plans where available, and address groundwater issues where they exist.</p> <p>2.1.3 National efforts on updating or drafting new water resources legislation are supported through the inclusion of groundwater.</p> <p>2.1.4 Operational and management plans to help coordinate water drilling activities are developed.</p>		
3. Tackling hot-spots	Technical assistance	3.1 Groundwater is integrated into IWRM practices.	<p>3.1.1 Groundwater and water resource monitoring systems to assess the impacts from competing groundwater uses and to improve water resource management are installed in selected developed aquifers</p> <p>3.1.2 Land use management measures to demonstrate improved environmental and water resources benefits and management in selected hot-spots are integrated into existing practice.</p> <p>3.1.3 Small-scale demonstrations in groundwater utilization to address water and food security are trialed in selected hot-spots.</p>	2,414,286	8,750,000
4. Reinforcing institutional capacity	Technical assistance	4.1 Enhanced national capacities in groundwater assessment, monitoring and	4.1.1 Capacities of water and land administrators are strengthened through training in groundwater governance, management, and technical aspects, and knowledge exchanges with similar contexts in small volcanic islands of the Mediterranean, the Atlantic, and the Caribbean.	800,000	3,100,000

		management.	4.1.2 Knowledge products for managing on-site groundwater utilization systems are developed.			
			4.1.3 Project website and knowledge management platform created.			
			4.1.4 Contribution to IWLEARN activities, including sharing of results globally focusing on SIDS.			
Subtotal					5,714,286	22,200,000
Project Management Cost (PMC)					285,714	1,200,000
Total project costs					6,000,000	23,400,000

42. Project budget summary (estimated in Vatu)

Project budget was preliminarily assigned equally per year. The detailed workplan and budget will be developed in August-September 2021.

Items/component	Year 1	Year 2	Year 3	Year 4	Year 5	Total	% of Total
Loans <i>[specify source]</i>							
Grants <i>[GEF]</i>	133,828,190	133,828,190	133,828,190	133,828,190	133,828,190	669,269,650	20.5%
Aid in kind*							
Government of Vanuatu	44,617,977	44,617,977	44,617,977	44,617,977	44,617,977	223,089,880	7%
Government of Solomon Islands	44,617,977	44,617,977	44,617,977	44,617,977	44,617,977	223,089,880	7%
Government of Fiji	89,248,447	89,248,447	89,248,447	89,248,447	89,248,447	446,263,670	14%
Other [relevant projects: GCF, ADB]	334,697,750	334,697,750	334,697,750	334,697,750	334,697,750	1,673,488,700	51%
GEF Agency (FAO)	8,925,731	8,925,731	8,925,731	8,925,731	8,925,731	44,628,658	1.4%
Total	656,041,270	656,041,270	656,041,270	656,041,270	656,041,270	3,280,325,900	100%

(estimated in USD)

Items/component	Year 1	Year 2	Year 3	Year 4	Year 5	Total	% of Total
Loans <i>[specify source]</i>							
Grants <i>[GEF]</i>	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	6,000,000	20.5%
Aid in kind*							
Government of Vanuatu	400,000	400,000	400,000	400,000	400,000	2,000,000	7%
Government of Solomon Islands	400,000	400,000	400,000	400,000	400,000	2,000,000	7%
Government of Fiji	800,000	800,000	800,000	800,000	800,000	4,000,000	14%
Other [relevant projects: GCF, ADB]	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	15,000,000	51%

[Information provided on this form will be made publicly available unless otherwise agreed with the NAB Secretariat]

GEF Agency (FAO)	80,000	80,000	80,000	80,000	80,000	400,000	1.4%
Total	5,880,000	5,880,000	5,880,000	5,880,000	5,880,000	29,400,000	100%

* contributions made directly towards projects realisation such as equipment, materials, labour, T/A, building works, vehicles, time etc. and other quantifiable resources that count towards the achievement of the project results

43. Project component costs (estimated in Vatu)

Project costs were preliminarily assigned equally per year. The detailed workplan and budget will be developed in August-September 2021.

Items/component	Year 1	Year 2	Year 3	Year 4	Year 5	Total	% of Total
Equipment/materials	25,439,376	25,439,376	25,439,376	25,439,376	25,439,376	127,196,880	19%
Personnel/staff/labour							
- e.g. technical assistance	68,284,642	68,284,642	68,284,642	68,284,642	68,284,642	341,429,850	51%
- e.g. local salaries							
Training/workshops etc.	13,389,406	13,389,406	13,389,406	13,389,406	13,389,406	66,947,029	10%
Travel	22,761,531	22,761,531	22,761,531	22,761,531	22,761,531	113,807,650	17%
M&E costs	4,016,740	4,016,740	4,016,740	4,016,740	4,016,740	20,083,703	3%
Total	133,891,280	133,891,280	133,891,280	133,891,280	133,891,280	669,456,390	100%

(estimated in USD)

Items/component	Year 1	Year 2	Year 3	Year 4	Year 5	Total	% of Total
Equipment/materials	228,000	228,000	228,000	228,000	228,000	1,140,000	19%
Personnel/staff/labour							
- e.g. technical assistance	612,000	612,000	612,000	612,000	612,000	3,060,000	51%
- e.g. local salaries							
Training/workshops etc.	120,000	120,000	120,000	120,000	120,000	600,000	10%
Travel	204,000	204,000	204,000	204,000	204,000	1,020,000	17%
M&E costs	36,000	36,000	36,000	36,000	36,000	180,000	3%
Total	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	6,000,000	100%

This is for the main project components only. Not every cost needs to be specified. Other examples of components might be accommodation, vehicles, fuel, freight, allowances, VNPF contributions, telephone, computers, stationery, an implementing entity administrative fee (if included as part of the loan/grant), project monitoring, contracts, rent, printing, overheads etc.

44. Project risk factors, mitigation measures, and assessment tool*

[Use tool to describe the financial, technical/operational, social/environmental and other risks that may prevent the project objectives from being achieved, and proposed risk mitigation measures.]

Selected Risk Factor 1				
Description	Risk category	Level of impact	Probability	Score
Lack of national and local buy-in for the development and adoption of aquifer protection management plans	Technical and operational	Medium (5.1-20% of project value)	Low	2

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Mitigation Measure(s)				
<i>[Describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?]</i>				
Strong and effective communication with communities, private sectors and national agencies to be developed during project preparation phase and early during project implementation to ensure shared understanding of the project directions and to demonstrate value and benefit of aquifer management plans.				
Selected Risk Factor 2				
Description	Risk category	Level of impact	Probability	Score
Absorptive capacity for knowledge transfer at the sub-national governance level is inadequate and unsustainable	Technical and operational	Medium (5.1-20% of project value)	Low	2
Mitigation Measure(s)				
Assess the absorptive capacity in the identified area before committing to any interventions; maximize opportunities to employ local staff in the activity.				
Selected Risk Factor 3				
Description	Risk category	Level of impact	Probability	Score
Loss of land from groundwater drilling and installation of monitoring systems	Social and environmental	Low (<5% of project value)	Low	1
Mitigation Measure(s)				
Minimal loss of land is expected however inclusive consultation with all stakeholders will be undertaken to have consensus around the restriction of land access around these sites to optimize the benefits of these infrastructures and for their long-term protection.				
Selected Risk Factor 4				
Description	Risk category	Level of impact	Probability	Score
Objections from private sectors	Technical and operational	Low (<5% of project value)	Medium	2
Mitigation Measure(s)				
Strong partnership agreement between project team, government authorities and private sectors will be established during the PPG stage around potential benefits of the project and around data use, dissemination and security.				
Selected Risk Factor 5				
Description	Risk category	Level of impact	Probability	Score
Delayed project deliveries during annual tropical cyclone seasons from November to April.	Technical and operational	Medium (5.1-20% of project value)	Low	2
Mitigation Measure(s)				
Ensure that proper planning is undertaken to allow the execution and progress of major activities outside the cyclone season.				
Selected Risk Factor 6				
Description	Risk category	Level of impact	Probability	Score
Logistical challenges of implementing activities in remote areas becomes overwhelming	Technical and operational	Medium (5.1-20% of project value)	Medium	4
Mitigation Measure(s)				
Build on lessons learnt about scheduling and logistics from previous projects; adopt flexible and back-up planning approaches such that alternatives (e.g. moving activities to a different location) can be prioritised if and when necessary.				
Selected Risk Factor 7				
Description	Risk category	Level of impact	Probability	Score

Unable to establish monitoring boreholes due to difficulties of mobilizing conventional drilling rigs to remote locations	Technical and operational	Low (<5% of project value)	High	3
Mitigation Measure(s)				
Options exist in regard to monitoring borehole construction and drill technology. Appropriate technology and construction techniques will be applied, albeit this may affect the number of monitoring bores that are able to be constructed.				
Selected Risk Factor 8				
Description	Risk category	Level of impact	Probability	Score
Extended COVID-19 travel restrictions or emergence of similar scale world-wide pandemic	Technical and operational	Medium (5.1-20% of project value)	Medium	4
Mitigation Measure(s)				
Strong in-country project teams will be established to ensure the timely progress of local and national activities. Online mode of communication will be strengthened to enhance the regional meetings and foster periodical financial reporting systems. Strong procurement and financial planning and support will also be required to ensure the timely hiring of contractors and purchase of hard-infrastructure needed for project delivery.				
Selected Risk Factor 9				
Description	Risk category	Level of impact	Probability	Score
Climate change	Technical and operational	Medium (5.1-20% of project value)	Medium	4
Mitigation Measure(s)				
According to the STAP guidance's on climate risk screenings, it is very likely that the project will be adversely affected by extreme weather events and where social impacts are likely to be irreversible, cumulative and/or unprecedented. The mitigation of some of these impacts is beyond the scope of the proposed project, and the magnitude and/or spatial extent of the number of people affected is very large. To adapt the project to this reality, during the PPG stage a thorough analysis and mapping of the population and natural resources at highest exposure and vulnerability will be developed.				
Total score (add all the scores and divide by the total number of risk factors)				2.6
[Describe other potential issues which will be monitored as "emerging risks" during the life of the project (i.e. issues that have not yet raised to the level of "risk factor" but which will need monitoring). This could include issues related to external stakeholders such as project beneficiaries or the pool of potential contractors.]				

*These are project related risks, not broader, general, global climatic and environment risks

	Probability	Low	Medium	High	Multiply the impact of each risk factor by the probability of each risk factor to give an individual risk factor score. Then add all the individual risk factor scores and divide by the number of risk factors to give an overall project risk score.
Impact	Score	(1)	(2)	(3)	
Low	(1)	1	2	3	
Medium	(2)	2	4	6	
High	(3)	3	6	9	

Key 1 Negligible 2 Minor 3 Moderate 4 Major 6 Severe 9 Extreme

History of the document

Version	Date	Nature of revision
1.0	NAB Meeting 9 February 2018	Initial endorsement

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