

**Niue: Summary of activities for outputs 1 and 3**

**Output 1: Impact analysis to strengthen national strategic planning**

**Output 3: Scale up resilient development measures in specific sectors**



*Training in management and maintenance of rainwater harvesting systems in Hakupu Village, Niue*

## Niue timeline January 2019 – June 2023

<b>Output 1: Impact analysis to strengthen national strategic planning</b>	
	Niue was not directly involved in the impact analysis work
<b>Output 3: Scale up resilient development measures in specific sectors</b>	
<b>Planning and KRA 4: National Coordinator</b>	
March 2019	<b>Presentation of GCCA+ SUPA project</b> at an Inception Meeting in Fiji attended by a representative from Niue
August 2019	<b>1st project consultation</b> with Department of Environment in Niue
September 2019	<b>Concept note</b> approved; water security is the selected sector; Department of the Environment is the implementing agency in collaboration with the Public Works Department, Ministry of Health and the Ministry of Finance
October 2019	<b>2<sup>nd</sup> project consultation</b> in Niue
July 2020	<b>Project Design Document (PDD)</b> signed
June 2021	<b>PDD amendment 1</b>
May 2023	<b>PDD amendment 2</b>
<b>KRA 1: Rainwater harvesting systems fully installed in selected, occupied households</b>	
May 2021	Completion of stocktake of existing construction/plumbing materials remaining from previous climate change projects.
September 2021	Spreadsheet of occupied households, rainwater tank status, and identification of households requiring installation
January 2022	Engineering designs and bill of quantities for the household rainwater systems prepared
December 2022	Installation of rainwater systems commences
May 2023	All construction and plumbing materials for water tank installation delivered to Niue
May 2023	Household maintenance training delivered
	List of selected households revised and finalized
	Household agreements signed by all 50 householders receiving installations
June 2023	Installations at the 50 households completed
	Submission of compliance report for the 50 households
<b>KRA 2: Water quality monitoring programme strengthened for government departments and established for householders with rainwater harvesting systems</b>	
December 2020	Water quality equipment delivered to Public Health Department in Niue
January 2021	Vehicle provided to Public Health Department to support regular water quality monitoring
November 2022	Training delivered by SPC's Public Health Division to staff of Public Health and other participants in Niue on water quality testing and analysis and the shipping of infectious substances

## **Niue highlights**

Niue is a raised atoll with a land area of 259 km<sup>2</sup>. It is situated in the southwest Pacific Ocean (19°S, 169°W) about 2,400 km northeast of New Zealand. Niue is characterised by three terraces: the rim of the lower terrace averages 28m above sea level, with the upper rim averaging 69m above sea level. The slopes of the terraces are rough with jagged coral outcrops. The island has a rugged, rocky coastline, featuring steep cliffs, caves, deep chasms and blowholes. There are 14 villages distributed around the island's coast, one of which is Alofi, the capital. The resident population of Niue is 1,624 (2016). The Niuean economy suffers from many constraints, including its size, geographic isolation, few resources, and a small population. This makes Niue economically vulnerable to changes related to climate change.

The project used a consultative and people centred approach to address water security issues in selected households, and strengthen the water quality monitoring programme throughout Niue.

### **Highlights output 1**

Niue was not directly involved in the trialling or application of the impact analysis methodology, however, they benefitted from the presentations and discussions on impact analysis at the regional meetings.

### **Highlights output 3**

The Government of Niue selected water security as the focus for output 3. The overall objective of the GCCA+SUPA project is to enhance climate change resilience and reduce vulnerability in the water sector for Niue's communities. The specific objective is to contribute to an efficient and effective backup water system for households in Niue. The four key result areas are (1) Rainwater harvesting systems fully installed in selected, occupied households; (2) Water quality monitoring programme strengthened for government departments and established for householders with rainwater harvesting systems; (3) Review and update the Climate Change Framework and design a Standard Operating Procedure (SOP) for the Climate Change Unit and (4) National coordination of the project activities.

During a previous project, polyethylene tanks were manufactured at the moulding facility in Niue and distributed to households without tanks with the expectation that the householders would complete the installation. However, householders encountered many problems, including the absence of the necessary installation material in Niue. The GCCA+ SUPA project was designed to complete the installation process. Rainwater supply is an important supplementary source of fresh water in Niue especially in times where the reticulated water supply is contaminated or disrupted, e.g. in 2020, coliform bacteria were detected in the aquifer.

The following are the project highlights in Niue:

- The GCCA+SUPA project was presented to the countries at an Inception Meeting in Fiji in March 2019 attended by a representative from Niue. Following this a national consultation was conducted in August during which water security was selected as the sector focus. The activities for the PDD were designed at a 2<sup>nd</sup> consultation workshop in November 2019.
- The Department of the Environment was the main implementing agency in collaboration with the Public Works Department, Ministry of Health and the Ministry of Finance.

- A village survey to update the 2018 village data showing the number of households requiring rainwater installation assistance was conducted in 2021 where it was determined that a total of 157 households across 9 villages required either partial or full installation.
- In view of the continuous water disruptions and contamination of the underground aquifer in Niue, a second assessment was conducted in January 2022 to prioritize the selected households based on water needs and accessibility. As a result, 50 priority households were identified. The selection criteria considered, amongst others, vulnerability to power disruptions, proximity to village water sources, and households with vulnerable members such as persons with disabilities or elderly persons.
- A stocktake of all remaining plumbing and construction materials from previous climate change/water projects was conducted.
- In 2022, the engineering design of the water systems for the 50 selected households was finalized and taking the remaining materials into consideration, a bill of quantities was prepared, and the materials procured and delivered.
- Fifty household agreements were signed by the selected beneficiary households.
- Between May-June 2023, 50 household installations were completed and a maintenance training on the rainwater measures delivered by the Ministry of Infrastructure was conducted for the 50 homeowners.
- To scale up water quality monitoring and assessment, the GCCA+SUPA project equipped the Public Health Department with a vehicle, water quality laboratory equipment and conducted a training workshop on water quality and a certification training on the shipment of hazardous and infectious substances.
- Since 2021, the project has been supporting awareness raising in Niue relating to climate change adaptation and water security. Specific activities include presentations and talks to schools and the general public on water issues/management and climate change impacts on water. The Department of Environment developed a brochure titled “Enhancing water security and resilience to climate change in Niue” which provided details on the water security projects under the GCCA+SUPA project and steps in maintaining rainwater harvesting measures. The brochures and 200 project tote bags and water bottles were distributed to school students, teachers and the general public.

### **Niue details: output 3**

The PDD was signed in July 2020 following a consultative phase.

### **Assessment, consultation and design of measures**

- Two consultations were conducted in August and November 2019 with government partners and NGOs to design the project activities.
- A previous village survey from 2018 was updated in 2021. This provided an opportunity to discuss with the owners/renters why the tanks were not installed and assist with the prioritisation of households for installation under the GCCA+ SUPA project.
- The National Coordinator started in August 2021.

Further details on the KRAs are presented below.

### **KRA 1: Rainwater harvesting systems fully installed in selected, occupied households**

- The updated village survey conducted in 2021 showed the number of households requiring partial or full installation assistance was 157 households across 9 villages.
- Initially, the GCCA+SUPA project's scope was for the installation of all 157 households. However, due to significant shipment delivery delays, continuous and prolonged heavy rainfall during implementation, and the short supply of local plumbing and construction contractors, the installation scope was reduced to 50 households.
- Prioritisation was based on household occupancy, the frequency of power outages and household needs.
- The Department of Environment was responsible for the overall coordination of the GCCA+SUPA project in Niue, the completion of household assessments, communications and the employment of the National Coordinator.
- The Ministry of Infrastructure was responsible for the installation of the water systems, oversight, compliance, and training in maintenance.
- The engineering assessments and material list were completed in January 2022 and procurement of materials from overseas suppliers commenced thereafter. The procurement encountered a number of challenges relating to shipping disruptions, changing border entry requirements and delivery delays from overseas manufacturers. Materials were therefore shipped in batches and the last shipment was received in Niue in March 2023.
- The installation of the selected household rainwater measures commenced in December 2022. There are two levels of installations at the households – complete and partial installations. A complete installation requires construction of the concrete base, and installation of gutters, downpipes and appurtenances. A partial installation requires just the plumbing connection fixtures and appurtenances.
- Household agreements were signed by all recipients. These agreements detailed the responsibilities of the homeowners in maintaining and servicing the rainwater systems.
- The Department of Environment and Ministry of Infrastructure collaborated on the messaging and communication aspects of the project. The overall objective for the messaging was to clarify the roles of the government (DoE and MOI) and the project beneficiaries (the householders) in the installation and maintenance of the rainwater measures. The two agencies held meetings with the village councillors and members of the communities and worked with the local media in getting the messaging to the general public
- A maintenance training was delivered to fifty homeowners in May 2023 which focused on maintenance of the rainwater measures.
- The household installations were completed in June and the Ministry of Infrastructure upon inspection of the installations verified the installations were done in compliance to Niue's building standards.

**KRA 2: Water quality monitoring programme strengthened for government departments and established for householders with rainwater harvesting systems**

- Prior to the GCCA+ SUPA project, and due to the lack of proper laboratory equipment, the Public Health Department sent their water samples to a laboratory in New Zealand for analysis.
- To expand the scope of water quality analysis in Niue, water quality testing equipment, laboratory equipment and reagents were procured and delivered in December 2020 to the Public Health Department. With the newly provided equipment, the department is now analysing the water samples locally.

- The department lacked a dedicated vehicle for regular water quality monitoring. A vehicle was provided to the Public Health Department to facilitate regular water quality monitoring, assessments and awareness in the villages. The vehicle was also instrumental in mobilizing COVID-19 testing and village inspection during the outbreak in Niue.
- A training workshop for staff from the Public Health Department and other agencies on water quality monitoring techniques and a certification training on the shipment of hazardous and infectious substances was conducted in Niue in November 2022.

### **KRA 3: Review and update the Climate Change Framework and design a Standard Operating Procedure (SOP) for the Climate Change Unit**

- The rationale for this activity was to update the Climate Change Framework developed in 2014 and to develop a Standard Operating Procedure.
- Since there were no qualified local experts and COVID 19 travel restrictions made it impractical to hire an overseas consultant, this KRA was not completed. Niue was one of the last countries globally to open its borders in 2022.

### **KRA 4: National coordination**

- A National Coordinator responsible for the coordination of project activities in Niue was recruited in May 2021 and housed with the Department of Environment.
- He served as the focal contact and liaison between SPC and the implementing agencies in Niue.

### **Challenges**

- Border closures and restrictions as a result of the COVID-19 pandemic impacted the delivery and scope of the project in Niue. This included the hiring of external consultants for the Climate Change Framework activity under KRA 3 and the timely country assessments by the Implementing Partners (SPC, SPREP, USP).
- Similarly, significant challenges have had to be overcome in the procurement of materials, in particular plumbing. Due to the COVID-19, several items were difficult to source, prices fluctuated between quoting and pricing and shipment schedule were significantly disrupted. A major setback was the introduction of a new biosecurity requirement by Niue whilst the project's goods were on-route to Niue. The new requirement conditioned all goods arriving in Niue to be fumigated. Due to this, the first batch of shipment containing construction materials (cement bags and tools) were rejected upon arrival and returned to Fiji for fumigation. 3-4 months was lost in the process.
- Niue experienced above average rainfall from December 2022 to June 2023, which impeded the installation of the rainwater installations especially the construction of concrete bases.
- The competing infrastructure projects in Niue such as the road and runway upgrade exacerbated the issue of labour shortage.
- Several plumbing materials ordered from international suppliers were not compatible with the standards in Niue and had to be modified to be made fit for purpose.

### **Lessons learnt**

- One of the positive outcomes seen from the border closures was the extensive reliance on the national coordinators for facilitation, mobilization and management of local resources and partners in the countries. This was seen as an upskilling for national coordinators.

- Local suppliers should be encouraged to bid in procurement of construction and plumbing materials for local projects for ease of access and clarifications necessary between the national implementing agencies and supplier.
- Extended shipment delays to be factored in planning stages of future projects to mitigate implementation risks.
- Community consultation and clear messaging relating to project scopes and activities are important to obtain community support and clarity.
- Regular update meetings between all the national implementation agencies and partners are essential for coordinated on-the-ground implementation and rectifying issues as they arise.