

FSM: 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



Community members helping with water storage tank installation at Pulusuk

FSM timeline January 2019 – June 2023

Output 1: Impact analysis to strengthen national strategic planning	
June 2021	National consultant commences
May 2022	Testing of the full methodology on water security in Nukuoro Atoll, Pohnpei State completed and Impact snapshot published
November 2022	A team from FSM participated in the Applied Training in impact analysis (iA) and the impacts database held in Fiji
February 2023	Impact snapshot shared with Department of Climate Change and Emergency Management (DECEM)
Output 3: Scale up resilient development measures in specific sectors	
March 2019	Presentation of GCCA+ SUPA project at an Inception Meeting in Fiji attended by a representative from FSM
May 2019	Consultation between SPC and DECEM in Pohnpei, FSM
June 2019	Project sector selected – water security
January 2020	Environmental Protection Agency (EPA) Chuuk State selected as implementing agency for project sites in Polowat, Pulusuk and Pullap islands in Chuuk State
March 2020	Concept note approved
May 2020	Project Document Design (PDD) signed
November 2020	Project National Coordinator started
January 2021	Inception Meeting with stakeholders in Chuuk convened PDD Amendment signed
April 2022	Project Field and Administrative Assistants based with the EPA Chuuk State recruited to assist the National Coordinator
KRA 1: Install and enhance rainwater harvesting in community shelters/buildings in Polowat, Pulusuk and Pullap and KRA 2: Training and capacity building in rainfall data management in Polowat and water management for households and schools in Polowat, Pulusuk and Pullap	
June 2021	Project consultation and assessment in Polowat, Pulusuk and Pullap. Memoranda of Understanding signed with the communities in each island
September 2021	Engineering assessment , selection of installation sites and water quality testing in Polowat, Pulusuk and Pullap
June 2022	26 rainwater tanks delivered to the 3 islands; temporary installation of two tanks per island to provide water storage during the 2022 typhoon season Addition of Tamatam Island to the project scope as a partnership between Chuuk State Government and the GCCA+SUPA project
September 2022	EPA Chuuk State endorsed the design of rainwater systems prepared by the project, for public potable water installations in remote communities
November 2022	Hands-on training of local contractors in rainwater systems installation and maintenance in Weno, Chuuk, during which 2 x 10,200L water tanks were installed at Logan Church
February 2023	Full installation of 10 x 10,200L rainwater tanks in Pullap Island, delivery of rainwater installation and maintenance training to communities, and delivery of WASH training and hand washing facilities at school
June 2023	Polowat: 1. Full installation of 8 x 10,200L rainwater tanks and rain gauge. 2. Delivery of installation and maintenance training to local communities 3. Rain gauge installed and laptop and training on rainfall data collection and management provided to an officer at the Polowat Municipal Office; data to be relayed to the Weather Service Office, Chuuk 4. WASH training and hand washing facilities provided to school Pulusuk:

	<ol style="list-style-type: none"> 1. Full installation of 8 x 10,200L rainwater tanks 2. Delivery of installation and maintenance training to local communities 3. WASH training and hand washing facilities provided to school
	<p>Tamatam:</p> <ol style="list-style-type: none"> 1. Full installation of 3 x 10,200L rainwater tanks 2. Delivery of installation and maintenance training to local communities 3. WASH training and hand washing facilities provided to school

FSM highlights

The Federated States of Micronesia (FSM) is a group of 607 islands in the northwestern Pacific Ocean with a total land area of 701km² spanning over an exclusive economic zone of 2,980,000km². These islands vary in size from small islets that submerge at high tide to coral atolls and large volcanic islands. The country consists of four states: Chuuk, Kosrae, Pohnpei and Yap, with each having a substantial degree of autonomy. The FSM has a total population of 105,300 (2018 est.) with Chuuk State being the most populous at 48,654 (47% of the country's total population). Chuuk State is comprised of 85 islets with a considerable number of low-lying inhabited atolls.

The project used a consultative and people centred approach to (i) conduct an iA on past water security measures in Nukuoro Atoll, Pohnpei State; and (ii) address water security in Polowat, Pulusuk, Pullap and Tamatam in the northwest Islands of Chuuk State.

Highlights output 1

FSM was one of the four countries to trial the extended version of the impact analysis methodology. This was carried out by an NGO and consultants. The past project selected for analysis focused on water security in Nukuoro Atoll, Pohnpei State and was supported by the Adaptation Fund.

The following are the output 1 highlights in FSM.

- The main implementing partner for the iA was the Micronesia Conservation Trust.
- The trial of the extended version of the impact analysis methodology was conducted over an 11-month period starting in June 2021 and included research into past projects, data collection and field trials of the methodology.
- The final snapshot impact analysis report was published in May 2022 and showed the project received a scoring of “medium (positive) impact”, 1.79 out of a total of 4.
- FSM featured in one of the Practice Learning Sessions conducted between June and August 2022 and shared the context and results of their activities in outputs 1 and 3.
- The results of the iA for Nukuoro Atoll were shared with DECEM in February 2022.

Highlights output 3

The Government of FSM selected the water sector as their focus for output 3. The overall objective of the project was to scale up community resilience to water stress and climate-related extreme events in selected outer islands of Chuuk State. The specific objective was to improve water security by increasing access to potable water for schools and communities in the atoll islands of Polowat, Pulusuk and Pulap. The project had three key result areas: (1) Install and enhance rainwater harvesting systems in community shelters/buildings in Polowat, Pulusuk and Pulap; (2) Training and capacity building in rainfall data management in Polowat and water management for households and schools in Polowat, Pulusuk and Pulap; and (3) National coordination of the project activities.

The following are the output 3 highlights in FSM:

- The GCCA+SUPA project was presented to the countries at an Inception Meeting in Fiji in March 2019, and to DECEM in FSM in May 2019. DECEM consulted with government partners and in January 2020, FSM selected water as the focus sector and the atoll islands of Polowat, Pulusuk and Pullap in the Northwest Islands of Chuuk State as project sites.
- The main implementing partners for the project activities was the EPA – Chuuk State.
- These three islands are only accessible by boat. Boat schedules to these islands are ad-hoc and charters are the only practical way to deliver project activities within a fixed timeframe.
- A total of five charters were carried out in the span of the project for the following purposes:
 - June 2021: Charter 1 – Project consultation and assessment
 - September 2021: Charter 2 – Confirmation of installation sites, engineering assessment for selected buildings, and water monitoring and testing
 - June 2022: Charter 3 – Delivery of rainwater tanks and temporary installation of the measures
 - February 2023: Charter 4 – Full installation of the rainwater measures in Pullap and delivery of WASH activities and training
 - June 2023: Charter 5 – Full installation of the rainwater measures and delivery of WASH activities and training in Polowat, Pulusuk and Tamatam; and installation of rain gauge and provision of training in Polowat.
- In June 2021, during the first visit to the project islands, consultations were held with the communities and memoranda of understanding were signed. These confirmed the project site, the government’s role, the community’s role, the ownership of the land and the ownership of the water systems. Consultations with the communities continued during each visit as small design and placement changes were requested.
- A people centred approach was adopted throughout the project and all the principles of the PLANET checklist were applied.
- Twenty-six rainwater tanks each with a capacity of 10,200L were delivered to the three islands in June 2022 and two tanks per island were temporarily connected for use by the communities during the upcoming typhoon season whilst they wait for the full installation works when all plumbing materials have been delivered in Chuuk.
- In June 2022, EPA Chuuk State requested the project’s assistance in the installation of 3 rainwater tanks in Tamatam Island, adjacent to Pullap. This was agreed on the basis that the EPA Chuuk State fund the purchase of the additional three rainwater tanks.
- In June 2022 EPA Chuuk State endorsed the design of rainwater systems, prepared by the project, for future public potable water installations in remote communities.
- In November 2022, the project engineer from SPC conducted a hands-on rainwater system installation training with local contractors in Weno, Chuuk. This training upskilled the contractors in rainwater installations and introduced the use of appurtenances such as first flush diverters (FFDs), leaf eaters and filters. These appurtenances have been fitted in all installations. As part of the training, two rainwater tanks were installed at the Logan Methodist Church in Weno.
- Full installation of the rainwater harvesting systems and delivery of the WASH activities and training in schools in Pullap were completed in February 2023. This included the installation of 10 x 10,200L rainwater tanks at selected buildings on the island. The tanks are accessible for use by all community members of Pullap.
- In June 2023 the last installation mission to Polowat, Pulusuk and Tamatam took place. Eight rainwater tanks were installed in Polowat, another eight tanks in Pulusuk and three tanks in Tamatam.

- The WASH activities were delivered to the schools on all islands and included awareness raising on water management and hygiene, training of teachers and students on handwashing essentials and the provision of basic handwashing kits such as buckets and hand wash basins.
- In Polowat, a rain gauge was installed to collect rainfall data for the northwest islands. This information is particularly useful for the Weather Service Office Chuuk to understand the rainfall patterns in the islands and inform planning for extreme events. A local staff member at the Polowat Municipal Office was trained in data collection and management and was provided with a laptop to transmit data to the Weather Service Office Chuuk.
- Local plumbers and builders were contracted to lead the installations on the islands and the communities provided the labourers who then received training on maintenance. This inclusive approach was adopted to empower the communities, instil a sense of ownership for the measures and provide the skills required for maintenance of the systems.
- Based on the impacts of change experienced by the communities as a result of the additional rainwater measures, the EPA Chuuk is making plans to replicate similar water security activities in other outer islands in the State.

FSM details: output 3

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

Assessment, consultation and design of measures

- Two separate assessments were undertaken in the three islands. The initial assessment focused on two objectives: (i) community consultation and project introduction to the chiefs and local communities, and (ii) assessment of existing water systems and their present state and conditions. The second assessment focused on: (i) confirmation of selected buildings and signing of Memoranda of Agreement with communities, (ii) engineering assessment of the selected buildings for rainwater system installations, and (iii) water quality testing of existing water storage systems.
- The assessment team led by EPA Chuuk State consisted of representatives from Environmental Health, Department of Marine Resources, International Organization for Migration Chuuk Office, Department of Agriculture and Liaison Officers for the three islands.
- The engineering design of the systems which included a materials list was completed in January 2021 and a procurement process, led by SPC, commenced the following month.
- In June 2022, a fourth island, Tamatam was included in the project scope as part of a partnership arrangement between the Chuuk State Government (through EPA) and the GCCA+SUPA project. The Chuuk State Government funded the purchase of the rainwater tanks and the GCCA+SUPA project funded the installation of the systems in Tamatam.

Further details on the KRAs are presented below.

KRA 1: Install and enhance rainwater harvesting in community shelters/buildings in Polowat, Pulusuk and Pullap

- The project funded five visits to the four islands for installation works between June 2021 to June 2023. The duration of the visits spanned from 2 - 6 weeks depending on the scope of work. All visits were done with a chartered vessel as there was no scheduled shipping service to the four islands.

- Installations were carried out in phases in view of the materials' delivery schedule. Firstly, temporary installations were carried out in June 2022, followed by full installations in February for Pullap and June 2023 for Polowat, Pulusuk and Tamatam Islands. The intention of the temporary installations was to allow communities to utilize the rainwater tanks during the upcoming typhoon season whilst waiting for the arrival of construction and plumbing materials.
- In total, 29 x 10,200L water tanks were installed across the four islands with the distribution as follows: Pullap – 10, Pulusuk – 8, Polowat – 8 and Tamatam – 3. Except for Polowat, all tanks were installed at church buildings. For Polowat, four tanks were installed at a school and the remaining four were installed at four different households across two villages which were situated further from the school. The tanks at the households are to be accessed by members of the neighbouring houses within that village.
- A total of six hands-on trainings on rainwater system installations and maintenance were delivered which trained approximately 10 local contractors and plumbers in Weno, Chuuk, and 60 community members in Polowat, Pulusuk, Pullap and Tamatam.

KRA 2: Training and capacity building in rainfall data management in Polowat and water management for households and schools in Polowat, Pulusuk and Pullap

Rain gauge and rainfall data management

- A manual rain gauge was purchased and installed in Polowat; this site having been preselected at the Inception Meeting for stakeholders in January 2021. The rainfall data collected from Polowat is representative of the Northwest islands in Chuuk State.
- The installation was carried out as part of the June 2023 installation visit to Polowat. The rain gauge was installed at Polowat Elementary School and fenced for protection.
- A local staff member based at the Polowat Municipal Office was trained in rainfall data collection and management and the project provided a laptop for this activity.
- Data from the rain gauge is being shared with the Weather Service Office Chuuk.

Water management and WASH activities

- As part of the project missions in June and September 2021, the existing household water storage systems, namely groundwater wells and rainwater tanks, were assessed. A basic bacterial water quality testing of these systems showed the need to always boil the water before drinking. This information was shared with the householders.
- In collaboration with the Environmental Health and Education Department, the project team delivered WASH activities and training on hand washing and water management to a total of 4 schools and 280 students. Buckets and basic hand washing basins were distributed to the schools in the four islands.

Key Result Area 3: Project coordination

- The EPA Chuuk State was the implementing agency for the GCCA+ SUPA project in FSM in collaboration with DECEM.
- Project coordination was undertaken by the National Coordinator who was based at EPA Chuuk State in collaboration with the SPC Project Office in Suva, Fiji. The National Coordinator was recruited in November 2020 and contracted to June 2023. Monthly reports were provided and regular monthly meetings held.

- In April 2022, a Field Assistant and an Administrative Assistant were recruited to assist the National Coordinator in project coordination and implementation and based in EPA Chuuk State.

Challenges

- Due to travel restrictions brought about by COVID-19, the consultations between the project teams at SPC Fiji and SPREP in Samoa together with government partners in Chuuk for project planning and design were convened entirely through virtual meetings. This arrangement was hampered by poor internet connections and time zone differences. The project planning and design consisted of numerous meetings spanning several months, whereas it would have been a much shorter duration if the meetings had been held face-to-face.
- Although the project sector and site for output 3 were selected in January 2020, it did not have a dedicated officer to initiate and coordinate implementation until November 2020 when the Project National Coordinator was recruited.
- Significant challenges had to be overcome in the procurement of materials, in particular plumbing materials. Due to the COVID-19 and global supply chain disruptions, several items were difficult to source and shipment schedules were significantly disrupted with continuous delays. Increases in the price and shipment of materials and shipping were also experienced over the course of the project. As a result, materials were delivered to Chuuk in batches between March 2022 to February 2023.
- Several factors caused disruptions in the project's charter schedules and eventually delays in implementation. These included national emergencies such as a search for missing fishermen at sea, delivery of medical supplies and personnel, closure of outer islands in observation of funeral traditional protocols, and the COVID-19 restrictions and community transmissions. As one example, the project's charter was delayed for 3 months resulting in the rescheduling of activities in Chuuk.

Lessons learnt

- Applying a people centred approach in the design, planning and implementation of the project is critical to achieve acceptable and culturally appropriate measures.
- An inclusive community consultation approach that considers all members of the communities including women and youth is important for informed planning and implementation.
- A flexible approach is encouraged when working with communities as decisions and needs are likely to change between design and implementation phases.
- Careful attention to design and project material specifications by all parties is important especially if goods are being procured from overseas vendors.
- Procurement of plumbing and other materials from vendors that use imperial measuring systems is recommended for FSM for consistency and implementation.
- Project implementation in remote settings is costly and therefore island visits should be maximized or co-financed with similar projects where possible.
- Training and capacity building is essential in infrastructure projects such as GCCA+SUPA to support and sustain the on-the-ground measures.
- Engagement of community members in installation of the water measures is important to empower communities, instil their sense of ownership in the project and provide for long term maintenance.
- Projects relating to water infrastructure in remote communities to complete full installation and connection of the water measures, as was the case in the GCCA+ SUPA project. (There

have been cases where previous project interventions have focused only on the supply and delivery of materials, and not completed the installation and connections.)