



**USAID**  
FROM THE AMERICAN PEOPLE

THE COASTAL  
COMMUNITY  
ADAPTATION PROJECT

# C-CAP NEWSLETTER

*Helping Pacific  
Island Communities  
Adapt to a  
Changing Climate*  
June 2015

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## USAID Water Project Provides Small Island with *BIG* Support

If you want to run a marathon on the island of Nauru, the course would have to loop around the entire country more than three times—and you would be well advised to bring your own water! With a land mass of only 8.1 square miles and a population hovering around 10,000 people, Nauru is the smallest island nation and the third smallest country by area in the world. And while it was blessed with an abundance of phosphates that provided the major revenue source over the past decades, what Nauru lacks is a reliable source of fresh potable water—a problem which is exacerbated by the effects of climate change.

Providing sufficient drinking water to the population of Nauru has always

been a challenge—there are no fresh water lakes, streams or wells, so the people have relied on water that has been treated and trucked in from a centralized reverse osmosis desalination plant, supplemented by a limited number of brackish water solar boreholes and small-scale rainwater harvesting systems. However, technical problems including: frequent power interruptions and fuel shortages affecting the ability of the desalinization plant to operate; the loss of one large water storage tank to rust degradation; poor community maintenance of boreholes and rainwater harvesting systems; and a poor sewage system

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**FROM ON HIGH:** Aerial view of Nauru.

*Photo by C-CAP*

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**NAURU** from Page 1...

makes Nauruans vulnerable to water-borne diseases like diarrhea and typhoid and other common health issues. Add to this the rising concern over climate change—longer periods of droughts, stronger and more regular flooding events, increased low pressure systems with associated wind intensity, accelerated coastal erosion, stronger king tide events and sea level rise—and the issue of solving the problem of water security for the island becomes even more urgent.

It was into this challenging situation that USAID’s Coastal Community Adaptation Project (USAID/C-CAP) entered in early 2014. As in the other eight Pacific countries where C-CAP projects have been introduced, the C-CAP team initially planned to identify individual coastal communities and develop community specific adaptation projects. However, it became clear in discussions with the Nauru government that the size of Nauru, with the concentration of the bulk of its population in the south western part of the coast, as well as the urgent need for additional storage capacity for its centralized water scheme, presented the C-CAP team with a unique opportunity to provide



**OUT WITH THE OLD:** A non-operational storage tank (B-10) that will be refurbished or demolished.  
*Photo by C-CAP*

support on the broader national level. In early March, C-CAP met with the Ministry of Commerce, Industry and Environment and the Nauru Utilities Corporation to scope sites and inspect existing and proposed infrastructure to help support Nauru’s national strategy to improve the country’s water storage capacity and prepare the people of Nauru for potential prolonged and predicted draughts.

As a result of these discussions, C-CAP has proposed to construct a 4 million-liter water storage facility to double the currently available water storage

and add water buffering capacity to the Nauru water system. The design of the new storage tank will take into account a number of factors including: interfacing with other existing structures; working within a constrained tank site; designing to the existing ground conditions with corrosion protection of the tank due to sea proximity; interfacing new pipework with existing pipelines and other proposed works; considering variable tank height to diameter ratios to match available tanks in the market place; accessibility and safety of tank access for maintenance; lifespan assurance and materials selection. This collaboration of C-CAP with the Nauru government will help address the dire water shortages and support the country’s comprehensive national level approach to building climate change resilience.

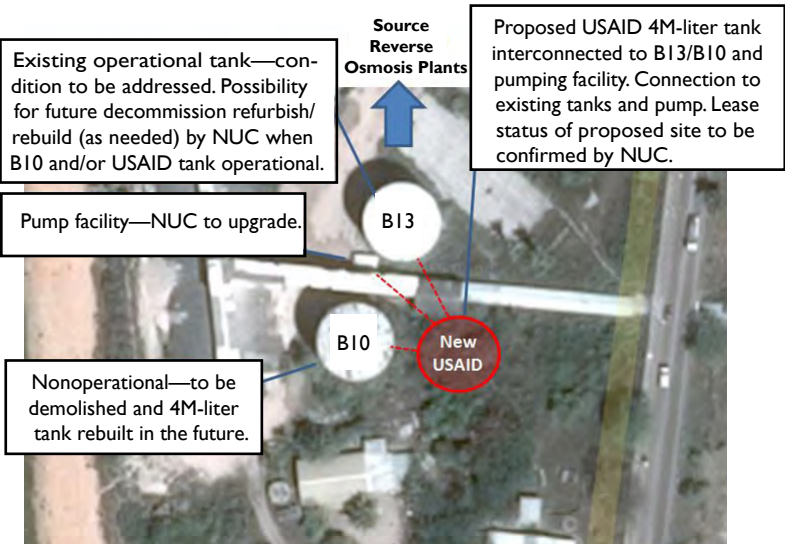


**IN NEED OF REPAIR:** Pumping mechanism in reverse osmosis desalination plant needs refurbishment.  
*Photo by C-CAP*



**SLOW ROAD:** Currently in Nauru, water must be transported from the central storage facility to communities in tanker trucks.  
*Photo by C-CAP*

**Proposed location of new USAID 4M-liter tank**





**HELPING OUT:** Representatives from Red Cross PNG and Cheshire disAbility Services, training youth on how to assist people living with disability during disaster simulation exercise.

*Photo by C-CAP*

## Gabagaba Prepares for Cyclone Simulation Exercise

The community of Gabagaba, partner community of the USAID Coastal Community Adaptation Project (USAID/C-CAP) in the Central Province of Papua New Guinea held its first-ever disaster simulation exercise on June 16. This collaborative exercise was supported by C-CAP partner stakeholders Cheshire disAbility Services PNG, Red Cross PNG and the Central and National Capital District Provincial Disaster Offices.

The simulation exercise is the culminating event of communities working with C-CAP to identify, assess and prioritize risks, and to develop disaster risk reduction plans. These plans are then shared with the provincial and national disaster offices to ensure that they are in compliance with the national plans. The community then selects members to be a part of a Disaster Committee who work with the community and local authorities to mobilize and organize them in preparing for disaster response.

The simulation exercise is a practice drill depicting a disaster that is likely

to occur. During the exercise, the Disaster Committee is responsible for monitoring the weather event, informing the community and notifying them through the use of a color code warning system of what steps need to be taken. The community responds to the simulated event by moving people quickly and safely to planned locations in the community evacuation shelter until given the “all clear” notification.

“I am pleased with the simulation exercise being carried out. I’m concerned that the young people may not realize the importance of this

exercise but the reality is we need to be aware and be prepared as Gabagaba is a coastal village and open to strong winds and high tides,” expressed Asi Roge, a village elder.

In preparation for the exercise, C-CAP partner stakeholders provided safety awareness and training to the community members. Cheshire disAbility Services PNG and Red Cross PNG helped prepare the community with instructions and demonstrations on how to handle people living with disabilities and more vulnerable members of the community such as children, young mothers, and the elderly during evacuation.

Chairman for Red Cross Central and NCD, Mr. Graham Tongia, said that knowing first aid techniques is crucial during disasters as villagers are on site and are able to provide basic aid before medical assistance arrives. “I hope this community embraces this opportunity that is given to them to help themselves become more resilient to climate change disasters. I believe it is always best to be prepared and take precautions than to react after the damage is done.”

The simulated exercise is only the first of several DRR exercises planned for communities in Papua New Guinea that will take place over the coming months.



**NEW DIRECTION:** Disaster Committee member directs women to the evacuation center during the simulation exercise.

*Photo by C-CAP*

## Working Together – New Ireland Provincial Climate Change Committee

**T**his month, USAID/C-CAP supported the first meeting of the Provincial Climate Change Committee (PCCC) in Kavieng, New Ireland, hosted by the Papua New Guinea Office of Climate Change and Development (OCCD). The New Ireland PCCC, one of five pilots supported by the OCCD and the first pilot committed to becoming operational, is comprised of representatives from government, civil society, nongovernment organizations, and industry who are working together at the provincial level to address climate change issues. The main purpose of this meeting was for the PCCC to present its climate change work plan, but it also served as a platform to coordinate provincial-level climate change initiatives and to share ideas and success stories.

To support the newly established PCCC, C-CAP provided an overview of the C-CAP climate change adaptation projects that are currently under way in New Ireland and presented information on adaptation infrastructure that is being used successfully across the region.

Chairing the meeting on behalf of the Provincial Administrator was Esau Kabin, Provincial Climate Change Manager, who noted that this joint meeting would provide a venue to network and share ideas and lessons learned from the stakeholders and he encouraged the committee to

*Continues on Page 5...*

## C-CAP Welcomes New Staff Members

*Joining the team: This month we welcome two of our newest C-CAP team members as they join us in our Fiji Office and our project site in Nauru.*



**Ratu Timoci Tuinakelo “Jim” Naivalulevu** joins C-CAP as a Community Liaison Specialist. Prior to joining C-CAP, Jim worked as Project Coordinator/Senior Field Trainer with Live and Learn Environment Education.

“The position, when it was advertised, caught my attention as it had the word ‘Community.’ I have had many experiences working with communities and helping to create an environment that ensures they adopt good natural resource management practices. In addition to this, I have also been working with communities to gain access to government programs which would create sustainable livelihood opportunities. The favorite aspect of my work is seeing the communities embrace projects implemented by the organization I represent and take ownership. (I return to the communities/hear from someone after two years that the project is still continuing).”

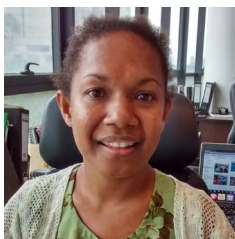
Jim has a post-graduate diploma in biodiversity and conservation and a bachelor's degree in biology/chemistry from the University of South Pacific and he will be working closely with the Community Liaison Officer and the Country Mobilizers.

**Tyrone Deiye** joins C-CAP as a part-time Country Mobilizer in Nauru. Tyrone holds a post-graduate certificate in coastal management from the University of Adelaide and a post-graduate certificate in vulnerability and mitigation climate change from the University of South Pacific. Before joining C-CAP, Tyrone did volunteer work and established the Nauru Community Based Organization, where he is President. Prior to that, he was the Secretary for the Department of Commerce, Industry and Environment.



Tyrone will be splitting his time between the USAID/C-CAP and the EU GCCA project in Nauru. For C-CAP, Tyrone will be the project's on-site representative to coordinate the development of the Nauru central water scheme project (see article on Page 1). He will be working closely with the infrastructure specialist and the C-CAP technical team.

**Luanne Losi** is the Acting Manager Projects Branch within the Adaptation and Project Division of the Office of Climate Change and Development. Before that she was working as a Marine Conservation Officer with the World Wide Fund for Nature (WWF).



## What is your involvement in climate change or disaster risk management work?

"Climate change adaptation is related to disaster risk management. In the Office of Climate Change and Development there are nine priority areas that we look at—one of them is disaster preparedness or disaster risk management. So for me both areas are related and are well within my line of work. I find working with C-CAP on certain activities to be similar as I understand the issues that are to be addressed."

## Profiles in Partnership

*The adage—no one can go it alone—is particularly apt when it comes to planning for and managing disasters. USAID/C-CAP relies on our partner organizations at the national and local level to provide support, expertise, and collaboration for Disaster Risk Reduction (DRR) and response activities. We profile two of our active partners about their DRR responsibilities in the region. We asked representatives from the Ministry of Natural Resources and Environment in Samoa and Cheshire disability Services in Papua New Guinea to give some background on their activities and how their work supports the USAID/C-CAP program.*

## What is your level of collaboration with C-CAP and C-CAP activities?

"My level of collaboration with C-CAP is through various activities, consultations and working groups all on the issue of climate change adaptation. Our aim is to share lessons learned and share activities to achieve our goals and objectives. A very

recent example is the trip to New Ireland for the Provincial Climate Change Committee meeting (see article on Page 4), which is one of our pilot projects. C-CAP's participation is timely because they already have projects up and running and it was an excellent opportunity to bring the new committee members up to date on activities on the ground so the committee recognizes C-CAP as a partner in the Province."



**PARTNERS:** Pictured above, representatives from OCCD, WCS, and USAID display new USAID/C-CAP Innovative Designs Poster. At left, a community representative expresses her views on climate change effects during PCCC meeting.

*Photos by C-CAP*

## IRELAND from Page 4...

take advantage of the expertise and experience of the assembled group.

Following the meeting, the group visited sites in the community of Bol to see the initial phases of construction on C-CAP-funded water harvesting infrastructures.

C-CAP applauds the OCCD and the Province of New Ireland for their groundbreaking initiative to strengthen the support to the people of Papua New Guinea in developing the provincial-level governance structures to improve climate resilience.



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# Around the Pacific

*USAID assistance in the Pacific region supports programs that mitigate the negative impacts of global climate change and environmental degradation. USAID has a growing portfolio of climate change-related projects. This regular feature of the C-CAP Newsletter captures some additional highlights from other USAID projects to provide readers a broad perspective of how USAID is supporting healthy environments and addressing climate change needs in the region.*

## The village that banned seawalls

The team behind the Secretariat of the Pacific Regional Environmental Programme (SPREP) partners with USAID on projects throughout the Pacific to help communities adapt to and build resilience to the adverse impacts of climate change. The following article originally published by [SPREP](#) showcases one adaptation project completed in coordination with USAID.

Aonobuaka is a village in Kiribati of almost 350 people. On the nearby coastline, support from USAID and the Secretariat of the Pacific Regional Environment Programme (SPREP) has made possible a project that is transforming how local communities protect their land from erosion.

In June 2015, when a team from the Government's Environment and Conservation Division (ECD) visited Aonobuaka, they learned that the community had banned the building of seawalls.

"They believed that building a seawall is not best for them. So they setup a community agreement, that nobody, no family nor clan is allowed to build a seawall on the coastline at Aonobuaka," said Ms. Ratita Bebe from ECD.

The Shoreline Protection Guidelines of Kiribati state: "Seawalls can sometimes increase the rate of erosion



**NOT PRETTY:** Coastal erosion adjacent to a hard seawall in Tarawa, Kiribati.

Photo by SPREP

in front of the seawall due to wave reflection and at the ends of the structure caused by wave focusing. When all available sediment has been removed in front of the wall, down drift areas will no longer receive sediment and erosion may be accelerated as a result of building the wall."

If landowners build a seawall, their neighbors may experience significant erosion. In a village such as Aonobuaka, this can cause considerable social friction and disputes that lead to lengthy community or government arbitration.

"They want to maintain their beach naturally. So, as a whole community they came up with a strategy that pro-

vides solutions. The decision was not by made by one man who had an idea for the rest of the community, they all got together and decided on what was best for them," said Ms. Bebe.

"They all agreed not to build even one seawall and to take care of their coastline. It really links well to the idea of not building a seawall because we introduced the local 'Te bui bui' method and we encourage these communities to construct this method themselves with their own materials," said Mr. Arawaia Moiwa from ECD. 'Te bui bui' involves building a brush structure from local materials including branches, palm fronds and coconut fibre string than catches

**Continues on Page 7...**



**TE BUI BUI:** USAID-funded 'Te bui bui' structure in Abaiang, Kiribati.

*Photo by SPREP*

### **SEAWALLS** from Page 6...

sediment and allows for coastal dunes and beaches to rebuild.

With funding from USAID, Staff from the Kiribati Government's Environment and Conservation Division with Dr Joanna Ellison from the University of Tasmania, have been demonstrating the 'te bui bui' technique throughout Abaiang atoll in Kiribati with support from community volunteers to undertake the work. These natural solutions being implemented by the project also include controlling access to allow vegetation recovery and beach vegetation planting.

Through funding assistance the Government of Australia under its International Climate Change Adaptation Initiative (ICCAI), SPREP previously developed a community guide called "[Coastal Ecosystem-based Rehabilitation](#)" that explains how to assess beach condition, decide on actions needed, and how to undertake this type of rehabilitation.

Monitoring in Kiribati is finding that sites established in 2013 are showing substantial improvement as surveying has found positive accretion of sand at all coastal Ecosystem-based Adaptation (EbA) project sites.

## Madang Governor Takes Up Low Emission Land Use Planning Options, Opportunities

**M**adang, Papua New Guinea, encompassing mature tropical rain forest and marine ecosystems, is one of the world's most important biodiversity hot spots.

On June 24, the U.S. Agency for International Development's Lowering Emissions in Asia's Forests (USAID LEAF) program, in collaboration with the Madang Provincial Government and The Nature Conservancy, launched a report called "Low Emission Land Use Planning for Madang Province: Options and Opportunities."

Produced in close consultation with the Madang Civil Society Forum, Madang community based organizations, and national level stakeholders, the report provides guidance to the Madang Provincial Government on

steps to achieve "green growth" and contributes to national and international discussions on low carbon growth. At the launching ceremony, the Madang Governor, the Honorable Jim Kas, Member of Parliament, said, "An effective and sustainable land use planning process will allow our valuable natural resources to be sustainably developed for our economic prosperity."

Cristina Vélez Srinivasan, Acting Office Director of USAID Pacific Islands, said, "The Madang Provincial Government has taken a leading role for Papua New Guinea in helping shape a better future of Low Emission Development."

The report can be accessed at: [www.leafasia.org/library/Madang\\_LELUP](http://www.leafasia.org/library/Madang_LELUP).



**WHOLE GANG:** Group photo of governor with the stakeholders at the launch event.

*Photo by LEAF*

## ADAPTATION IN MOTION

CHECKING WITH C-CAP COMMUNITIES: KIRIBATI, FIJI, SAMOA, SOLOMON ISLANDS, TONGA, TUVALU, AND VANUATU

*In this periodic series, the C-CAP team checks in on partner communities that are navigating long-term climate change adaptation.*



### GETTING PREPARED IN

**VANUATU:** Above, a Disaster Risk Reduction group discussion on Pele Island. Below, a technical re-scoping exercise by C-CAP engineers and the community.

*Photos by C-CAP*



**In Vanuatu...** USAID/C-CAP engineers have completed reassessment and re-scoping for all 10 sites in Shefa and Tafea provinces, necessitated by the damage caused by Cyclone Pam. C-CAP had completed Infrastructure

Prioritization Index (IPI) assessments of the sites in 2014; however, a re-evaluation of the planned infrastructures was needed to address potential changes to the existing physical conditions and changing community priorities post-Cyclone Pam and changing community priorities. For six communities, water security is still the main priority, perhaps even more so now as many water sources were destroyed during the cyclone. The remaining four communities, reassessing their community risks following the cyclone, determined that creating safe, multipurpose/evacuation centers was now their highest infrastructure priority. Also in June, C-CAP conducted Disaster Risk Reduction (DRR) and response planning exercises in partner communities of Pele, Nekapa, and Unakapu to help these communities better prepare for natural disasters.

**In Kiribati...** USAID/C-CAP issued two contracts for five sites in Abaiang and North Tarawa. These contracts are for the installation of rainwater harvesting infrastructures and medical aid posts identified by the C-CAP partner communities as their priority climate-resilient infrastructures. Construction is anticipated to commence in August. DRR and response planning activities were also completed in these communities and C-CAP has scheduled disaster simulation exercises for next month.

**In Samoa...** USAID/C-CAP and the National Disaster Management Office (NDMO) initiated consultation on DRR and response plans for the community of Leusoalii. The Samoa Red Cross and the Disability Advocacy Organization assisted in facilitation of the DRR and response planning exercise while the NDMO's principal officer led discussion on the linkage



### GETTING PREPARED IN

**SAMOA:** Above, a women's group plans during DRR exercise. Below, Leusoalii community after the DRR and response planning exercise.

*Photos by C-CAP*



of the community's DRR plans to the national disaster management strategy. All C-CAP sites in Savaii have identified their disaster response committees and teams in preparation for the upcoming simulation exercise anticipated to be held early August.

**In Tuvalu...** USAID/C-CAP and partner community of Funafuti completed a DRR and response planning exercise which will better prepare the community to respond in the event of natural and climate disasters. The exercise assisted

## ADAPTATION IN MOTION

CHECKING WITH C-CAP COMMUNITIES: KIRIBATI, FIJI, SAMOA, SOLOMON ISLANDS, TONGA, TUVALU, AND VANUATU

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the community in identifying their vulnerability to king tides, storm surges and strong winds which are increasing in frequency and severity, and prompted discussions on how best they prepare the entire community for such events. During this exercise, the village included participation of younger members of their community in the planning process as the village elders recognized the importance of their role in disaster risk management.

**In Tonga...** USAID/C-CAP completed work on two major rainwater harvesting projects in Ahau and Sopo by conducting Operations and Maintenance (O&M) training for the recipients of newly installed rainwater catchments. The O&M training insures the sustainability of these infrastructures that increase the capacity to collect and store clean potable drinking water. Also this month, C-CAP completed work on rehabilitation of the community multipurpose/evacuation center at Nukuleka which is ready to be handed over to the community. The multipurpose hall will serve as a community center while at the same time providing a strong, secure building that the community can



**STABILITY IN SOPU, TONGA:** A villager checks the cables that stabilize a new water harvesting tank in Sopo.

*Photo by C-CAP*

use to take shelter in during strong winds and cyclones which are frequent in the area.

**In Solomon Islands...** USAID/C-CAP conducted DRR and response planning exercises for six partner communities in Malaita, in collaboration with the Provincial Disaster Management Office (PDMO). The DRR and response plans will assist the communities prepare for climate and natural disasters which including storm surges, cyclones, tsunamis, droughts and flooding. The collaboration with the PDMO during the DRR planning process ensures that the community plans are aligned with the provincial disaster plans and strategies to address climate disasters.

**In Fiji...** All 10 USAID/C-CAP partner communities have completed their DRR and response plans, nine of which have been submitted to the National Disaster Management Office to ensure alignment with the national disaster plans and strategies. These communities are also preparing to initiate disaster simulation exercises. In Daku and Vunisinu/Nalase, construction work continues for the refurbishment of existing floodgates to improve protection of the community from rising sea levels. Meanwhile, C-CAP partner community Yaqaga signed an agreement to have a climate-resilient multipurpose community hall to serve as safe and secure evacuation center during severe weather events. Tendering for construction of the project was initiated in June with award expected next month.



**FLOODGATE INSPECTION:** A C-CAP engineer inspects the refurbishment work on the Nalase floodgate.

*Photo by C-CAP*