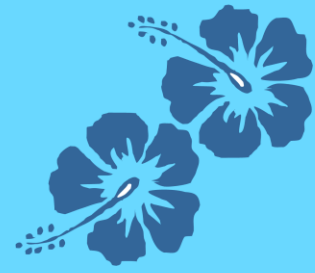


# The “Bula Bulletin”



March – April 2013

**“The islanders showed us unusual kindness. They built a fire and welcomed us all because it was raining and cold”**  
Acts 28:2 (NIV)

## Tuvalu: ‘Standing together’ on the frontline of climate change

It is not often that I can be accused of following in the wake of a royal visit...

Much to the delight of its population, last September the Duke and Duchess of Cambridge made an overnight stop in the tiny nation of Tuvalu in the central Pacific. More recently, I too received a royal welcome when I visited the eight-atoll chain (Tuvalu means ‘eight standing together’).

The Diamond Jubilee visit caused ‘grass-skirts-and-dancing’ media frenzy in the low-lying, capital atoll of Funafuti; however, Tuvalu, on the frontline of climate change, is more used to making environmental headlines. In late 2011, the nation drew a global audience when the government declared a state of emergency. The worst drought in living memory brought severe water shortages, and people in Funafuti were forced to bathe in the sea and kill their livestock (Bula Bulletin, Oct – Nov 2011). Limited emergency supplies meant that each household was rationed to just two buckets of water a day (one distributed in the morning and another in the late afternoon). The drought, blamed on the periodic La Niña weather pattern, was an anxious time for the isolated community, and potentially a dry run for the future impacts of climate change on the nation.

### Typical... atypical weather

Almost eighteen months later, my visit coincided with equally unseasonable, but very wet weather. Several weeks of untimely severe gales and heavy seas had combined with the usual downpours of the wet season (November to April) to disrupt shipping and to bring island life to a virtual stand-still.

Unaccustomed to walking, and without resupplies of petrol because of the rough seas, the 6,200 population of 7 miles (12-km)-long Funafuti, were left almost paralysed by the empty tanks of their motorbikes and scooters.

The government secondary school, in the largest island of Vaitupu, also remained closed after the Christmas break, as students from outer islands were unable to return. And everyone complained about the weather...



**Newly-planted, ‘royal’ coconut trees, outside the Governor General’s House.**

**I’m holding the one Kate planted...!**



**Funafuti and its  
airstrip from the air;  
and one of the water-  
filled 'borrow' pits**



"I say these conditions are normal," said the Director of the Meteorological Services, Mrs. Hilia Vavae. "But I do not have a climate officer to analyse the data, and people, who have lived in Funafuti longer than I, disagree; they say that these conditions are not typical".

Unseasonable and extreme weather is predicted to be more common and more intense in the future because of climate change, but the islanders hope that they will be able to adapt to the harsher conditions; much climate-change adaptation work is already underway in the islands.

**A geography of Tuvalu**

Tuvalu has a total land area of just 16 sq miles (26 sq km), and, on average, is just 6ft (2m) above sea level. Not only does the geography of Tuvalu make the 10,600 population highly susceptible to future sea-level rise, the atolls are spread over 310,000 sq miles (500,000 sq km) of sea, making inter-island communications highly vulnerable to bad weather.

Of all the islands, Funafuti Atoll is unique, in that it has deep holes, known as 'borrow pits', running down the centre of the island. The American Forces during WWII removed large sections of the middle of the atoll, as soil was required for the construction of the military airstrip, now the international airport with its twice-weekly flights. Seventy years on, the 'borrow pits' still remain, in-filled with sea water and rubbish.

**Climate-change adaptation**

**Water security (water capture and storage)**

Prior to late 2011, the Australian Aid Agency (AusAID) and the EU programme had funded and supplied each household in Funafuti with one private water-storage tank, but owing to the intensity of the 2011 drought, the 10,000-litre tanks ran dry. Many families were without water (few previously could afford the AUS\$1,000 (£685) to pay for a supplementary tank), and drinking-water supplies in the capital were down to just 2 or 3 days.

The international response was swift. One million litres of drinking water was delivered by New Zealand and Australia, temporary desalination plants were flown in specially, and fuel for existing units provided, to ensure operation.

Today, the 'Tuvalu Waste, Water and Sanitation' project is in the process of supplying a second private-tank to each household, to increase household-storage capacity and allow for tank maintenance (a very important aspect).

**The mould;  
Water tanks  
awaiting  
distribution;  
And installed...**





**Underground water-storage at the EKT Church Head Office**



**The new, 700,000-litre water tank at Lofeagai**



**Vegetable garden sheltered by coconut leaves**



**Racks of hanging pumpkins**



**Pulaka in raised, cement boxes**

Extra tanks are made on site as a water-tank mould was brought in from Fiji to meet the project needs, and the Public Works Department (weather permitting) is busy distributing the finished units throughout the country.

Historically, larger institutions have had their own water-storage facilities; for instance, the headquarters of the Ekalesia Kelisiano Tuvalu (EKT), the Tuvalu Christian Church, has its own underground facility. Major water reserves away from the original settlement of Funafuti are almost non-existent, however; and population pressures in Funafuti Atoll add to the water-security concerns. Between 2002 and the 2012 census, the number of people living in Funafuti Atoll increased by 40%, as many islanders from the outer islands moved to the capital in search of work. They settled in previously undeveloped 'bush' areas of the atoll.

"New communities in outlying areas are especially vulnerable in times of drought," said the Pacific Adaptation to Climate Change (PACC) co-ordinator, Loia Tausi. "They are furthest from emergency supplies, so have cost and time implications in travelling to the distribution points, and will be last in the queue once they get there. PACC wants to build the resilience of the people through tangible action to help communities".

**"Therefore, as we have opportunity, let us do good to all people..."**  
Galatians 6:10 (NIV)

Lofeagai, a new settlement of 600 people in northern Funafuti, has recently benefited from the work of PACC. The community now has a new 700,000-litre water reserve. The AusAID-funded tank cost AUS\$430,000 (£295,000) and is fed by rain water from the adjacent church roof, and despite its immense size, it only took two months to fill the reserve with rainwater!

### **Food security**

Tuvalu has poor, infertile coralline soils that are regularly exposed to salt-water inundation, making it almost impossible to cultivate crops directly in the soil. Various adaptation techniques are being used, however, to overcome the limitations of the natural environment.

The Tuvaluan Association of NGOs (TANGO), a group of 48 organisations, was established in 1986, and has been active in climate-related projects for the last ten years. Food security is a key component of its work (other important areas include water, sanitation, and biogas) and many projects are undertaken on the outer islands. For instance, swamp taro (*pulaka*), highly prized in Tuvaluan culture, but difficult to grow because of saline soils, is now being grown in raised, cement boxes on Nanumaga Island. Similar raised boxes of *pulaka* can be seen in Funafuti. The elevation of crops is an essential component of any crop-adaptation technique, and is used commercially and at the household-level.



**Any container can be used as a plant pot**

Families without their own gardens have one place to buy Funafuti-grown fruit and vegetables. The Taiwanese garden, run by the Taiwanese Embassy, employs eight workers and provides an outlet for locals to buy produce. They also sell seeds and seedlings to encourage home gardening. During my visit, spring onions, cabbages and pumpkins were

ready to be picked for the weekly, Friday market. However, the papaya (pawpaw) crop had taken a battering in the inclement conditions!



### Prayer points

- Pray for the people of Temotu Province, in the Solomon Islands. In early February, a magnitude 8.0 earthquake generated a 3ft-high tsunami that destroyed villages and caused several fatalities.
- Give thanks for the Pacific Tsunami Warning Centre that provides region-wide tsunami warnings, enabling communities (given time) to take pre-emptive actions.
- Pray for the people of Tuvalu, as they 'stand together' on the frontline of climate change.
- Give thanks for the leadership of the EKT Church in Tuvalu, and pray for the work of the EKT climate-change desk.
- Pray that islanders on low-lying atolls be given the choice to relocate or remain in their island homes.

## Climate-induced relocation: The people's choice

Relocation, as an option, does not feature in the Tuvaluan Climate-Change Policy, and, unlike the Kiribati government, the official stance of the Tuvaluan government is that relocation is something to be considered at a later stage. "I hate to say it, but we have been labelled as climate refugees by some outside agencies and academics," said the Permanent Secretary of Foreign Affairs, Tapugao Falefou. "We are not refugees. If we are given a label it should read 'Forced migrants'. There is nowhere like home".

The majority of the Tuvaluan population, (80%), attend the EKT Church. The President of the EKT, Revd. Semisi Nimo said: "The government should give the people of Tuvalu the choice of whether or not to relocate. There are land issues on Funafuti and people who wish to leave should be able to. The challenge of climate change is priority for the church. The people need to be prepared."

The EKT climate-change officer, Maina Talia added: "I would never, never advocate resettlement for now, we are too much linked to our land; but it could be a second option. We need to pull together as a community and adapt to the changes".

What is clear is that the Tuvalu population want to stay in their island home...

### Tsunami

A sticker, on the door of the communal fridge at my lodgings, advised that in the event of an earthquake to head to higher ground... and some wit had added "like up Mt. Tuvalu? Sounds good"...

The morning of my last day was spent with the Director of the Meteorological Services, Mrs. Hilia Vavae. We discussed, among other things, Tuvalu's response to tsunami warnings... In the afternoon I found myself on the second floor of the Government building (the highest point in Tuvalu!!), awaiting a tsunami. Thankfully, in Tuvalu, it did not materialise.

The people of Tuvalu, and the Pacific, face many challenges...

God bless  
Julia



**The narrowest point on Funafuti is the width of the surfaced road**

