

**A young girl reads in a roofless classroom – closure of the school could undermine the fabric of the community**

current situation will hold until at least April 2016.

**Kids and communities**

Cyclone Pam wreaked extensive damage across the outer islands, severely affecting the communities' water catchment systems and tanks. With a prolonged drought due to El Nino now expected too, the Shepherd Islands are facing an unprecedented water emergency. The initial lack of water led to the prolonged non-recovery of crops, which has also affected the traditional standby products of coconut water and oranges. The ongoing lack of water will lead to increased illness in children, malnutrition and possibly population displacement. Already, outer-island schools teeter on closure due to a lack of water.

The closure of such important facilities can undermine the fabric of a community, so getting water to the schools is critical for social structure, and priority is being given to ensuring they have fresh water and food – both of which are currently in shortening supply and have to be shipped in.

A secondary issue that has arisen with this acute water shortage and crop failure is the need to feed the locals a staple product that is easy to handle and will provide adequate sustenance. The most logical and frequently distributed food in any such disaster is rice, but when you cook rice you need water!

**“These are not people who pollute the planet, or create mayhem, or demand anything significant; they are quietly grateful for enough water to survive on. But they need help now.”**

**Desalination plants**

Sam and Jess Bell are now involved on a daily basis in trying to supply enough water to the islands of Vanuatu. Funding is a critical and ongoing issue, but



Photo courtesy of frankandpeggyphotography.com

they have made great in-roads and are providing an invaluable service to the outer islands.

Sam says that since the cyclone, they have made and distributed around 1 million litres of fresh water to the outer islands between themselves and the associated YAG mega-yachts that are coming through Vanuatu.

The Bells have added desalination plants to their small barge to make fresh water which they deliver to the islands on a rotation basis, and mainly run a beach-to-beach service where the water is transferred to holding bladders, tanks where possible, and even directly to bottles. Most of the large community tanks are still not repaired from the cyclone, but to make concrete to repair them also requires – you guessed it – water.

The current desalination plants are, however, far too small for the impending task at hand, and larger, faster units are required. There are around 240,000 people spread across the 88 islands of Vanuatu. Hundreds – if not thousands – of tonnes of water could potentially be required each day during the height of the drought to cater for everyone, so the plan is to find funding for bigger desalination plants that will produce around 60,000 litres of water per day.

Another critical aspect is that these desalinators need to be efficient in power consumption as they are driven off diesel-power generators (gensets) and fuel costs are high relative to the funds available.

In a discussion regarding the possible use of photovoltaic (PV) cells (solar panels), Sam said that PV systems would be much better, but the issue with PVs is that they would also require battery storage systems and inverters to allow the desalination plants to

run all night. Having the funds to build these systems and test them in the field is the problem.

**Water storage**

Unlike the Caribbean, where small islands will have the side of a hill concreted as a large water catchment area that runs into a large concrete-block cistern of hundreds or thousands of cubic metres capacity, Vanuatu has nothing like this for rain water collection and storage. Therefore the most likely outcome will be eventual repairs to or the replacement of the existing water tanks.

Sam has seen these cisterns in use elsewhere, and concedes that they would be very handy – and a very good application for the Ardex Butynol, which has already been used to repair roofs on buildings throughout Vanuatu. He notes that they did not realise how good the Ardex product was and what it could be used for until they had it onsite.

To me, this example speaks volumes for involving more practitioners in humanitarian logistic responses as they may quickly identify a valuable aid item that,

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