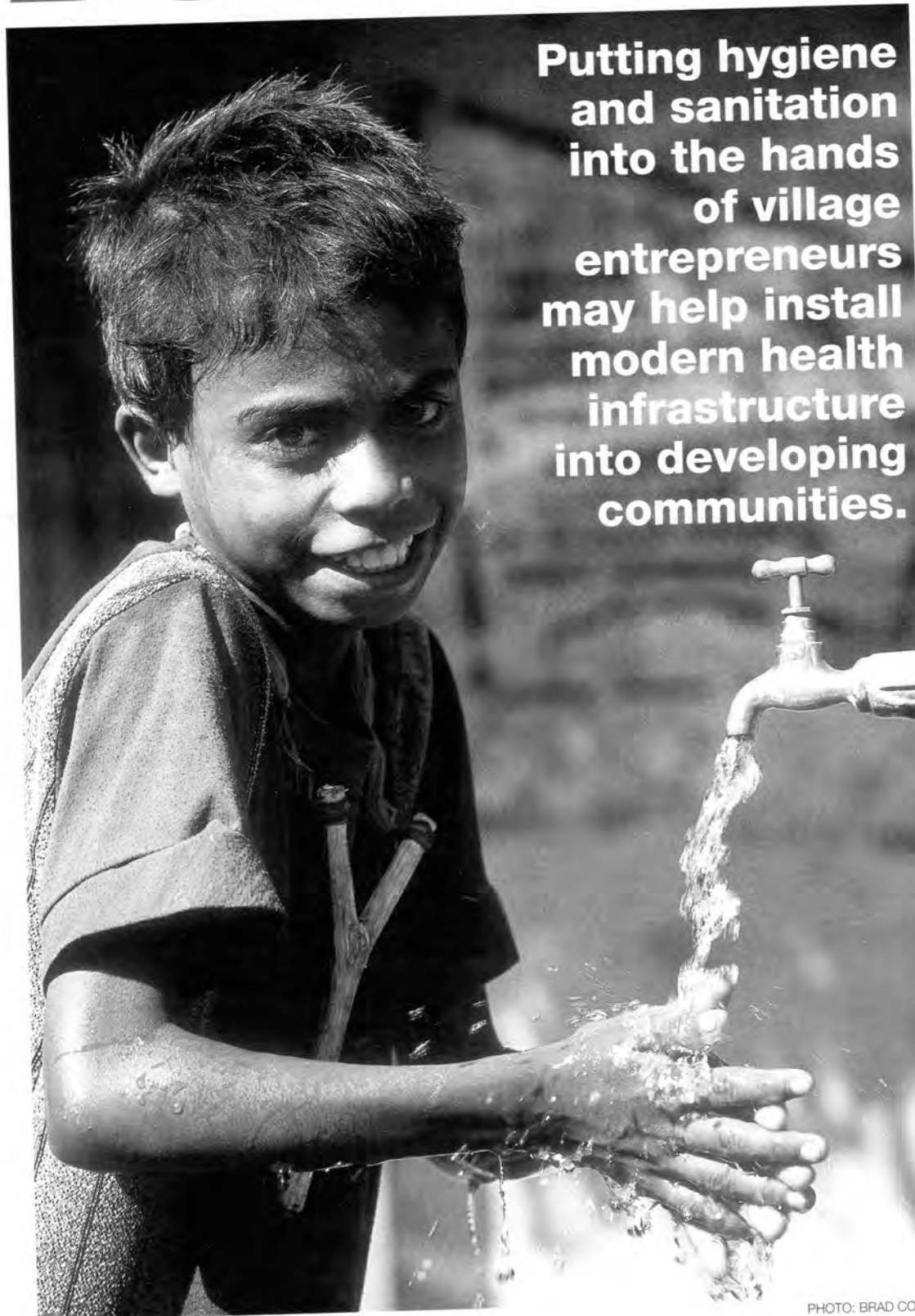


# CLEAN BUSINESS



**Putting hygiene and sanitation into the hands of village entrepreneurs may help install modern health infrastructure into developing communities.**

WORDS Brad Collis

► A typhoid outbreak in Fiji last year was linked to groundwater polluted by raw sewage. It brought into sharp relief the purpose of a new international research project that is wrestling with the complex cultural and economic factors influencing attitudes towards modern sanitation.

The development sector has learned that simply providing an amenity – be it a reticulated water supply or toilets – does not work if the “advancement” does not have local buy-in.

So a new Water, Sanitation and Hygiene (WaSH) project involving four Pacific countries – Solomon Islands, Vanuatu, Papua New Guinea and Fiji – is adopting a “sanitation marketing” approach that is looking for ways to make sanitation attractive to local entrepreneurs.

The project’s principal investigator is WaSH engineer Dr Dani Barrington, a research fellow appointed jointly by Monash University and the International WaterCentre (IWC). She explains that sanitation marketing – working with local entrepreneurs to build businesses around the provision of sanitation – is a proven approach in Asia and Africa, but one that faces challenges in the less densely populated Pacific region where the Melanesian culture of sharing can hinder the creation of profit-oriented businesses.

“We are working with local communities and with local enabling bodies [the ministries of health, environment ministries and water authorities] to find out what will work. In effect we are looking for a way to bridge the communities’ needs and priorities with the capacity of authorities or businesses to meet these needs.”

#### Urban call

Dr Barrington says the project’s main focus is on the large number of informal settlements that have grown up around major towns and cities as a consequence of the population drift from rural areas.

“These are communities that aspire to modern living, including modern sanitation, but are outside established infrastructure,” she says.

PHOTO: BRAD COLLIS

Household and industrial wastewater mixed with tidal inflow permanently inundates areas surrounding houses in this informal settlement near Suva, Fiji.



PHOTO: JAMES BRAUND

The Pacific WaSH markets initiative is a three-year project under the auspices of IWC and Live & Learn, an NGO. It involves researchers at Monash, the University of North Carolina at Chapel Hill (UNC-Chapel Hill) in the US and the University of the South Pacific in Fiji.

The project is in its early fact-finding stages. Dr Barrington and two Monash Department of Marketing colleagues, Associate Professor Srinivas Sridharan and Dr Stephen Saunders, are responsible for researching the communities' needs and priorities. A UNC-Chapel Hill team, led by Professor Jamie Bartram and IWC's Dr Regina Souter, is working with enabling bodies and assessing existing policy frameworks. Professor Bill Aalbersberg and PhD student Semisi Meo from the University of the South Pacific are adding an environmental framework to the project, given that wastewater from these settlements is also polluting reef ecosystems.

Professor Bartram says that in addition to improving coverage rates for sanitation infrastructure the ongoing challenge is maintenance, with high breakdown rates of both water and sanitation systems.

The WaSH research is being funded by an Australian Development Research Award Scheme from the Australian Department of Foreign Affairs and Trade.

### Tragic impacts

Dr Barrington says last year's typhoid outbreak illustrates the painful and often tragic impact of a lack of modern sanitation facilities such as toilets and sewage containment. She notes that diarrhoeal diseases caused by contact with faeces are still the most common killer of children under five in developing countries.

"However, for people in these circumstances, the priority is usually water, not sanitation. You can't live beyond a few days without water, but you can live without sanitation ... although it may shorten your life span and your whole family will suffer if you get sick and can't work.

"It means, however, that decisions about water infrastructure tend to be made on a community scale, while decisions about toilets are made more at the household level."

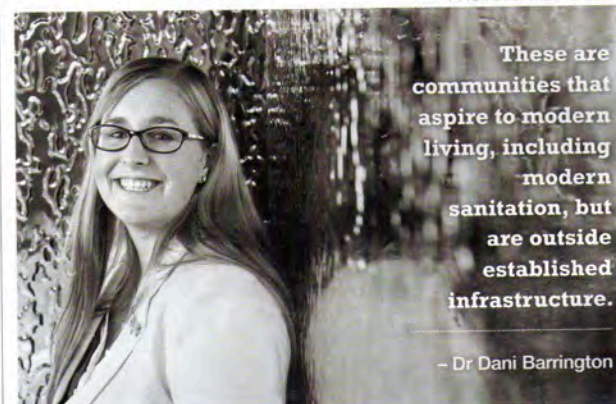
Mr Meo explains that cleanliness is embedded in the region's cultural and spiritual beliefs so the challenge for people is learning how to work with and maintain WaSH technologies. For him the project is about engaging with people to understand their daily living conditions, from the WaSH perspective and in their diverse environmental, social, cultural and economic circumstances.

"This is why communities may choose to explore entrepreneurship models as a way to tackle WaSH issues under various conditions," he says.

Dr Barrington has so far made two field trips and has been fascinated by the lengths to which some people have gone to try to modernise. And their definition of modern is influenced largely by television. "People want flushing toilets. They perceive self-composting toilets as a backwards step. So you will see improvised water tanks – like an old upturned refrigerator I saw on one roof – to provide flushing water. But these toilets generally just empty into old fuel drums, holed to allow the wastewater to escape. This then pollutes the groundwater, or in some coastal communities it is also picked up by the daily tidal inundation."

Over the coming year, the researchers will bring communities and enabling bodies together to find common, workable ground. "It's not about us telling people to use toilets. It's about facilitating their decision-making and their approach to finding a long-term solution," Dr Barrington says.

"My hope for the project is that we can leave the communities with a well-researched understanding of what will work for them, and a clear plan of action."



These are communities that aspire to modern living, including modern sanitation, but are outside established infrastructure.

– Dr Dani Barrington

### Technology challenge

- In the Pacific region, use of improved sanitation has remained static at 35% of the population since 1990, lagging behind improvements seen in other regions.
- Open defecation rates in the Pacific region are estimated at 12% of the population, although in the Solomon Islands this estimate jumps to 54%.
- Papua New Guinea is one of only three countries in the world where less than half the population has access to an improved drinking water source.

SOURCE: WORLD HEALTH ORGANIZATION AND UNICEF, 2014

The International WaterCentre builds capacity for integrated water management through education, training and research, focusing on urban communities, river systems and Water Sanitation and Hygiene (WaSH) goals. It was founded by four Australian universities – Monash University, the University of Queensland, Griffith University and the University of Western Australia – and has more than 140 global partners.

Live & Learn works with Asia-Pacific communities to overcome social and economic challenges, from domestic violence to deforestation, poverty, poor health, education and civic infrastructure.