

Healthy Pacific

ENVIRONMENTS

Issue 5 / September 2020

Keeping New Zealand informed of ESR's science and research in the Pacific region

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COVID-19 Diagnostic Testing

The New Zealand Government signed an agreement with ESR in March 2020 to support COVID-19 diagnostic testing for the SARS-CoV-2 virus for Pacific Island countries. Under this arrangement, ESR is available to test potential COVID-19 samples from Pacific Island countries who do not have in-country capability. Testing is undertaken in New Zealand using IANZ accredited molecular tests and transport of samples is supported by the World Health Organization.

ESR also provides a COVID-19 external quality assurance (EQA) programme for New Zealand laboratories. These programmes ensure tests to diagnose COVID-19 are performing within acceptable specifications. Now some Pacific Islands have their own testing capability we have worked with the Pacific Paramedical Training Centre (PPTC) to extend this programme to 24 laboratories in the Pacific. This is a valuable resource to countries that may not be able to access other quality control programmes and can give confidence about accuracy to the people accessing these tests.

ESR is involved in a range of COVID-19 related work in New Zealand including whole genome sequencing to attribute each COVID-19 positive case to a

cluster to track how the virus is being transmitted, and research into the testing of wastewater (sewage) to look for undetected clusters in the community.



Healthy Tonga Environments – Environmental Health Lab update

The Healthy Tonga Environments Activity, funded by New Zealand Aid Partnerships for International Development Fund reached a milestone in its delivery in December 2019. The Environmental Health team at Vaiola Hospital, in Nuku'alofa officially opened the laboratory and began operating, working on bacterial drinking-water quality monitoring.

The laboratory was opened by Her Excellency Tiffany Babbington, New Zealand High Commissioner, the Honourable Minister Siasoi Sovaleni; and CEO of Health Dr. Siale Akaola.

The new environmental health laboratory role is currently focusing on drinking water quality monitoring and supporting prevention of mosquito-borne diseases such as Dengue fever, Zika and Chikungunya viruses. The laboratory will be run entirely by Tongan environmental health staff with senior trainers and quality assurance staff from Vaiola Hospital's clinical laboratory, and ESR providing support. The containerised laboratory has been set up to provide core analytical services for the environmental health team but can be used for outbreak investigations or preparation of samples for offshore analysis.



Members of the Ministry of Health Environmental Health, Climate Change and Disaster Resilience team



Water quality samples being prepared for analysis in the new laboratory.



Her Excellency Tiffany Babbington, New Zealand High Commissioner, the Honourable Minister Siasoi Sovaleni, CEO of Health Dr. Siale Akaola and Matt Ashworth discuss the capabilities of the laboratory



Matt Ashworth (ESR) shows inside the laboratory to Her Excellency Tiffany Babbington, New Zealand High Commissioner, and the Honourable Minister Siasoi Sovaleni



The new environmental health laboratory being prepared by staff for the official opening

Healthy Water – Healthy People – Bitokara, West New Britain Province, Papua New Guinea

ESR is working with Caritas Aotearoa New Zealand and the Roman Catholic Diocese of Kimbe (West New Britain, Papua New Guinea). ESR is providing technical advice and resources, and supporting community training to the WASH committees and Diocese and development of operations and maintenance guides for the communities in Bitokara. Caritas and ESR have had to make significant changes to the delivery of this project in light of travel restrictions during the COVID-19 pandemic. The means of delivery of technical guidance and training has changed to a remote method, with work on the ground being carried out by community craftsmen and women and directed by Diocese of Kimbe staff and the Bitokara community priest, Father Gregory.

The project is working towards improving the health of the Bitokara community through the delivery of a safe water supply that will meet WHO quality standards, is physically close to users and enhances safety for females. The water system will serve the Bitokara Health Clinic, two schools and 1,696 people living in eight villages (Narumatala, Bamba, Kopa, Dire, Drawa, New Camp, Gula and Gaduore) surrounding the Bitokara Health clinic in the Talasea Local Government area of West New Britain Province. The Activity is complementing the construction of the Health Clinic that will deliver health care to the estimated 9,180 people accessing health services from the Bitokara Health Clinic.

To achieve the overall Activity objective, long and medium-term outcomes include;

1. Reduced impact of diseases related to unsafe water in the Bitokara area.
2. Improved resilience to the changing physical and human environment e.g. climate change and challenges around law and order.
3. Sustained access to a safe and appropriate water supply that meets the water quality guidelines established by the WHO.
4. Community capacity enlarged through the improved management and maintenance of the water supply by the community members.

The water supply project is taking advantage of the high rainfall in the area and using improved roof catchments for collecting rainwater at the family compound level. Each of 84 family compounds is being provided with a corrugated iron roof of approximately 30 sq. metres put over one of their buildings to collect rainwater and run to a tank to be used as the family's water supply. A further 8 tanks are also being installed at the Mission Station to supply the health clinic, schools and other users at the Station. In total the activity is providing:

- 92 x 30m² rainwater harvesting cyclone-proof roofs for eight villages
- 8 rainwater harvesting systems for the community facilities
- 100 Tuffa tanks, with 9,000L holding capacity and a first flush divertor for each tank quieting inlet pipes
- Floating outlet pipes
- Mesh filters
- Tap stands and soak pits for each rainwater harvesting system.



Some of the team on the ground in Bitokara

- Significant solar lights on poles around the mission station. These are two-fold; they will provide:
 - lighting for the toilets
 - lighting for the surrounding areas of the community facilities

Lighting around the community facilities will address the safety and well-being of the women and children in the evenings.

The **sanitation part of the project** is providing:

- 92 VIP toilets for the 8 villages
- 8 VIP toilets around the community facilities
- 100 Tippy Tap hand washing stations

Sanitation Provisions

Each village will have access to these community facilities. There will be sanitation training which will provide the people with the opportunity to have defined areas for toileting which is away from animals, cooking facilities etc.



A tap stand and tank constructed for the project - yet to be fenced off from animals

Forensics Science Services



Transnational crime and drug trafficking are having an increasingly negative impact across the region. ESR is supporting the Fiji Police Forensic Science Services to enhance their capability with respect to analysing drug seizures and their role in the judicial process. The initial visit by ESR staff in early 2020, supported by MFAT and the New Zealand Police, allowed an opportunity to engage with and

understand the needs of the key stakeholders in this sector.

This multiple perspective approach was key to achieving an agreed support programme. Travel restrictions have meant a rethink to the short term delivery of this support, however ESR has developed an e-learning platform which is being adapted to meet this need.

ESR and EWB collaborate

Both Engineers Without Borders New Zealand (EWBNZ) and ESR have been working to strengthen the water sector in Vanuatu, through working with the Department of Water Resources (DoWR), supporting their work in the rollout of Drinking Water Safety and Security Plans (DWSSPs) throughout Vanuatu. A lack of capacity in the DoWR has resulted in fragmented project delivery, duplications, overly complex water systems and often poor outcomes for communities. The DoWR is working to address the challenges of coordinating the water sector in Vanuatu. As part of this work, a 'National Implementation Plan for Safe & Secure Drinking Water' (NIP) is being finalised and will provide a framework for achieving 100% access to safely managed drinking water by 2030.

EWBNZ are currently looking to recruit a water engineer to undertake a volunteer placement in Vanuatu to continue supporting this work with the DoWR. The volunteer will work to strengthen the capacity of the Provincial Water Office (PWO) in Shefa and assist them in implementing a DWSSP. This will be achieved through a number of different activities including; providing technical training to communities and service providers, liaising with community representatives on initiatives related to sanitation improvements, carrying out surveying and developing water supply designs. Please see here for the position description: https://www.ewb.org.nz/placement_aug2020



E / S / R
Science for Communities

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ESR is well-placed to assist the Pacific region with scientific expertise, information and tools to strengthen policy, programmes and practice to achieve healthy, safe and resilient communities.

ESR's focus in the Pacific is aligned with the New Zealand Aid Programme's strategic plan and sector priorities, particularly providing scientific support to enablers of sustainable economic development (health, water supply and sanitation) and to the environment cross-cutting issue.

We work in partnership with regional organisations such as The Pacific Community (SPC), the World Health Organization (WHO), UNICEF, Pacific governments, not-for-profit organisations, and New Zealand CRIs and universities.

