

WG2 Task Team: Minimum Competency Levels for National Tsunami
Warning Centre (NTWC) Operations
Chair - Ofa Faanunu (Tonga)

| WG2 Task Team Minimum Competency levels for NTWC | Updates |
|---|--|
| 1. Establish the minimum competency levels required for NTWC operations staff | <p>Development of OTGA Suite of Tsunami Awareness Trainings; e.g. Tsunami Awareness,</p> <p>Tonga developing accredited competency certificate through Tonga Accreditation Board</p> |
| 2. Establish a framework for the required competencies required by the roles of a NTWC. | <p>Work in progress. A status survey on the draft competencies with draft framework to be completed 2022. The competencies are grouped into five categories:</p> <ul style="list-style-type: none"> • Core science knowledge • Advanced science knowledge • Core operational competency • Advance operational competency • Core agency competencies |

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| <p>3. Establish what training is required to ensure NTWC staff meeting minimum competency levels</p> | <p>Basic SeisCompP Training for ORSNET member states conducted in Oct-November 2020.</p> <p>In 2021, SPC supported ORSNET Status review revealed the need for the following trainings to upskill NTWC;</p> <ul style="list-style-type: none"> • Basic Seismic Data Centre Training - SeisCompP4 • Advanced Seismic Analysis Training – Scanloc, scolv,.... • Training on station XML creation/edition <p>Decision support tools for Local and Distant tsunami to be established under WB Prep Project and upgrade to SEISCOMP4</p> |
| <p>4. Investigate and document what schemes are currently in existence and what guidelines and principles can be adapted for this purpose.</p> | <p>Competencies collected from</p> <p>(1) PTWC and ATWC and</p> <p>(2) India</p> <p>Work in Progress</p> |

PICT Task Team: Capacity Development

Chair –Ofa Faanunu (Tonga)

PICT Capacity Development Task Team TOR

2021 Updates

1. Continue the development of competency framework for National Tsunami Warning Centers personnel and pilot it in Australia, Vanuatu, Fiji, Samoa and Tonga and report progress and lessons learnt to ICG/PTWS WG 1, 2 and 3;

The meeting noted the collaboration between Tonga and ITIC (International Tsunami Information Center) Hawaii in 2019 on the Tsunami Warning Operations Training to pilot the NTWC (National Tsunami Warning Centres) competency framework for Tsunami Watchkeepers.

Mafoa Penisoni (Tonga Geological Services) – Graduated with Masters in Seismic early Sept 2021

The meeting noted the effort of ITIC, Indonesia IOTIC, and SPC under Ocean Teacher Global Academy (OTGA) and USP to provide a suite of tsunami courses that allows tsunami watchkeepers to attain micro-qualifications or an officially recognized qualification to enable them to issue a national tsunami warning.

2. Continue to monitor and coordinate the Pilot Tsunami Ready Program and TEMPP in Samoa, Tonga, Fiji, Cook Islands, Solomon Islands and Vanuatu and review the Tsunami Ready Checklist for schools and communities in PICT

Solomon Islands officially registered National Tsunami Ready Board in June 2021.

PacWave20 Full Functional Exercise conducted for communities and schools in Fiji, Vanuatu and Tuvalu.

Tonga conducted tsunami awareness and consultations with 17 schools and communities on Ha'apai and Vava'u island. 13 communities targeted Northern Ha'apai and Tongatapu.

Samoa plans to develop a monitoring and Evaluation Framework to strengthen existing guidelines to prepare all communities to be Tsunami Ready

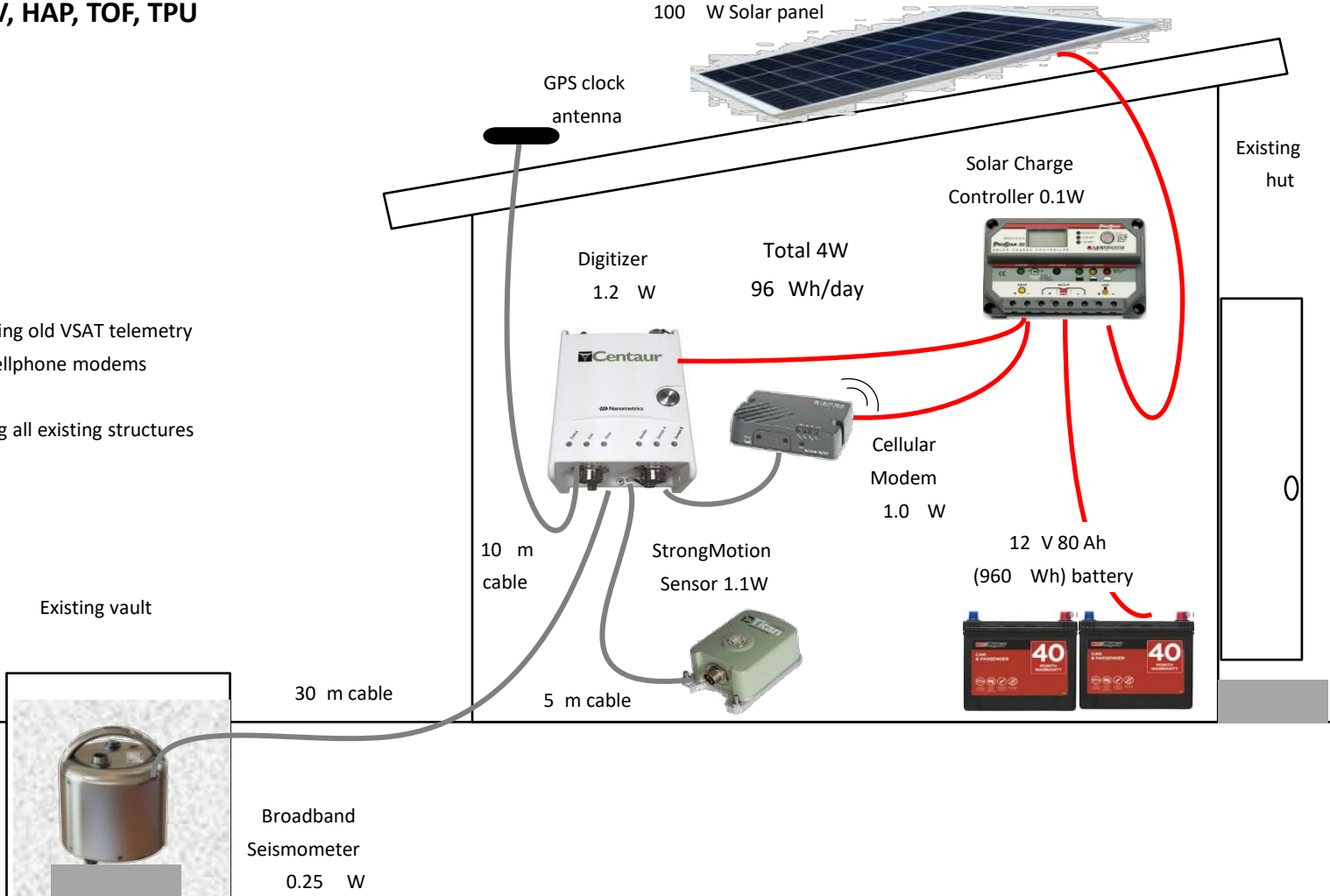
UNDP provided Tsunami Preparedness Kits for Kiribati, Federated States of Micronesia, Tuvalu, Palau and Vanuatu;

| PICT Capacity Development Task Team TOR | Updates |
|--|---|
| <p>3. Continue to develop the guideline for National Tsunami Warning Centers in responding to local tsunami and report to WG 1, 2 and 3; and</p> | <p>The meeting noted progress reported by Tonga on the use of the PTWS Draft Guideline of local source tsunami SOP at the 2019 ITIC-Hawaii training</p> <p>The meeting also noted and recognized the Draft Design of Tonga Earthquake and Volcano Monitoring Network to strengthen oceans and geohazard early warning.</p> <p>Oct -November 2021- Workshops planned for Fiji, Solomon Islands, Vanuatu and Samoa to review and adapt guidelines for NTWC in responding to local tsunami and incorporate into National Tsunami Warning SOPs.</p> |
| <p>4. Develop an online survey of warning and mitigation capabilities in the Pacific Island Countries and Territories (Member countries and IOC)</p> | <p>The meeting noted the outcome of the series of online survey and their recommendation and recognized the following capacity development or training gaps.</p> <ol style="list-style-type: none"> a. Tsunami forecasting. b. Tsunami Ready & TEMPP c. End to End Tsunami Warning and Response SOP d. Tsunami Science e. Tide-Tool Training e. Tsunami Warning Centre Operations <p>NOTE: The above list of training gaps to be validated further with each Member States.</p> <ul style="list-style-type: none"> • Following a tsunami event, the meeting noted that countries to be encouraged to debrief and prioritize shared learning and experiences within the PTWS. |

Tonga Seismic Upgrades for tsunami and volcano monitoring
(WB Pacific Resilience Project)

NFO, NTT, VAV, HAP, TOF, TPU

- Replacing old VSAT telemetry with cellphone modems
- Reusing all existing structures



100 W Solar panel

GPS clock antenna

Solar Charge Controller 0.1W

Digitizer 1.2 W

Total 4W
96 Wh/day

Cellular Modem 1.0 W

StrongMotion Sensor 1.1W

12 V 80 Ah (960 Wh) battery

Existing vault

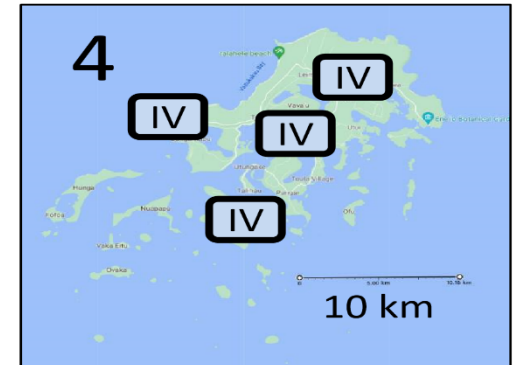
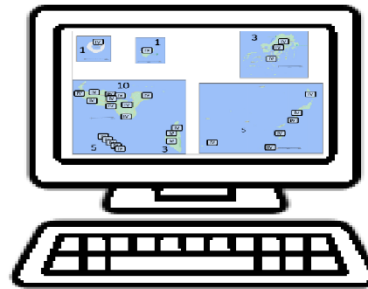
30 m cable

5 m cable

Broadband Seismometer 0.25 W

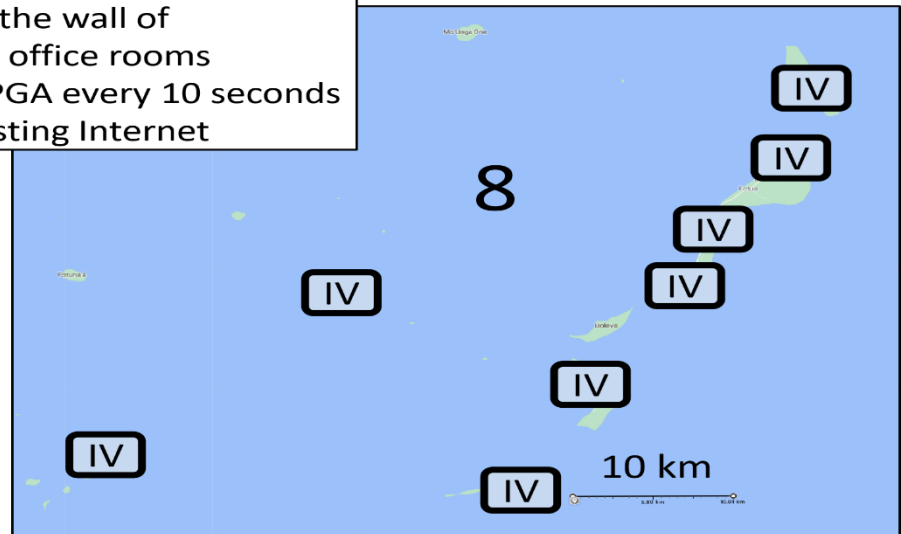
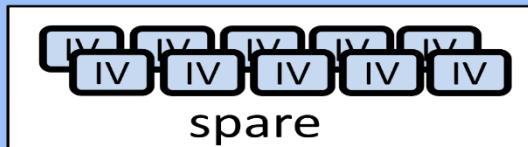
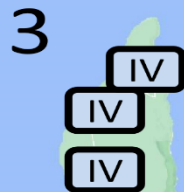
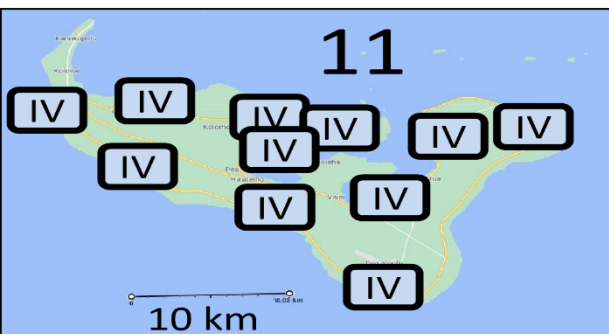
Existing hut

Realtime Seismic Intensity Monitoring for rapid assessment (near source)



Total 30 sites + 10 spare


- Installed on the wall of government office rooms
- Send MMI/PGA every 10 seconds over the existing Internet



Tonga Meteorological Service *Mofuike App*.

1. Estimate Intensity
2. Estimate how long
3. Nature of shake (then submit)

Mofuike



1. Koe ha 'a e malohi 'o e Mofuike?

2. Koe ha 'a e fuoloa 'o e Mofuike?
Sekoni 'e:

3. 'Ulungaanga 'o e mofuike.

SUBMIT

Rolling out the *Mofuike App.* in to the Community

1. Established 78 Community Authorized Officers in Vava'u (Pilot) in June 2021
2. Trained authorized officers in basic weather and earthquake (including Mercalli Scale and *Mofuike App.*)



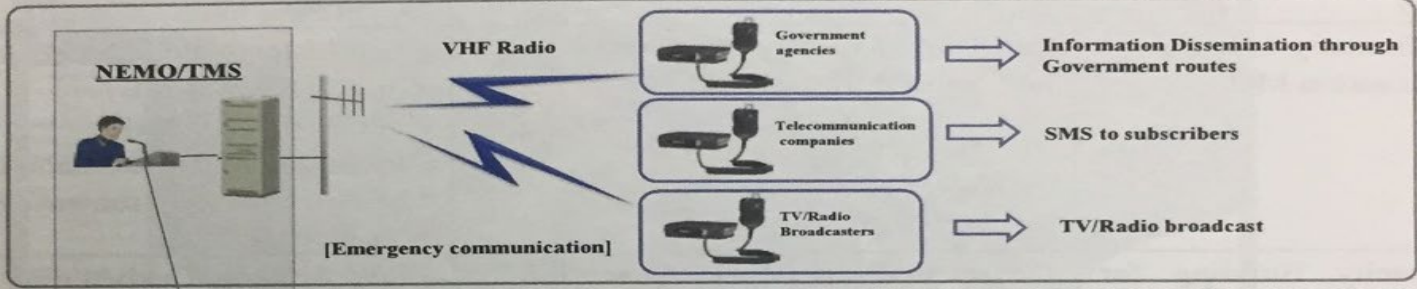
Tonga nationwide early warning alert system

(News Project)

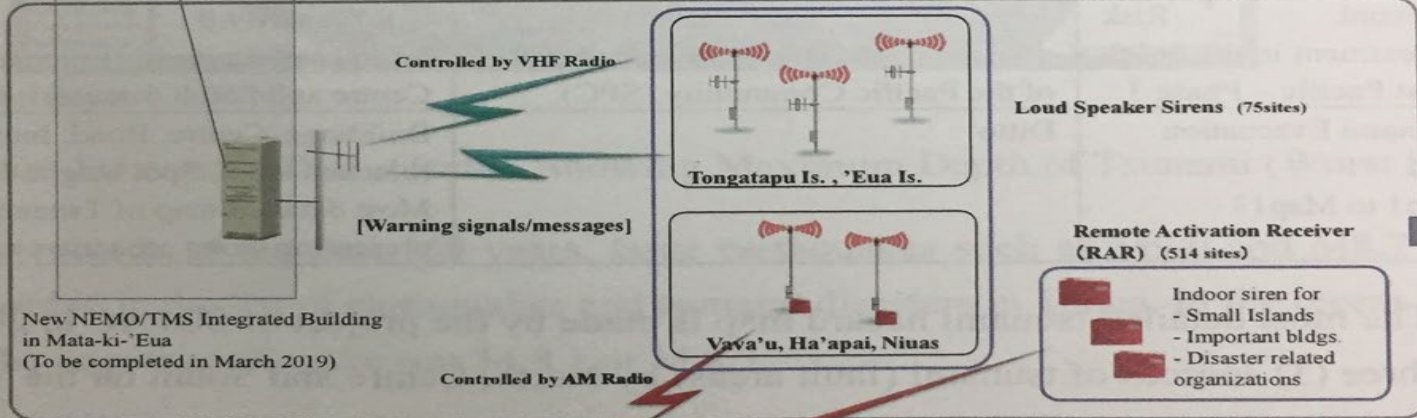
(88 Voice and Sound Sirens, 515 Community Radios Nation wide)

Tonga Nationwide Alert System

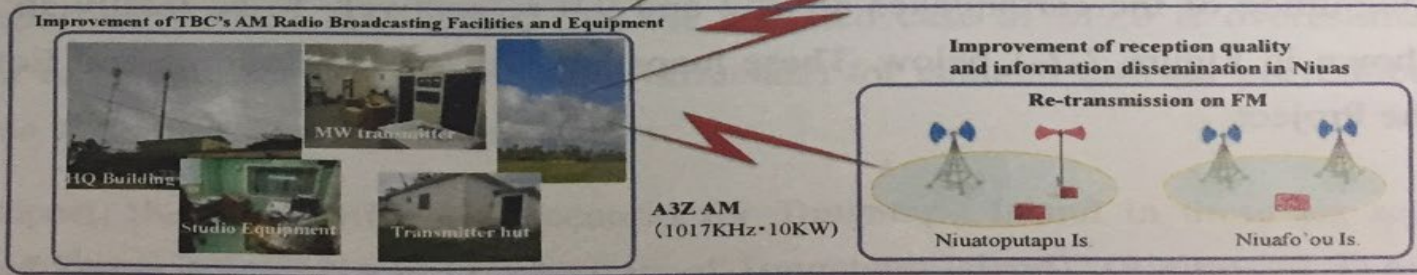
Component-1
[Emergency Radio Communication System]



Component-2
[Early Warning Sound Alert System]



Component-3
[MW Radio Broadcasting System]



Communities/General public

Source: JICA Project Team

RAR Community Radios and Sirens



Siren and RAR controls - Fua'amotu Forecasting and Warning Center

