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# **TSUNAMI DRILL SIMULATION FETUVALU SECONDARY SCHOOL NARRATIVE REPORT**



**Prepared by the Department of Disaster  
Management**

**Date: 20<sup>th</sup> November 2020**

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The project was administered under the UNDP RESPAC (Disaster Resilience for Pacific Small Island Developing States) project and Enele Epati (Education Department) was nominated as the in-country focal point for the project.

However, due to conflicting work schedules in 2019 kept on deferring the tsunami drills. The tsunami drills were then deferred when TC Tino affected Tuvalu earlier this year. The deferment continued with the Covid-19 pandemic spread worldwide. This complicated matters as priorities changed.

With the project closing this year, a pilot school was needed and with examinations looming in Term 3, we considered ourselves fortunate that Fetuvalu Secondary School agreed to pilot the Tsunami drills at the school.

For the balance of funds allocated to Tuvalu, a total of 80 Tsunami Kits were procured to be disseminated to all schools in Tuvalu to assist not only in their Tsunami response but to also build their capacity in any emergency. Only 40 kits have a megaphone. There is a total of 30 schools in Tuvalu, so there are sufficient tsunami kits to be distributed to all schools in Tuvalu.





# **Fetuvalu Secondary School Consultation(s):**

## **FIRST CONSULTATION:**

The first consultation was done on 13<sup>th</sup> October in partnership with Tuvalu Meteorological Services and Tuvalu Red Cross Society with the following objectives:

- a. Understand early warning systems provided by Tuvalu Meteorological Services
- b. Develop contingency planning for different hazards that pose a threat to the school
- c. Develop evacuation procedures in the event of a fire or tsunami.
- d. Understand Communication in Emergencies protocols
- e. Understand the importance of First Aid and Psycho-Social Support in emergencies.



## **Outcomes of the first consultation included:**

- Draft contingency plans developed for strong winds, drought, fire, tsunami, and health outbreaks for the school
- Draft evacuation procedures in place for fire and tsunami
- Draft communication in emergencies protocols

## **Opportunities:**

- Disaster Risk Reduction and Disaster Preparedness capacity building
- Development of the Fetuvalu Secondary School Disaster Management Plan
- Development of an Early Warning and Early Action Plan for the school
- First Aid training for both teachers and students
- Psycho-Social Support training for both teachers and students

## **SECOND CONSULTATION:**

The second consultation was done on the 18<sup>th</sup> November in partnership with Tuvalu Meteorological Services, Tuvalu Police Services, Education department, Public Health department, Tuvalu Red Cross Society, Tuvalu Broadcasting Corporation and the Australian High Commission.

The reason there was a huge gap between the first and second consultations was that we had to take into account Fetuvalu Secondary School examination dates and all stakeholders opted to continue the consultation after the Fetuvalu examinations had finished.

Objectives for the second consultation included:

- Fetuvalu Secondary School to review and practise their contingency plans and evacuation procedures for the Tsunami Response
- Stakeholders to review their own Tsunami Response Mechanisms to carry out their mandated roles under the National Disaster Risk Management Arrangements (2012)
- Finalisation of roles for Tsunami Drill Simulation exercise.



Outcomes of the second consultation included:

- Revised Tsunami contingency plan for Fetuvalu Secondary School.
- Confirmation of stakeholder roles for the Tsunami drill simulation.

There was also an opportunity to have an online Zoom Discussion with **Jiuta Korovulavula** from the DRR and Tsunami Warning team based at UNESCO and **Anthony Blake** – of the Pacific Emergency Management Alliance (PIEMA) team based at SPC and technical advice and recommendations from both included a:

- Revised tsunami scenario which would result in dire consequences for Tuvalu for the purpose of the simulation
- Revised stakeholder objectives for the simulation
- External partner playing the role of the Pacific Tsunami Warning Centre for the simulation

## GENERAL SCENARIO

**EVENT:** EARTHQUAKE

**LOCATION:** TONGA

**DEPTH:** 15km

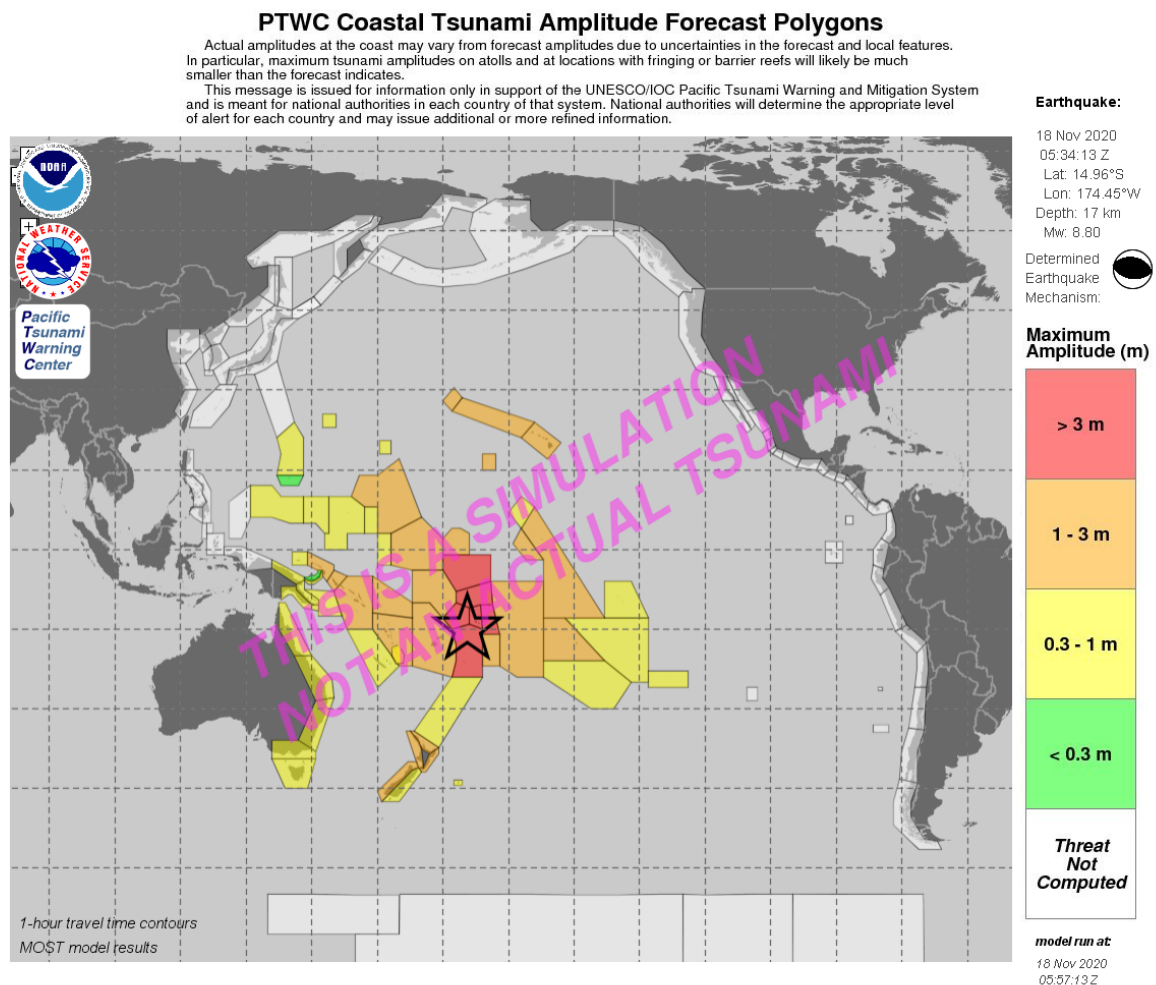
**MAGNITUDE:** 8.8

**ORIGIN TIME:** 0546 Local Time Thursday (19<sup>th</sup> November 2020)

**ETA FUNAFUTI:** 0919 Local Time Thursday (19<sup>th</sup> November 2020)

**PROJECTED IMPACTS:**

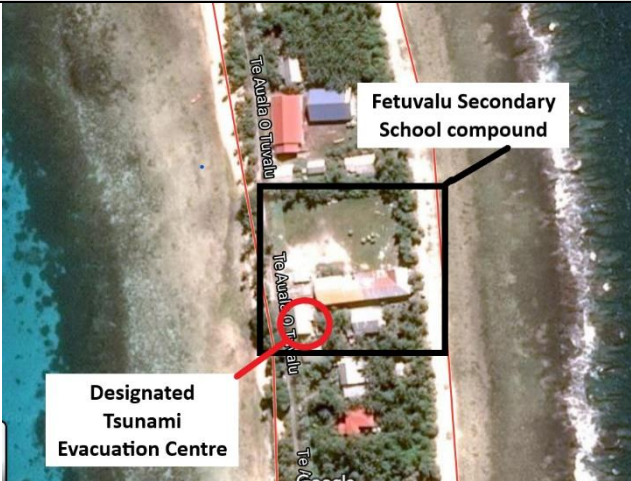
- Tsunami generated by earthquake is potentially destructive to all coastlines in Tuvalu.
- Need for authorities to take appropriate action to save lives and reduce property damage for the threat



## EXERCISE INSTRUCTIONS:

GENERAL INFORMATION	
Exercise Name	Fetuvalu Secondary School Tsunami Drill Simulation
Preparing Agency	Department of Disaster Management
References Used	National Disaster Risk Management Arrangements (2012) National Tsunami Warning and Response Standard Operating Procedure
Exercise Category	Operational
Type	Partial
Location	Lofeagai – where Fetuvalu Secondary School is located
Date	19 <sup>th</sup> November 2020
Time	7am to 10.30am
Reason for Exercise	To test Fetuvalu Secondary School Tsunami Response mechanisms
Limitations	No Disaster Management Plan, Draft Tsunami Response Standard Operating Procedures in place
Participating Agencies	Department of Disaster Management Tuvalu Meteorological Services Department of Education Tuvalu Red Cross Society Tuvalu Police Services Tuvalu Health Department Tuvalu Broadcasting Corporation Kaupule of Funafuti Australian High Commission Lofeagai Community Disaster Committee Fetuvalu Secondary School
Exercise Purpose	Test Fetuvalu Secondary School Tsunami Response
Exercise Objective	Test Fetuvalu Secondary School evacuation as per draft SOPs Test response by key agencies Test Tuvalu Met Services Warning Disemmination SOPs
Timing	From issue of first Tsunami advisory to cancellation of tsunami warning
EXERCISE PERSONNEL	
Directing Staff	Talafou Esekia (Department of Disaster Management) – Overall Folaugapati Eka (Fetuvalu Secondary School)
Support Staff	Tusi Finikaso (Department of Disaster Management) Falemalu Malua (Australian High Commission) Enele Epati (Department of Education) Tutonu Bruce (Kaupule of Funafuti) Tavau Vaaia/ Alamoana Tofuola (Tuvalu Meteorological Services)
Umpires	Tualua Tepoga (Tuvalu Police Services) Elifaleti Ene (Tuvalu Meteorological Services) Paka Melton (Department of Disaster Management)

## Section 4 | Exercise Instructions

SIMULATION DETAILS	
Scope	Fetuvalu Secondary School only
Background	Lofeagai where Fetuvalu Secondary School is located, has had a Tsunami Drill simulation and the Lofeagai Community Disaster Committee will be on standby to assist
Required Information	Draft Fetuvalu Secondary School Tsunami Response Standard Operating Procedures
SAFETY	
Safety officer	Milikini Failautusi (Tuvalu Red Cross Society)
Safety actions in case of real injury or accident	Tuvalu Red Cross first aid trained volunteers will be on standby Ambulance will also be on standby in the event of an actual injury
DAMAGE	
Damage control officer	Akelita Pesega (Public Health Department)
Action to be taken if damage occurs	All actual damages to property and physical injuries will be recorded. Also potential hazards will be identified
ADMINISTRATION	
Exercise area and restrictions  <b>Tsunami Drill simulation is limited to within the Fetuvalu Secondary School compound</b>	
Role players	Tuvalu Police Services will provide personnel and vehicle
Reporting	Department of Disaster Management
Costs	Funded by UNDP RESPAC project
SECURITY	
Security cordons & arrangements	Tuvalu Police Services will provide personnel to control traffic and cordoning of tsunami drill area
PUBLIC RELATIONS & MEDIA	
Contact person	Eleala Avantele (Tuvalu Red Cross Society) Miloitala Jack (Tuvalu Broadcasting Corporation)
Media involved	Tuvalu Broadcasting Corporation (Tuvalu TV)
Observers and visitors	None
Advice to public & nearby residents	Not to panic – just a drill. Lofeagai Community Disaster Committee to advise nearby residents



## TSUNAMI DRILL SIMULATION

### Summary of Stakeholders participating:

AGENCY	NUMBER OF STAKEHOLDERS
Department of Disaster Management	4
Tuvalu Meteorological Services	11
Department of Education	2
Department of Health	2
Tuvalu Police Services	11
Kaupule of Funafuti	1
Tuvalu Red Cross Society	3
Tuvalu Broadcasting Corporation	3
Australian High Commission	1
Lofeagai Community Disaster Committee	4
TOTAL PARTICIPANTS	44



### Summary of Fetuvalu Secondary School staff and students participating

	Male	Female	Total
Staff			16
13 years	4	7	11
14 years	16	13	29
15 years	20	15	35
16 years	9	7	16
17 years	6	12	18
			125

#### NOTE:

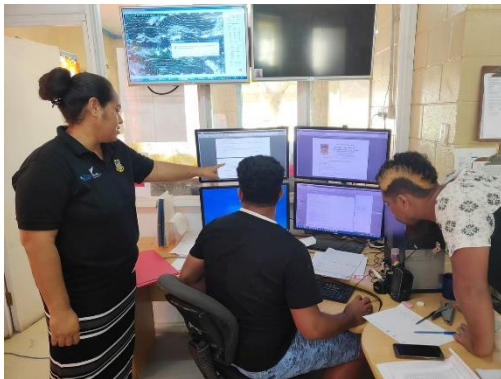
Total school role is **258 students**. As exams had already finished, not all students had come to school during the tsunami drill simulation



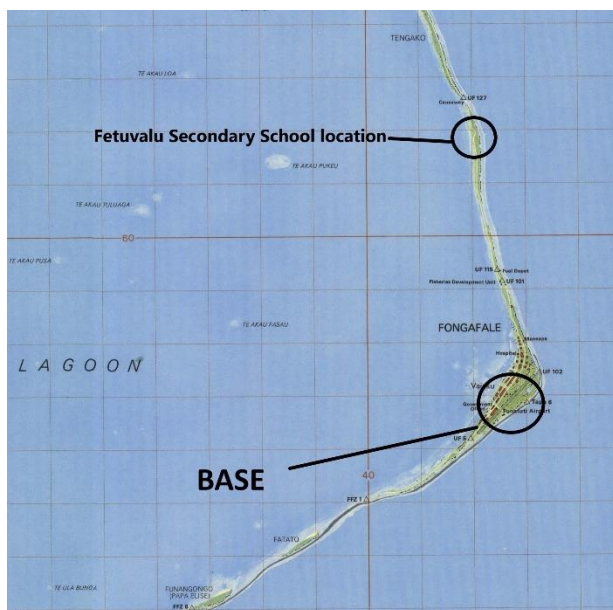
## Section 5 | Tsunami Drill Simulation

Following the Master Schedule, the Tsunami drill simulation started when the Pacific Tsunami Warning Centre (PTWC) role played by **Jiuta Korovulavula** sent the Initial Text Message about the Earthquake in Tonga.

It was agreed that there would be two teams: One team to be based at the Tuvalu Meteorological Services and the second team to be based in the vicinity of Fetuvalu Secondary School.



The team based at the Tuvalu Meteorological Services office operated smoothly following procedures outlined in the National Tsunami Warning and Response SOPs. As soon as information was received from the Pacific Tsunami Warning Centre, they analysed the information and then disseminated information to the Department of Disaster Management in a timely manner.



This was not the case for the team based in the vicinity of Fetuvalu Secondary School.

Fetuvalu Secondary School location is in a part of Funafuti which has very limited mobile phone coverage, no landline connection and is out of VHF range from Tuvalu Meteorological Services.

The first challenge was communication between the two teams as VHF and landline communication was out of question, while mobile communication was limited.

The first Tsunami Advisory was sent at 8.04am and was received by the Fetuvalu team at 8.39am after the third tsunami warning had already been sent by the Tuvalu Meteorological Services team.



Fetuvalu Secondary School Contingency Plans activated after the first message was received at 8.39am via Messenger. Teachers called out to students to initially congregate in the chapel (located on the first floor of the building) to conduct their roll-call of all students present.



## Section 5 | Tsunami Drill Simulation



Tuvalu Police Services on receipt of the initial message proceeded to cordon off the road where the school compound was, limiting traffic to interfere with the tsunami drill simulation.

The public was understanding as the Lofeagai Community Disaster Committee had already advised the Lofeagai Community of the drill.



At 9.03am (between Tsunami Warning 3 and Tsunami Warning 4), Fetuvalu Secondary School students were then evacuated to the designated Evacuation Centre as they had evaluated that they would be safer there with a projected tsunami wave amplitude of 2.98m.

The evacuation lasted 8 minutes with all students and staff inside the safe zone at 9.11am. Tuvalu Police Services played a major role in the orderly movement of students to the designated Evacuation Centre.



Included in the injects were parents (role-played by the Lofeagai Community Disaster Committee members) to periodically demand and insist that they leave with their children, as they verbally argued with the Principal that their children would be safer with them.

The results of these mock confrontation(s) will be explained in the debrief.

By 9.17am all students and teachers were in the designated safe zone prior to the estimated time of arrival of the tsunami waves at 9.19am

## Section 5 | Tsunami Drill Simulation



Another inject (9.25am) was the injury of three students. One First Aid trained staff member tended to the students' injuries.

While an ambulance was present, the driver refused to leave as the tsunami(s) were already impacting Funafuti and it was safer at the evacuation centre.

Staff members had to improvise using readily available materials in the absence of a First Aid Kit.

The all clear message was received at 9.38am. The message was then disseminated to all participants at Fetuvalu immediately.



The debriefing for Fetuvalu Secondary School teachers and students was done immediately after the all clear message was received.

This was followed by a group photo, of all participants. Fetuvalu Secondary School teachers and students had their morning tea.



Stakeholders then had their debriefing session which concluded the tsunami drill simulation.



## DEBRIEF and FEEDBACK

### WHAT WENT WELL

STAKEHOLDER	COMMENTS
Australian High Commission & Kaupule of Funafuti	<ul style="list-style-type: none"> <li>Students evacuated to the designated evacuation centre in a timely manner.</li> <li>Principal remained calm throughout and dealt with concerned parents well</li> <li>Head Boy and Head Girl stepped up into their roles and helped out</li> </ul>
Department of Disaster Management	<ul style="list-style-type: none"> <li>All staff and students were in the safe zone prior to the estimated time of arrival of tsunami</li> <li>All relevant stakeholders were represented. Shows that Tsunami Drill simulations are being prioritized by stakeholders. Since it is the pilot Tsunami drill simulation, we can use this drill as the baseline and build from there using lessons learnt.</li> </ul>

### WHAT NEEDS IMPROVEMENT

STAKEHOLDER	COMMENTS
Lofeagai Community Disaster Committee	<ul style="list-style-type: none"> <li>Communication breakdown – they received incorrect information on the dates and venue of the tsunami drill simulation.</li> <li>Requested Department of Disaster Management not to pass information to a third party but give information directly to them.</li> </ul>
Tuvalu Red Cross	<ul style="list-style-type: none"> <li>No alarm (alert system) was heard to mobilize students to designated evacuation area.</li> <li>Fetuvalu Secondary School to conduct their own Tsunami Response Standard Operating Procedures without any external assistance</li> <li>Poor coordination amongst stakeholders – Need to clarify roles (and play them) and to not congregate amongst themselves</li> <li>Ambience was too relaxed – there was no urgency in actions</li> </ul>
Health Department	<ul style="list-style-type: none"> <li>Motorcycle parking is between school building and designated evacuation centre. In the event of an actual tsunami, the motorcycles would pose a serious threat to students.</li> </ul>
Fetuvalu Secondary School	<ul style="list-style-type: none"> <li>Students need to follow teacher's lead and instructions – and not argue with them</li> <li>Students need to be appraised of the situation – there were a lot of students (who arrived late) who were not aware of what the situation was, they had just blindly followed everyone else. Briefings are essential.</li> </ul>
Australian High Commission & Kaupule of Funafuti	<ul style="list-style-type: none"> <li>Teacher's were not participating much. Didn't assist Principal with parents coming to pick up their kids in the middle of evacuation. Stood outside on the balcony of the Principal's house instead of sheltering inside with the rest of the students.</li> <li>Students to move away from the glass louvres and closer to the centre of the room</li> <li>Need a plan in place for late arrivals who got past police check points on the road</li> <li>Upset parent (father) getting arrested really doesn't help the situation</li> <li>Space at the Principal's house does not accommodate the entire school. Considering that staff and their families (and other neighbouring houses) would seek shelter at the school as it is the only high rise building in the vicinity. Is there a plan in place for them?</li> <li>When students were evacuated to the Principal's house, they lost the attendance sheets for roll call</li> <li>Sending upset parents back when the tsunami is 3 minutes away</li> <li>No access to filtered water for drinking at designated evacuation area.</li> </ul>

## Section 6 | Debrief and Feedback

STAKEHOLDER	COMMENTS
Department of Disaster Management	<ul style="list-style-type: none"> <li>• Need to establish mobile EOC when in the field with proper communications. This was very evident as communication to the Chairman of the National Disaster Committee was non-existent.</li> <li>• For the next Tsunami Drill simulation, advise partners of the day but not to give too much information to the timing of the drill as participants were anticipating actions. It would be more realistic to have only one observer (or umpire) at the school while the stakeholders mobilized from their offices to the drill site.</li> <li>• Participants are advised to “observe” only. In the event of an actual tsunami, their presence would be spread very thin responding to the whole of Funafuti. Tuvalu Police Services had to intervene when “overbearing parents” demanded that their children to be released to their care.</li> <li>• Fetuvalu Secondary School to have plans in place (with teachers playing different roles) to mitigate these gaps.</li> <li>• No First Aid Kit and only one First Aid trained teacher at the school. Recommend that the school liaise with Tuvalu Red Cross on procurement of a suitable First Aid Kit and negotiate First Aid training for all teachers.</li> <li>• Students need to be engaged when in Evacuation Centre. Agree with earlier recommendation that teachers need to engage with their students in the event of an actual emergency</li> <li>• Updated school roll information to be stored at all designated Evacuation Centre(s) and marshalling areas.</li> <li>• Regular (at least one) annual tsunami drill to be conducted at the school</li> <li>• Students admitted that they felt panic and were worried about their families during the tsunami drill. Tuvalu Red Cross offers Psychological First Aid training and this would be perfect in emergency situations.</li> </ul>



## WAY FORWARD

Both stakeholders and Fetuvalu Secondary School can benefit from the lessons' learnt from the Tsunami Drill Simulation activity.

Stakeholders were able to identify gaps in their respective Response Mechanism standard operating procedures (SOPs) and use the lessons learnt to “build back better” by improving on their respective roles.

Roll-out of Tsunami Drill simulation(s) to other schools on Funafuti and outer islands.

For Fetuvalu Secondary School, suggested way forward is to align with the Comprehensive School Safety Framework which focuses on three pillars:

### PILLAR 1: SAFE LEARNING FACILITIES

- a. Ensure that school building and designated evacuation centre are safe and accessible to all students. Despite Tuvalu not having a Building Code or an Occupational Health and Safety (OHS) framework, it is important that school building and classrooms are of an acceptable standard

### PILLAR 2: SCHOOL DISASTER MANAGEMENT

- b. Development of School Disaster Management Plan and associated contingency planning and standard operating procedures.
- c. Regular school drills for different hazards
- d. Establishment of a School Disaster Management Committee
- e. First Aid and Psychological First Aid training and procurement of appropriate First Aid kit.

### PILLAR 3: RISK REDUCTION and RESILIENCE EDUCATION

- f. Integration of risk reduction and resilience into normal curriculum.
- g. Extracurricular and community based informal education with partners such as Tuvalu Meteorological Services, Department of Disaster Management, Tuvalu Health Department, Tuvalu Police Services and Tuvalu Red Cross Society.

All partners present at drill are more than happy to accommodate any training request or connect to the appropriate stakeholder for any request that Fetuvalu Secondary School may have to address their school safety gaps and challenges.

## BUDGET

DESCRIPTION	Unit Cost	Units	TOTAL
Venue Hire	\$ 250.00	2	\$ 500.00
Day 1 Morning Tea Trays	\$ 40.00	5	\$ 200.00
Day 1 Morning Tea drinks	\$ 20.00	2	\$ 40.00
Day 1 Lunch Trays	\$ 60.00	5	\$ 300.00
Day 1 Lunch drinks	\$ 20.00	2	\$ 40.00
Day 2 Morning tea trays	\$ 40.00	5	\$ 200.00
Day 2 Morning tea drinks	\$ 20.00	2	\$ 40.00
Day 2 Lunch trays	\$ 40.00	5	\$ 200.00
Day 2 lunch drinks	\$ 20.00	2	\$ 40.00
Day 3 morning tea trays	\$ 40.00	20	\$ 800.00
Day 3 morning tea drinks	\$ 20.00	10	\$ 200.00
Disposable water cups	\$ 5.00	10	\$ 50.00
Printing and Stationeries	\$ 100.00	1	\$ 100.00
Communications cards for exercise	\$ 5.00	20	\$ 100.00
<b>TOTAL BUDGET REQUESTED (AUD\$)</b>			<b>\$ 2,810.00</b>



## ACKNOWLEDGEMENTS

The Department of Disaster Management would like to acknowledge all partners both in-country and regional for the collaborative work ensuring the success of the pilot Tsunami drill simulation for schools in Tuvalu. Partners are:

### In-Country:

Department of Disaster Management, Tuvalu Meteorological Services, Department of Education, Department of Health, Tuvalu Police Services, Tuvalu Red Cross Society, Tuvalu Broadcasting Corporation, Kaupule of Funafuti, Australian High Commission, Lofeagai Community Disaster Committee and Fetuvalu Secondary School

### Regional:

PIEMA (SPC) and UNESCO

We acknowledge UNDP RESPAC project for facilitating the funding for this initiative



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