

## Annex 1 – Template for CREWS Action Presentation Note

<b>Action Title</b>	<i>[Name of the Action]</i> Tonga Mobile Applications Community MHEW and Response System
<b>Country(ies)</b>	<i>[Country or countries, in the case of a regional Action]</i> Kingdom of Tonga
<b>Partner Country Entity / Entities</b>	<i>[Ministry/Agency/Entity within Partner Country/ies; main point(s) of contact and contact details]</i> Tonga Meteorology Service (TMS) Ministry of Meteorology, Energy, Information, Disaster Management, Climate Change and Communication (MEIDECC) Nuku'alofa P. O. Box 1380 Kingdom of Tonga  Telephone: +676 28170 or +676 7733403 Facsimile: +676 24861 Email: ofaf@met.gov.to
<b>Implementing Partner (if submission by Implementing Partner)</b>	<i>[Implementing partner, including main point(s) of contact and contact details]</i> World Meteorological Organization (WMO)  Henry Taiki, WMO Representative for the South-West Pacific Email: <a href="mailto:htaiki@wmo.int">htaiki@wmo.int</a> Telephone: +685 7525706 (Mobile); +685 25706 (Landline) & +685 21929 Ext 241
<b>Implementing Partner Requested (if submission by Partner Country)</b>	<i>Select at least 1:</i> <input type="checkbox"/> World Bank/GFDRR <input type="checkbox"/> WMO <input type="checkbox"/> UNDRR <input type="checkbox"/> No preference <i>[Please note that the requested Implementing Partner is not guaranteed; the Secretariat will review the nature of the Action and determine the most appropriate Implementing Partner, and the Implementing Partner will also need to confirm interest and availability to proceed with the Action Presentation Note in partnership with the Partner Country]</i>
<b>Action Type</b>	<i>Select at least 1:</i> <input type="checkbox"/> Continued Assistance <input checked="" type="checkbox"/> Analyses and Assessments <input checked="" type="checkbox"/> Advisory Services
<b>Early Warning System Element(s) Supported</b>	<i>Select at least 1:</i> <input type="checkbox"/> Monitoring, detection, analysis and forecasting of hydro-meteorological hazards providing lead-times for action <input checked="" type="checkbox"/> Dissemination of timely and authoritative warnings <input checked="" type="checkbox"/> Preparedness and response plans triggered by warnings and weather and climate predictions <input checked="" type="checkbox"/> Disaster risk knowledge based on the systematic collection of data and disaster risk assessment <i>[Optional: provide additional information as relevant]</i>

<p><b>Contributions to CREWS Programming Principles and Results Framework</b></p>	<p><b>CREWS Programming Principles addressed:</b>  <i>Select all relevant:</i>  <input checked="" type="checkbox"/> People-centered  <input checked="" type="checkbox"/> Gender-responsive  <input type="checkbox"/> Promotes Coherence  <input type="checkbox"/> Leverage</p> <p><b>CREWS Results Framework Outputs to which the Action is expected to contribute to:</b>  <i>Select at least one:</i>  <input type="checkbox"/> NMHSs' service delivery improved, including the development of long-term service delivery strategies and development plans  <input checked="" type="checkbox"/> Risk information to guide early warning systems and climate and weather services developed and accessible  <input type="checkbox"/> Info. and comm. tech., including common alerting protocols, strengthened  <input type="checkbox"/> Preparedness and response plans with operational procedures that outlines early warning dissemination processes strengthened and accessible  <input type="checkbox"/> Knowledge products and awareness programmes on early warnings developed  <input checked="" type="checkbox"/> Gender-responsive training, capacity building programmes provided</p> <p><b>CREWS Programme Indicators to which the Action is expected to contribute to:</b>  <i>Select at least one:</i>  <input type="checkbox"/> Loss of life  <input type="checkbox"/> Forecasting and warning capacity  <input checked="" type="checkbox"/> Access to early warning  <input checked="" type="checkbox"/> Use of risk information  <input checked="" type="checkbox"/> Capacity to disseminate warnings  <input checked="" type="checkbox"/> Capacity to prepare for and respond to warnings</p> <p><i>[Optional: provide additional information as relevant]</i></p>
<p><b>Specific Action and Objectives</b></p>	<p><i>[Max. 250 words describing the requested Action and the Objectives]</i></p> <p><b>Specific Action:</b>  To procure expert(s) / consultant(s) services to carry out the works and procure equipment and software for each component presented in the Section on 'Timeframe' – to assess, analyze, design, develop, set up, operate, host and provide training that will assist maintain and sustain Tonga's Mobile Applications Community MHEW and Response System.</p> <p><b>Objectives</b>  (1) To strengthen the capacity of TMS for disseminating hydro-meteorological and geological risk information and warnings to all users of mobile telephone (UoMT) (men, women, youth, children and people with disability) in communities and villages and urban areas.  (2) To strengthen the capacity of UoMT (men, women, youth, children and people with disability) in communities, villages, and urban areas:  (a) To have access to, and receive hydro-meteorological and geological risk information and warnings.  (b) To record and provide reports on potential and actual slow-onset and rapid developing hydro-meteorological hazardous events and related risks.  (c) To record and provide reports on earthquakes for early tsunami alerts (crowdsourcing shake intensity) and other geohazard events like volcanic eruptions.  (3) To strengthen the capacity of TMS and the National Emergency Management Office (NEMO) in partnership with other agencies for disseminating disaster management and reduction information including awareness material and evacuation procedures and locations to UoMT (men, women, youth, children and people with disability) in communities, villages and urban areas.</p>

<p><b>Need and Rationale</b></p>	<p><i>[Max. 250 words articulating why the Action is needed and how it contributes to the country's early warning system efforts; if Cont. Ass., how it builds on CREWS Project]</i></p> <p>Tonga's population of 106,759<sup>1</sup>, 51.1 % male and 49.9 % female, and 77 % resides in rural areas<sup>2</sup>, in 121 communities. 69,000 telecommunication connections in 2020<sup>3</sup>, and 62,000 UoMT. Tonga ranks second most risk country to natural hazards out of 172 countries. Tonga continues in the State of Emergency (SoE) since 15 January 2022 disaster. People are very aware that volcanic eruptions and tsunami can occur any time. Recent assessment report indicates continued volcanic eruption under seas.</p> <p>The project will build on TMS existing community Facebook pages (CFBP) for disseminating warnings to communities with the help of TMS's authorized officers assigned in each community, having direct access to CFBP and assist to disseminate warnings to communities. CFBP require TMS's authorized officers to monitor CFBP warnings and inform communities they belong with working with their District and Village Committees. This approach works well but experiences from 15 January 2022 disaster proved its limitations during quick onset events where communities need to be warned with far lesser lead time than usual. Currently, Tonga has limited warning dissemination capacity to warn large number of communities in near real-time for quick onset events. It also has greater limitations in its ability to receive quickly disaster information for communities to assist with response.</p> <p>Tonga's mobile telephone geographical coverage about 92%. The project will assist to disseminate and enable all UoMT to have direct access to warnings. Applications' features will allow 5 types of smartphones to be used, no internet data requirement for warning reaching UoMT, a siren alert to indicate warning messages for UoMT with eyesight disability, flashing screen for UoMT with hearing disability. It will also enable UoMT to prepare and send reports to TMS and NEMO.</p>
<p><b>Alignment</b></p>	<p><i>[Max. 250 words articulating the alignment between the requested Action and existing/ongoing projects, programs, plans and commitments (e.g., EWS projects supported by bilateral or multilateral funds, NAP, NDC, efforts within the Santiago Network)]</i></p> <p>The project is a pilot initiative and If results are positive it has potential for replicability in other Pacific island countries and could therefore lead to new activities for future CREWS projects. It is also aligned with these:</p> <p><b>(1) Tonga Strategic Development Framework 2 2015-2025<sup>4</sup>.</b> It sets one of its seven goals (Goal F) to commit the country to “a more inclusive, sustainable and effective land administration, environment management, and resilience to climate and risk”.</p> <p><b>(2) CREWS Pacific SIDS 2.0 project.</b> The project supports developing strategic direction for TMS for provision of effective weather, climate and ocean services including MHEWS.</p> <p><b>(3) NAP-GSP.</b> With the support from NAP-GSP, sub-objective 4.4 of Tonga's Second Joint Action Plan highlights the implementation of community development plans.</p> <p><b>(4) Tonga's INDC<sup>5</sup>.</b> Two of the 5 Action Areas (AA) under Section 3 of Tonga's INDC (2015) highlights resilience building response capability – to develop the capability for resilience building responses throughout government, the private sector, and civil society (AA 3); and resilience building actions – to implement actions that are designed towards the building of a resilient Tonga by 2035 at national, island, and community level (AA 4).</p> <p><b>(5) Pacific Resilience Program (PREP):</b> Tonga currently participating in the PREP to set up MHEWS with support from the World Bank, the Pacific Community (SPC) and the Pacific Island Forum Secretariat (PIFS)<sup>6</sup>. PREP will also provide resources to support consultations,</p>

<sup>1</sup> <https://www.worlddata.info/oceania/tonga/index.php>

<sup>2</sup> <https://www.worlddata.info/oceania/tonga/index.php>

<sup>3</sup> <https://www.worlddata.info/oceania/tonga/telecommunication.php>

<sup>4</sup> <https://policy.asiapacificenergy.org/sites/default/files/TSDf%20II.pdf>

<sup>5</sup> [https://prdrse4all.spc.int/system/files/tonga\\_indc.pdf](https://prdrse4all.spc.int/system/files/tonga_indc.pdf)

<sup>6</sup> <https://gem.spc.int/news/2020/07/strengthening-multi-hazard-early-warning-systems-in-tonga-and-samoa>

	<p>discussions and dialogues at the communities and national levels for this project. Furthermore, PREP will provide support to develop systems for “cell broadcasting” a method for sending message to multiple UoMT in a defined area, and it compliments this project.</p>
<p><b>Timeframe</b></p>	<p><i>[Projected duration, in months; must be less than 12 months or include justification for longer duration (e.g., if linked to another project that extends beyond 12 months)]</i></p> <p>Six interlinked components and the project duration of the is about 12 months. The Implementing Partner through the project will procure expert(s) services and equipment for the implementation of the project. Refer to more information as presented below.</p> <ul style="list-style-type: none"> <li>• <b>Component 1 (1 month):</b> Systems assessment, analysis and design of applications through consultations – to get better understanding of disaster risks, current and existing systems for preparing, exchanging, sharing, disseminating, and reporting on risk information and warnings, and make recommendations on how best to implement new and additional requirements.</li> <li>• <b>Component 2 (1 month):</b> Initial development and setup of applications - to procure software and equipment including database and set up workflows for developing and reviewing of applications with inputs from people in the communities, TMS, NEMO, other government agencies, NGOs and first responders’ agencies.</li> <li>• <b>Component 3 (1 month):</b> Training through workshops and consultations for communities, TMS, NEMO and other government agencies, and first responders’ agencies on the initial version of the applications - to ensure that all are trained on the use of the applications, and the applications is tested and trailed, and feedbacks are provided to the applications developer.</li> <li>• <b>Component 4 (1 month):</b> Training through workshops and consultations for TMS and NEMO on the use, operation, maintenance of the applications, and develop contents and deliver warnings to communities effectively.</li> <li>• <b>Component 5 (1 month):</b> Training through workshops and consultations for TMS, districts and villages officers in all communities - to be able use the applications to provide report on actual and potential risks of hydro-meteorological, geological (including earthquakes and volcanoes) and ocean conditions and events from the communities. This will also ensure managing flow of information and warnings from the national level to the districts, villages and communities, and vice-versa.</li> <li>• <b>Component 6 (2 months):</b> Training through workshops and consultations for personal from national government and other first responders agencies such as NEMO and MoH, NGOs, Tonga Red Cross Society, Private sectors, and Ministry of Police and Fire Services on the use and operation of the applications to enable them to respond</li> </ul>

**Action Cost (To be completed by Implementing Partner)**

*[Action amount requested in USD, including Implementing Partner fees]*

Table 1 presents the project's budget as per output including implementing partners (WMO) fees. Refer to the Attachment 1 for detailed information on the project's components, outputs, activities and timeframe from which the budget is derived.

Output 1.1 will focus on assessment and analysis; Outputs 2.1 & 7.1 will address development of tools such as software and database; and Outputs 3.1, 4.1, 5.1 & 6.1 will address training (Refer to Table 2)

**Table 1: Budget related to project's outputs including implementing partners fees.**

Outputs	Budget (USD)
1.1. Report on assessment and analysis of existing, current and new systems, design of the applications, recommendations on requirements including target devices for the applications (at least the 5 most used smart mobile telephones) and how best to implement the applications, endorsed by the Government through national and communities' consultations.	21,000
2.1. Initial version of applications and database developed and operational for testing and enhancing through national and communities' consultations.	21,000
3.1. People in all 121 communities are trained to use, trial and test the applications and provided further requirements for improvement.	21,000
4.1. TMS and NEMO personal are trained to use, trial, test, operate, maintain, and develop and deliver contents via the applications and provided further comments and recommendation on further requirements for enhancement.	21,000
5.1. Authorized TMS and district and villages' officers in each community are trained to use the applications to enable them to have direct access to warnings, prepare reports hydro-meteorological and geological events and conditions from their villages and send these to TMS.	21,000
6.1. TMS, NEMO and other government and first responders personal and officials are further trained to use the applications to create and disseminate awareness materials to communities.	42,000
7.1. Applications final testing, updating and enhancement, tested and trailed through communities-wide and nation-wide exercises, officially handed to the Government of Tonga, closing of project including preparation and submitting of final reports	42,000
<b>A. Total Project Costs</b>	<b>189,000</b>
<b>B. Project Implementing Partner Fees</b>	<b>24,570</b>
<b>A + B. Total Project Amount for Financing Requested</b>	<b>213,570</b>

**Table 2: Summary of Table 2**

Outputs	Summary of project's outputs	Budget (USD)
1.1	Report on assessment, review analyses of system which will include recommendations and design of the application, endorsed by the Government of Tonga.	21,000
2.1 & 7.1	Development of applications and database, including final test testing and official handing over to the Government of Tonga.	63,000
3.1, 4.1, 5.1 & 6.1	Training on the use, operation, maintenance of the applications and database.	105,000
<b>A. Total Project Costs</b>		<b>189,000</b>
<b>B. Project Implementing Partner Fees</b>		<b>24,570</b>
<b>A + B. Total Project Amount for Financing Requested</b>		<b>213,570</b>

<b>Attachments</b>	<i>[Country Endorsement Letter or similar<sup>7</sup> if submission by Implementing Partner]</i> <i>[Detailed Activity List to be provided by Implementing Partner]</i> <i>[Detailed Budget to be provided by Implementing Partner]</i>
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<sup>7</sup> This can include existing Letters or Frameworks in place between the Implementing Partner and Partner Country or Countries in the event that the scope of engagement includes the specific early warning system Action being requested. For Regional Action requests, the Endorsement Letter or similar existing Letter or Framework can originate from relevant regional institutions.