



CDEM Resilience Fund project application form

Application for CDEM Resilience Collaborative fund approval	
Project title	Community Resilience Mapping Toolkit
Date of application	29 th July 2014
Details on application	
Lead local authority	WREMO on behalf of region's councils
CDEM Group	Wellington CDEM Group
Other local authorities or Groups supporting the proposal	
Project description	
<p>Executive summary</p> <p>This project intends to inform the practice and development of a community resilience mapping tool. This is an online, open-source map that allows people to socially connect to support and build societal resilience in the community by sharing hyper-local events and information. It promotes emergency preparedness before an emergency using ordinary technology (cell phones and other mobile devices).</p> <p>The first component in developing this tool is to better understand <i>how to orchestrate</i> community resilience mapping, based on practice-led research; and then document this as a step-by-step guide. Once this guide is developed, it will be used to connect with existing crisis mapping techniques, and delivered through an open-source software platform. This project will have strong collaborative stakeholder engagement with WREMO partners, researchers, and community leaders. It is an innovative, practice-led, stakeholder engaged and <i>holistic</i> tool, to build societal resilience for emergency management.</p> <p>An up-to-date map with information for both emergency management practitioners and communities will have dual benefits. The map connects and helps people to foster relationships with the community. Following an event, the map <i>pivots</i> to use those connections so communities feel empowered to help themselves whilst providing CDEM officials with locally-sourced information.</p> <p>Funding will enable a pilot practice for a community resilience map that is tested with community stakeholders, evaluated for its usability, and practicality from which a 'good practice guide' can be generated.</p>	
<p>Problem/opportunity</p> <p>Although the subject of community mapping has been previously explored, there is a need for a <i>good practice guide</i> to assist emergency practitioners utilise this type of capability before, during, and after an emergency event. Such a guide would outline those practices that are effective and desirable for the public, how to best capture information, how best to filter, share and display information, what functions are most useful to integrate into emergency management, and how to avoid any burdensome overhead required to manage the resulting product.</p>	

In addition, research has indicated that community relationships which are built before an event deliver a cohesive community response following an event, and well into recovery. This is the forefront idea behind the community resilience mapping process - how to foster community connectedness, so that communities can be better prepared before, during, after an emergency, and into recovery. This project addresses this gap in an unprecedented approach by providing information that is cohesive, filtered, streamlined, and visually represented on a map. This is an opportunity for the entire sector to capture a new approach to emergency management through community engagement:

- The use of collaborative technologies to their best advantage whilst providing filtered information, both before and following a disaster, in an easy-to-understand map.
- Providing public information in an organized, streamlined, and coherent manner in a visual map that combines information from different sources; provides a communication channel; and shows hyper-local neighbourhood information.
- An opportunity to collaborate with practice-led stakeholders to identify a model for a pilot practice which is then refined iteratively to get a good practice guide on community resilience mapping.

Alignment with identified goals and objectives

This project aligns with the National CDEM Strategy's four goals.

1) Increasing community awareness, understanding, preparedness and participation in Civil Defence Emergency Management:

- The community resilience mapping process will enable people to connect with one another within their communities. Fostering these relationships before an event promotes greater community cohesion and participation, which following an emergency event, enables a community to cooperatively work together; thus, creating societal resilience before an emergency event.
- The community mapping process will show localised hazards that are relative to people's neighbourhoods and communities - creating a customised hazard profile that is engaging and appealing, through a mapping format on a platform that is visited for purposes other than solely emergency preparedness.

2) Reducing the risks from hazards to New Zealand:

- The community resilience map will educate the community on hazards that are specific to different communities.

3) Enhancing New Zealand's capability to manage civil defence emergencies:

- Improves social capital and provides on the ground intelligence in the form of map developed by the community.

4) Enhancing New Zealand's capability to recover from civil defence emergencies:

- The mapping tool can be used as one of the main mechanisms to reinstate community services as soon as possible following an emergency. For example, the community identifies issues such as electricity outages or broken pipes.
- The guide can inform practitioners on how to obtain localised information to customise recovery efforts, especially the worst-affected suburbs following an emergency.

Dissemination of benefits to sector

A range of CDEM sectors can benefit from this best practice guide:

- 1) This is an opportunity to align with the national recommendations for consistency.
 - The guide and the mapping tool can be extended across New Zealand to meet the National CDEM Strategy.
 - The mapping tool can be built as a national and international model because it uses open source software. The development of this toolkit would position New Zealand as a world leader in the resilience and crisis mapping space and build local capacity that can be exported.
- 2) Enable adoption of public alerting tools for monitoring and engagement.
 - The guide will be implemented using technology already used by the mass population (mobile phones, desktops, and tablets), which means information can reach the greater population of New Zealand.
 - Because the mapping tool is fun and interactive, it provides the sector a unique opportunity to engage with youth in our community— one of hardest demographics to engage with for emergency preparedness.
- 3) Undertake research with national applicability
 - An opportunity to create a process-driven good practice guide that will be collaborative and practice-led will highlight what works and what does not. The community resilience tool offers adaptability, so the map can reflect unique community characteristics across New Zealand.
- 4) Partnering with existing world leaders
 - By partnering with the Sahana Software Foundation, who has developed broadly similar projects throughout the world, WREMO can draw on their experiences in this field. This relationship will also provide further opportunity for this project to be recognised internationally. Note: This partnership does not equate to the adoption of Sahana Software for this project at this point.

Project design		
Project manager	Dan Neely (WREMO), Sonali Chandratilake (WREMO)	
Other project members	Jason Paul (WREMO), Diogo Freire	
External providers/contractors	Michael Howden External Tech Provider	
Deliverables		
Milestone	Date for completion	Cost
Project Start: create project outline	1 July 2015	
Literature Review: identify existing models from wide range of fields, which can be adapted for emergency management. Narrow down sample of workable models.	1 August 2015	\$1000
Engage with the stakeholders to select a model for the pilot study Carry out a workshop.	1 September 2015	\$1000
Model adaptation and technical support. Select and customise open-software tool.	1 October 2015	\$10,000
Collect data for model input Workshop for models	1 November 2015	\$ 5000
Run model 1: Pilot the tool with the stakeholder group, provide relevant information. Review, evaluate and develop as required	December 2015-January 2016	\$ 10,000
Run model 2: Engage with Stakeholders: Review, evaluate and develop as required	February 2016- March 2016	\$ 10,000
Run model 3: Engage with Stakeholders: Review, evaluate and develop as required	March 2016-April 2016	\$ 10,000
Final review, evaluations, and recommendations	May 2016	\$ 5000
Write and print best practice guide	30 June 2016	\$3000
Total		\$55,000

Identified risks	
Risk	Suggested management
Securing data for pilot study	To make sure the data used for the pilot practice complies with the Privacy Act 2002. The software will be tested to a closed stakeholder group to ensure privacy of information is maintained.
Mapping technology and methods are constantly changing, which means, the selected software may become out of date once completed	Monitor community mapping tools throughout the project so information is up-to-date and relevant. Nonetheless, the lessons learnt from the iterative process testing are transferable irrespective of evolving technology.
Funding request and use	
CDEM resilience fund contribution	\$53,000
Local authority contribution	\$2,000
Other sources of funding	Nil
Expenditure	Project Manager (external) - \$22,000 Consultant and printing of evaluation report - \$8,000 Software development and testing - \$25,000
Application confirmation	
Approval of Chief Executive	B Pepperell, WREMO
CDEM Group comment	
Comment	
Approval of Coordinating Executive Group Chair	P. Dougherty, CEG Chair