

Recommendations

- MCDEM to initiate discussions with CDEM Group Recovery Managers on recovery work streams and the development of the framework for recovery arrangements.
- MCDEM to consider the scheduling of a recovery-focused exercise as part of the National CDEM Exercise Programme in order to effectively test recovery arrangements at national and regional levels.

5.5 Objective 5: Information management

This objective was designed to measure the management of information across the CDEM spectrum, both horizontally and vertically, through the communication of incident information to agencies involved in the response; management of support requests; and the production and dissemination of agency situation reports.

Operational finding 1: Standard procedures for the dissemination and storage of information were not followed consistently under the pressure of the Exercise

There were inconsistencies in the way that agencies across the CDEM spectrum transmitted and stored information during the Exercise. This resulted in the level of situational awareness by agencies being sporadic in some cases, leaving some participating agencies under-prepared to fully support the overall response.

At the national level this was evident when, due to time pressures and an inundation of requests for information, processes for verifying information were not always followed, meaning that some unverified information was included in formal products. The same pressures affected the information outputs of agencies more generally - not all agencies were able to produce and disseminate situation reports or status reports as required by Standard Operating Procedures. Use of the Emergency Management Information System (EMIS) for access to and storage of information was similarly inconsistent, meaning that all agencies were not using the same information platform.

The lack of a spatial tool for showing and sharing rapid disaster impact assessments (to provide a situational picture) was identified as a key issue.

Recommendations

- Review the National Crisis Management Centre information management process.
- Develop a spatial tool for showing and sharing rapid disaster impact assessments.

5.6 Objective 6: Public information management

The aim of this objective was to measure how participating agencies were able to prepare tailored information for an audience, provide timely, accurate and clear information to the public; and align and coordinate messages reflecting response priorities and government priorities across a range of platforms.

It should be noted that a number of participating agencies elected not to exercise or test this objective in full or in part. Only the National Crisis Management Centre had the physical presence of simulated media.

Operational finding 1: Public information was disseminated through a wide variety of channels and extensive 'reach' was achieved.

The Exercise scenario of a regional-source tsunami originating in the Kermadec Trench region would affect the entire New Zealand coastline. In such an event the dissemination of accurate

information to the general public is time critical initially, and continuously demanding as the event develops, response commences, and the public's awareness and appetite for information increases.

The Exercise provided an opportunity to test Public Information Management (PIM) procedures across a range of platforms, including video and media briefings, and social media (Facebook and Twitter) and web-based activity. A suite of key messages was pre-prepared and distributed via the Broadcast MOU, which provides arrangements for national radio and television messaging. The Director CDEM, as media spokesperson, provided regular updates to media on the event. At the CDEM Group level, public information was disseminated via traditional and social media, web-based services, SMS text, the New Zealand Red Cross Hazard App (used for educational information dissemination, not as an alerting tool), and radio and news media. On review, it was evident that the suite of key messages was appropriate and was utilised by other agencies for their own public information purposes.

The Exercise raised questions about whether GNS Science's communications capabilities could be utilised more effectively. GNS's GeoNet web platform is a resource that is used for communications about earthquakes but does not extend to tsunami because GNS is not the official provider of warnings and advice. Considering the popular appeal of the various GeoNet information platforms (99,000 Facebook users, 62,000 Twitter followers and 320,000 mobile app users), this was identified as a lost opportunity.

Recommendation

- In conjunction with GNS Science, review the ability of MCDEM to better utilise the communications capability of GeoNet.

5.7 Objective 7: Business continuity

The aim of this objective was to measure business continuity arrangements within agencies through identification of essential and non-essential business outputs; and the capacity to meet essential business requirements simultaneously in response, adjusting any business continuity plans if appropriate.

Operational finding 1: Business continuity planning requires attention

Focus on the business continuity objective was variable across agencies - the majority of CDEM Groups and support agencies did not test this objective as part of their exercise activities. Only one CDEM Group (Auckland CDEM Group) met the all KPIs for this objective.

The CDEM Groups and support agencies that did consider business continuity, used the exercise as a mechanism to improve on their existing plans. Auckland CDEM Group advised that, overall, the structured approach to business continuity management worked well, though gaps were identified in the depth of personnel resources needed for both CDEM and business continuity responses.

Strain on personnel resources over the extended response time of an event of the scale of Exercise Tangaroa was a consistent theme from evaluators as was reliance on technology to complete critical functions. More specifically, MCDEM is reliant on the National Crisis Management Centre to complete its functions during an emergency (to varying extents this applies to other agencies that maintain a physical presence in the National Crisis Management Centre). The Ministry is currently leading work to explore alternative arrangements for national coordination during large-scale emergencies.

Recommendations

- Consider the scheduling of a business continuity exercise as part of the CDEM Exercise Programme to test business continuity arrangements at national and regional levels.
- Develop alternative arrangements to the National Crisis Management Centre in Wellington for national coordination during large-scale emergencies.

5.8 Objective 8: Continuous improvement

The aim of this objective was to measure whether there was integration of previous lessons identified from events and exercises in order for continuous improvement through coordinated evaluation processes, post activity reporting and information sharing.

For this purpose, a coordinated evaluation process was developed with clear requirements and a suite of evaluation forms tailored to specific agencies and phases of the exercise. Evaluators were appointed at the national and regional level, however, due to the number of agencies involved in the Exercise there was some difficulty in sourcing suitable evaluators, which meant that some agencies' staff had dual roles in response and evaluation.

Some support agencies did not complete evaluations. This was partly because, following the Exercise, agencies were occupied responding to the East Cape earthquake event in September 2016 and the Kaikoura earthquake and tsunami of 14 November 2016. The majority of support agencies did not test information collection and sharing for the purposes of continuous improvement as part of their Exercise activities.

Recommendation

- Communicate and establish evaluation activities for all agencies in future CDEM exercises.

5.9 Objective 9: Collaborative relationships

The aim of this objective was to measure whether relationships between agencies had been developed through information sharing and best practice in order to enhance interagency knowledge, capability and resilience.

Operational finding 1: Exercise Tangaroa has strengthened collaborative relationships between agencies.

Planning for Exercise Tangaroa took place over a period of 12-months leading up to the Exercise. At the national level, preparation included workshops for staff from CDEM Groups and government agencies, exercise writing courses for CDEM Groups, and structured practice in the National Crisis Management Centre for Liaison Officers from agencies participating in the Exercise. At the regional level, CDEM Groups engaged with local partner agencies as part of their planning for the Exercise. Collectively these engagements strengthened relationships between support agencies at the national level and the linkages between agencies and CDEM Groups at the regional level.

Features of the Exercise were testing of the operability of the new Welfare arrangements in the National Civil Defence Emergency Management Plan, and the exercising of the International function at full capacity for the first time in a national level exercise. It was evident during Exercise activities (and the response to the East Cape earthquake and tsunami event that occurred during the Exercise schedule) that the resulting skill development, information sharing and collaboration in the sector has enhanced New Zealand's response and recovery capability for future events.

The improvement cycle is ongoing. Post-Exercise workshops have been conducted with CDEM Group representatives and a corrective action plan has been developed.

Section 6 Concluding observations

Exercise Tangaroa 2016 was developed to test arrangements for preparing for, responding to, and recovering from a national tsunami impact originating from a regional-source. Overall, the Exercise provided an insight into the required levels of response to a tsunami event that impacted multiple regions.

The Exercise was a joint local government and central government exercise with an emphasis on multi-agency coordination. As well as response, the Exercise tested preparedness through the exercise planning process with agency pre-planning and tsunami and other response plans being updated in order to conduct an accurate test as part of the response. The high level of effective engagement and multi-level collaboration between agencies was a highlight of the Exercise.

The Exercise was a very well organised, documented and executed national level exercise. It was the largest exercise of this scale conducted under the National CDEM Exercise Programme and involved the testing of the operability of the new Welfare arrangements in the National Civil Defence Emergency Management Plan, and the exercising of the International function at full capacity for the first time.

The lead-up preparation and coordination of participating agencies was excellent and, overall, the execution of the exercise was efficient and timely. In-depth detailed planning by the Exercise Coordinators was a major contributor to the success of the Exercise.

Exercise Tangaroa did not meet all of its objectives and KPIs and the reasons for this have been documented in this report, however, the Exercise has substantially improved New Zealand's preparedness for future real events. Since the Exercise, a Corrective Actions Plan has been developed and a number of projects and initiatives addressing the recommendations in this report have been commenced or completed. Some of these include:

- investigation of options for a 24/7 'awake' warning centre.
- launch of a new tsunami campaign "Long or Strong, Get Gone" in early-December 2016 <http://www.civildefence.govt.nz/get-tsunami-ready>
- establishment of an alternative National Crisis Management Centre in Auckland (should the Wellington facility be rendered inoperable for any reason).
- CDEM training for an additional 200-300 staff across government.
- upgrading of the National Warning System, to improve the process for warning and providing information to the CDEM sector and the media.
- introduction of a Cell Broadcast warning system, with the capability to provide warnings directly to the public.
- establishment of a National Crisis Management Centre Information Management Project, to focus on enhancing information management processes.

Annex A: Objectives and Key Performance Indicators (KPIs)

Exercise Objectives	Sub-objectives	Key Performance Indicators
1.0 Lead a coordinated interagency response.	1.1 Identify threat of major incident.	1.1.1 Incident identified as a major incident requiring the activation of the National Security System
		1.1.2 Incident identified as a threat according to the MCDEM thresholds
		1.1.3 Incident identified as a threat according to CDEM Group and local authority thresholds
	1.2 Processes for considering and declaring a state of emergency are followed at all levels.	1.2.1 Identify criteria for making a declaration and apply this criteria to the decision making process
		1.2.2 If making a declaration, the correct process is followed (gazetting, current forms, etc.)
	1.3 Activate coordination centres at all required levels in accordance with standard operating procedures.	1.3.1 Lead agency activates a coordination centre in accordance with standard operating procedures.
		1.3.2 Key stakeholders are identified and informed of the activation(s).
		1.3.3 Liaison arrangements are activated in accordance with standard operating procedures.
		1.3.4 Welfare arrangements are activated in accordance with standard operating procedures.
		1.3.5 Lifelines arrangements are activated in accordance with standard operating procedures.
	1.4 Develop an effective action plan in accordance with standard operating procedures.	1.4.1 Planning processes are followed by the lead agency as established in standard operating procedures.
		1.4.2 The systems, processes and resources are appropriate for developing the action plan.

		<p>1.4.3 Options, analysis of threats and associated risks are embedded in the development of the action plan.</p>
	<p>1.5 Coordinate a tsunami response in accordance with the lead agency's emergency plan, the action plan, CIMS, and legal/policy frameworks.</p>	<p>1.5.1 Liaison arrangements are established and maintained as required throughout the duration of the response.</p>
		<p>1.5.2 Response is managed in accordance with plans and within mandated frameworks.</p>
		<p>1.5.3 Lead agency is able to delegate tasks to support agencies within legal frameworks.</p>
		<p>1.5.4 Agencies confirm their ability to carry out the delegated tasks in a timely manner in accordance with standard operating procedures.</p>
		<p>1.5.5 As appropriate, implement site, local, regional and national levels of coordination.</p>
	<p>1.6 Lead coordination centres in accordance with standard operating procedures.</p>	<p>1.6.1 Lead agency manages an interagency coordination centre.</p>
		<p>1.6.2 Lead agency is able to sustain an operational response for the length of time required.</p>
		<p>1.6.3 Lead agency can demonstrate there is a process in place to be able to return to business as usual following a response to a major incident.</p>
<p>2.0 Support a coordinated interagency response.</p>	<p>2.1 Support identification of threat of major incident.</p>	<p>2.1.1 Agency supports the identification of a threat as a major incident requiring the activation of the National Security System</p>
	<p>2.2 Activate coordination centres at all required levels in accordance with standard operating procedures.</p>	<p>2.2.1 Support agency activates a coordination centre, where required, in accordance with standard operating procedures.</p>
		<p>2.2.2 Lead agency and other key stakeholders are identified and informed of the activation(s).</p>
		<p>2.2.3 Liaison arrangements are activated in accordance with standard operating procedures.</p>

		<p>2.2.4 Welfare arrangements are activated in accordance with standard operating procedures.</p>
		<p>2.2.5 Lifelines arrangements are activated in accordance with standard operating procedures.</p>
	<p>2.3 Support the development of an action plan in accordance with standard operating procedures.</p>	<p>2.3.1 Support agency contributes to the lead agency planning processes as established in standard operating procedures.</p>
		<p>2.3.2 Threats and associated risks identified by the support agency are considered in the development of the action plan.</p>
		<p>2.3.3 Support agency develops an action plan to detail the tasks assigned to it by the lead agency.</p>
	<p>2.4 Support a tsunami response in accordance with the lead agency's emergency plan, the action plan, CIMS, and legal/policy frameworks.</p>	<p>2.4.1 Liaison arrangements are maintained as required throughout the duration of the response.</p>
		<p>2.4.2 Response is supported in accordance with plans and within mandated frameworks.</p>
		<p>2.4.3 The systems, processes and resources are appropriate for implementing the action plan.</p>
		<p>2.4.4 Agencies confirm their ability to carry out the delegated tasks in a timely manner in accordance with standard operating procedures.</p>
		<p>2.4.5 As appropriate, implement site, local, regional and national levels of support.</p>
	<p>2.5 Support coordination centres in accordance with standard operating procedures.</p>	<p>2.5.1 Support agencies are able to support the inter-agency coordination centre as required by the lead agency.</p>
		<p>2.5.2 Support agencies are able to sustain an operational response for the length of time required.</p>

		2.5.3 Support agencies can demonstrate there is a process in place to be able to return to business as usual following a response to a major incident.
3.0 Conduct effective high level All of Government decision making.	3.1 National Security System activated and effective within acceptable period of time.	3.1.1 NSC, ODESC and Watch Groups (National Security System) established as appropriate in a timely manner in accordance with standard operating procedures.
		3.1.2 Relevant National Security System Groups provide strategic direction to relevant agencies, allowing comprehensive operational planning as required.
		3.1.3 Decisions are communicated to key stakeholders in a timely manner in accordance with standard operating procedures.
		3.1.4 Relevant National Security System groups monitor and evaluate decisions throughout the incident.
	3.2 Effective communication with key stakeholders	3.2.1 Coordination of domestic and international stakeholders as appropriate in accordance with standard operating procedures.
4.0 Initiate the transition of response to recovery including planning and arrangements.	4.1 Effective integration of response and recovery planning	4.1.1 Demonstrate that consideration of early recovery is incorporated into response planning
		4.1.2 Planning documents demonstrate an awareness of likely medium and long term impacts of response actions and decisions
	4.2 Consider appropriate recovery arrangements.	4.2.1 Establish recovery arrangements that demonstrate an understanding of current frameworks and processes
		4.2.2 Conduct a transition from response to recovery in accordance with established recovery arrangements.
		4.2.3 The systems, processes and resources are appropriate for developing the recovery plan.

		4.2.4 Options analysis of threats and associated risks is embedded in the development of the recovery plan.
5.0 Effectively manage information horizontally and vertically	5.1 Incident information is effectively managed and communicated by all agencies involved in the response.	5.1.1 A strategic communication plan is developed.
		5.1.2 A strategic communication plan is implemented.
		5.1.3 Accurate information is communicated internally in a timely manner in accordance with standard operating procedures.
		5.1.4 Information is communicated across appropriate internal and external stakeholders in a timely manner to create a common operating picture.
		5.1.5 Information is appropriately stored in accordance with standard operating procedures.
		5.1.6 Each agency has the appropriate equipment and resources to share and manage information effectively.
		5.1.7 Lifeline utilities make contact with CDEM and provide status reports and establish an appropriate line of contact.
	5.2 Support requirements are effectively communicated.	5.2.1 Domestic support requests are effectively managed in accordance with standard operating procedures.
		5.2.2 International support requests are effectively managed in accordance with standard operating procedures.
	5.3 Situation reports effectively fused from various sources and promulgated in a timely manner to relevant stakeholders.	5.3.1 Situation reports accurately disseminated to key stakeholders in accordance with standard operating procedures.
6.0 Deliver effective public information management	6.1 Public communications reinforce confidence in the response and provide appropriate levels of public assurance	6.1.1 Provide timely, accurate, and clear information to those who need it in accordance with standard operating procedures.

		<p>6.1.2 Messages align with and support the operational response and government priorities.</p>
		<p>6.1.3 Proactive messaging across the full range of platforms meets the demand for accurate information.</p>
		<p>6.1.4 Public information/messaging is coordinated and consistent across agencies.</p>
<p>7.0 Implement business continuity arrangements.</p>	<p>7.1 Agency is able to continue to effectively meet essential business as usual outputs.</p>	<p>7.1.1 Essential and non-essential business outputs are identified.</p>
		<p>7.1.2 Agency has, or is able to acquire from other agencies, the capacity needed to meet essential business requirements whilst simultaneously meeting response requirements.</p>
		<p>7.1.3 Each agency's business activities are adjusted and communicated in accordance with business continuity plans.</p>
<p>8.0 Integrate lessons identified from previous events and exercises in order to engender a culture of continuous improvement.</p>	<p>8.1 Evaluation and post activity reporting of the inter agency outcomes is undertaken.</p>	<p>8.1.1 Evaluation is coordinated by the lead agency against relevant national objectives.</p>
		<p>8.1.2 Supporting agencies provide relevant information to the post activity reporting.</p>
	<p>8.2 Continuous improvement processes are implemented.</p>	<p>8.2.1 Information is collected and shared with relevant agencies by the lead agency to allow continuous improvement across government.</p>
		<p>8.2.2 During the development of inter-agency exercises, previous lessons identified are integrated by the lead agency.</p>
<p>9.0 Further develop collaborative relationships, to enhance interagency knowledge; creating capability and resilience.</p>	<p>9.1 Agencies share information to engender an all hazards, all of government approach to response management.</p>	<p>9.1.1 Information is shared and utilised across agencies to assist in relationship and resilience building.</p>
		<p>9.1.2 Best practices are discussed and shared across agencies.</p>