# Understanding the risk information needs for New Zealand's CDEM\* sector



\*CDEM - Civil Defence Emergency Management

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# The Scenario:

CDFM within New Zealand operates within a complex legislative environment where natural hazard risk management is a responsibility of a number of different council functions. This has resulted in there being no established owner for natural hazard risk management in New Zealand, which has in turn limited the efficacy for its management. However, recent shifts in thinking catalysed by international pressures, such as New Zealand supporting the Sendai Framework, has seen a broader debate around CDEM and risk reduction taking place and an increased emphasis on CDFM's role within disaster risk reduction.



Figure 1: The relationship between the key pieces of legislation for the management of natural hazards in New Zealand. Source: The RMA Quality Planning Resource http://www.qualityplanning.org.nz./ndex.ph/p/lanning-tools/natural-hazards/introduction-to-natural-hazards-and-the-legislative-framework-for-hazard-management.

## **Aims and Objectives:**

Understand the needs of the CDEM sector for risk information

## Objectives

- Identify the risk information needs of CDEM for risk assessments, risk modelling
- Identify risk-based information pathways to and from CDEM including ownership of data and application
- Identify the data and methods CDFM are currently using to determine risk and impacts or losses from natural hazards (e.g., risk matrices, risk models, GIS)

# Method:

Question guide for understanding risk information for the

- What is the structure of CDEM here?
  How does CDEM operate within cour

- How is this group linked with other departments and wider natura
- How is this group initials with other hazards management within the coun.
  How do you communicate hazard info the councils and within CDEM?
  What information do you use?
  Where does it come from?

- Do you create or provide your own information?
  How would you like to receive or share hazards information.

- What went well in terms of information requirements? What information was missing or what were the info

Focus group sessions were facilitated with 5 CDEM Groups across New Zealand lasting between 2 and 2.5 hours. While the sessions focused on CDEM. it is a holistic role that works with other parts of the council to manage natural hazard risk so participants in other council roles (e.g. land use planners, engineers, GIS technicians, building controllers), were also be encouraged to attend. The sessions employed a semistructured question guide to encourage participant led discussion over broad themes. Discussions (data) were captured through dictaphone recordings and thematically analysed using an inductive 'bottom up' approach where the themes identified emerge from the data itself.



influence each other though ease of presentation they are examined in turn

> Risk information and modelling drivers and The role of CDEM within and across Council pathways and sources information 3isk

emerged from group analysis of the focus



# Theme 1: The role of CDEM within and across Council

The main influencers are:

- CDEM is a dynamic role which is able to draw on staff from across and within council(s) when required. Therefore the 'CDEM team' are not just those who have a specific CDEM role but could and should also include land use planners, GIS teams, engineers and policy makers.
- Confusion for CDEM being 'responsible' for risk reduction, while it is also a responsibility within other council
- Depending on whether CDEM has a knowledgeable and influential staff member, the CDEM role can range from complete integration across council, enabling easy entry into discussions and decision making, to where CDEM remains isolated and has to 'push' its way into discussions.
- The larger the geographic region and the more complex the setting, the more effort CDEM made to take the lead and encourage collaboration and integration across the council.



# Theme 2: Risk information and modelling drivers and needs

- Activities that CDFM require risk information to implement are communication to the public and decision makers, exercise development, contingency planning, real-time event response, generic plans, and policy development.
- Focal group discussions commonly separated 'real -time' information needs from pre-event or preparedness
  - The need for real-time information that is rapid and updateable, as well as providing the situational awareness rather than the detail.
  - More detailed information, for development planning and contingency planning, may include information regarding both the multi-hazard environment and social vulnerability and capacities of
- Cross-cutting these specific discussions was the acknowledgement that having economic loss information is important for communicating disaster risk consequences and justifying actions for reducing risk
- The participants were not necessarily concerned with understanding the detailed uncertainty of the science but rather the relevance of specific uncertainties for decision making processes e.g. what were the assumptions and why were they made.
- Critical to what drives CDFM to better understand risk is the influence of past events and external influences such as the Christchurch 2011 earthquake.

Most common risk data and information needs identified by focal groups (red for response related information needs, blue for pre-event communication, orange for lifelines information, green for land use planning and grey for socio-cultural information. Whilst multi-hazards and economic losses cross cut the needs identified).



# Theme 3: Risk information pathways and sources

- There appears to be no standard approach to how CDEM uses risk information and there is no simple pathway for risk information access.
- It appears that nationally CDEM is the 'gatherer of risk information rather than the instigator, however this is not uniformly the case
- CDEM appears to draw on a range of information sources and yet only two CDEM groups mentioned proactively generating their own data and having systems in place to manage and share that data.
- More often than not, CDEM relies on individual's experience for risk information needs combined with what was known to be available from other departments across council
- In response to this complex information system, councils are forming (in isolation) forums/ committees/ working groups across council to attempt to jointly form work plans and sharing of information.

















