Case study: the Victorian Emergency Management Community Resilience Index

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This case study describes the experience of using and embedding components of the national-scale Australian Natural Disaster Resilience Index into the state-scale Victorian Emergency Management Community Resilience Index.

The emergency management sector as a whole is undergoing a paradigm shift: working together to realise a sustainable and efficient emergency management system that reduces the likelihood, effect and consequences of emergencies. Associated with this paradigm shift is the prioritisation of evidence-based decisions, and the commissioning and utilisation of research to guide strategy, investment and decision-making. Assessing community resilience is one of the areas in which the sector can support and implement new and emerging research and practice.

Two indexes of community resilience

The Victorian Emergency Management Community Resilience Index (VEMCRI) is being developed by Emergency Management Victoria (EMV) to provide baseline information on community resilience that can be used by agencies and departments to inform recovery planning. The index is an online database of community resilience indicators and is required to be 'live' to incorporate updated indicator data over time. The VEMCRI has an interactive interface through which indicator data are arranged and visualised.

The Australian Natural Disaster Resilience Index (ANDRI) research project is funded through the Bushfire and Natural Hazards CRC (CRC) to develop an index that assesses disaster resilience in Australian communities. The ANDRI is designed with eight themes: social character, economic capital, infrastructure and planning, emergency services, community capital, information and engagement, governance, policy and leadership and social and community engagement. Each theme comprises indicators that represent the latent dimensions of resilience and the index is computed using these indicators. The ANDRI will provide a 'moment-in-time' snapshot of the state of disaster resilience across Australia; the first time this has been done at a national level using standardised methods. The ANDRI outputs are produced in map format with interpretations of the strengths and opportunities for disaster resilience.

The VEMCRI was commissioned within EMV as part of a broader project to improve Victoria's impact assessment processes, while the ANDRI is an applied research project embedded within the CRC philosophy of industry utilisation. EMV is heavily engaged in the CRC research program and is an end-user for the ANDRI project. This critical relationship was used to explore and leverage the adoption of the ANDRI as the Victorian index. Despite similarities in the centrality of disaster resilience and the use of resilience indicators between the indexes, differences in index scope, design, scale, audience, visualisation, user requirements and milestone delivery precluded the direct uptake of the ANDRI for use as the VEMCRI. However, EMV and ANDRI staff worked together to use many of the conceptual, design and indicator components of the ANDRI for adoption into the Victorian index. This saved EMV significant time and resources duplicating the effort of refining and testing indicators independently.

Embedding the research into EMV

Relationships and trust are one of the key factors in research utilisation and knowledge exchange. One of the critical factors in using the ANDRI for the Victorian index was the working relationship between the three main actors: the manager of the VEMCRI, the EMV research coordinator and the ANDRI research project leader. Differences in project goals and the institutional roles of the actors typical in research utilisation (described in Figure 1), can create challenges for embedding research outcomes. Commitment from all actors to work collaboratively was chief in aligning the indexes.

Another key success was to articulate the gains and savings in using the ANDRI within the Victorian index. The ANDRI resilience indicators were developed over two years by experts in the field of disaster resilience and resilience assessment. Rigorous conceptualisation, development and peer review of indicators within the ANDRI project saved EMV time and money because indicators and associated data inputs could be adopted into the Victorian index. Thus, the VEMCRI was developed

and delivered more efficiently and at lower cost because of the existing end-user relationship with the ANDRI project. End-user aligned research is a pillar of the CRC. This end-user model has benefited the direction and outcomes of the VEMCRI as a strategic, sector-wide project.

There were several challenges embedding the ANDRI project wholly into the Victorian index. With many government agencies, working groups formed by subject matter experts have a concrete perspective of how something can be used practically. This can vary vastly from research-based policy development, which in an area like community resilience is still emerging and difficult to operationalise. This required significant project management (communication and updating of the project control groups) and briefings from the ANDRI researchers. Direct communication with researchers reassured stakeholders of the rigour and expertise behind the product that guaranteed their commitment to the project.

Moreover, visualisation was a powerful tool to convince a varied working group the ANDRI could be used for their purposes. To better people's understanding of how the Victorian index would complement their work, prototypes, demonstrations and graphically designed desktop mock-ups were used to demonstrate to stakeholders how the index will complement or enhance existing processes and methods.

Another challenge is that the parameters of a research project may not align to agency priorities exactly. This was the case for the ANDRI project that was aligned to resilience assessment directions but generates a national-scale, one-off snapshot of disaster resilience. The requirement of EMV and its project stakeholders was for a state-level index that could be updated through time and that supported recovery planning. This challenge was overcome by evaluation and discussion and it was resolved that the ANDRI could form a solid baseline from which the Victorian index could build a live capability.

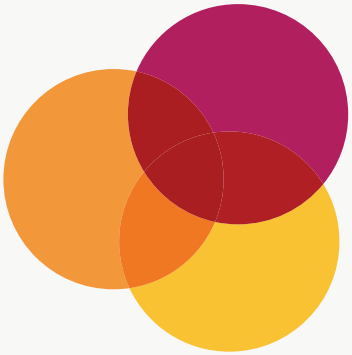
Operationalising community resilience is a new and emerging public policy area. With any emerging theory or paradigm, there is reliance on the Australian Government to provide guidance on how states and territories should implement it. The ANDRI operationalises the latest conceptual advances in disaster resilience thinking by:

- assessing disaster resilience as capacities
- including indicators of emergency services, planning, community engagement and adaptation
- using the most up-to-date statistical methods for index computation.

It was therefore met with some hesitation in the sector. In this case it was state government reform towards community resilience that positioned Victoria to pioneer such an index.

Furthermore, the tradition of commissioning one-off projects to satisfy immediate government needs had to be overcome, particularly when budget was allocated in advance for such work.

For many years, the supplier-provider model has dominated how departments and agencies perceive the process of commissioning and using research. The process of co-generating and embedding external research can be challenging but there are solutions including relationships, collaboration, flexible project design and demonstration of benefits and savings. This case study demonstrates some of the challenges and the benefits from persevering at the research-government program interface.



COLLABORATIVE UNIVERSITY RESEARCHER

- Undertake academic research in line with University strategic research directions.
- Advance new knowledge in the discipline of expertise.
- Balance teaching, research and service roles.
- Build learning networks and collaborators at the science-policy and science-program interfaces.

RESEARCH COORDINATOR

- Work with highly expert, often operational, colleagues who are time poor.
- Make visible external research and the learnings for EMV.
- Champion the importance of collaboration in undertaking and embedding research.
- Balance rigorous academic research with commissioned, consultant undertakings .

RELIEF AND RECOVERY PROJECT MANAGER

- Manage project development timeframes.
- Focus on operational improvement and susceptible to changing priorities.
- Coordination-based work, but a limited group of stakeholders.
- Balance policy alignment and policy development.

Figure 1: Actors in utilisation of the ANDRI into the VEMCRI and their typical roles.