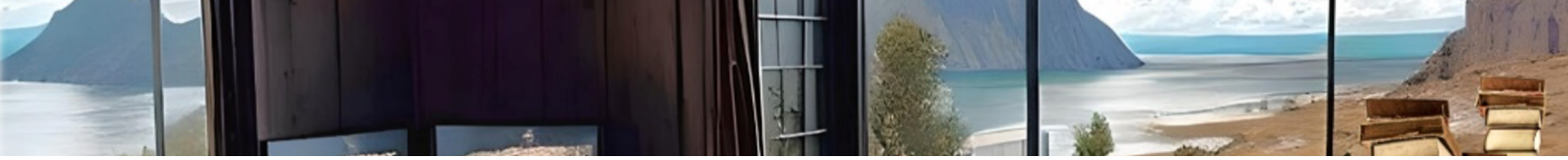

A Kōrero (Conversation) on Catastrophe

Webinar Summary

Overview

On Wednesday, 25 October 2023, the Aotearoa NZ Catastrophe Resilience (NZCat) Research Team hosted a webinar that 'book-ended' the last 12 months of our investigation into Aotearoa New Zealand's (NZ) resilience to global catastrophic risks (GCR), using the likely impacts of a nuclear war as a case study. NZ's location as an isolated island may offer some protection from direct nuclear impacts, but simultaneously exposes the nation to wide ranging vulnerabilities.

The session's objective was to raise awareness of these threats and to prompt discussions and policy action by emphasising the potential for proactive measures to improve resilience to large-scale risks.

The message was clear: complacency is not an option. Proactive measures are essential, and there are actionable steps available. It's crucial that national level policy and planning prioritise these low probability/high impact risks to improve cross-sector resilience and bolster NZ's function and quality of life if a global catastrophe is to occur. Importantly, planning for large-scale risks will improve NZ's overall resilience in the face of multiple and complex hazards originating within and beyond its territory.

The NZCat project:

Initiated in November 2022, the project has involved five phases:

Phase I: Developed a Hazard Profile for potential nuclear catastrophes.
Phase II: Conducted a workshop to validate the hazard profile, identify knowledge gaps, and structure data collection methods, inspired by the NZ Planning Council's 1987 NZ Nuclear Impacts Study.
Phase III: Gathered insights via surveys and interviews on likely impacts of nuclear disaster on New Zealand, and resilience options.
Phase IV: The webinar to discuss the findings in collaboration with a panel of 5 experts from across diverse sectors.
Phase V is the upcoming final report, providing an integrated analysis of our findings along with options for enhancing resilience.

Matt Boyd, founder of Adapt Research, began by summarising the outcomes of each project phase. He then delved into options for intervention identified through the project, emphasising the necessity of forward-thinking about catastrophic risks. Such risks, encompassing challenges that include trade isolation, IT and digital collapse, and social and economic upheaval, could severely hinder life in NZ post-catastrophe. Appropriate planning could target extreme threats and bolsters resilience against current challenges like climate change and geohazards. Matt identified vulnerabilities and resilience strategies within the key 'Big Four' sectors (agri-food, transport, energy, and digital/IT), based on insights from participants, as well as findings from a range of technical papers on specific issues.

The panel discussion was enriched by insights from five experts from diverse sectoral backgrounds.

Among the audience were representatives from major national organisations, including the Office of the Prime Minister's Chief Science Advisor, the National Emergency Management Agency (NEMA), NZ Productivity Commission, Royal Commission of Inquiry in to Covid-19 Lessons Learned, and Ministry of Business Innovation and Employment (MBIE), plus representatives from diverse industry sectors.

Webinar Recap: National Resilience Insights

Panellists recognised the pressing need to spotlight global catastrophes in national policy discussions. They emphasised the need for increased research investment going forward. They expressed optimism that with focused efforts, there's potential for notable near-term breakthroughs by focusing on risks in a more integrated and cross-sector manner as signalled by the research. They highlighted the strong alignment between the NZCat Project and NEMA's current Catastrophe Planning (CATPLAN) process.

Insights gathered from the discussion centred on the following themes:

COVID-19 as a Lens for Viewing Global Catastrophes:

- Panellists brought attention to the vulnerabilities of our supply chains, both imports and exports, which COVID-19 made glaringly obvious. They highlighted how our national systems (including the Inter-Island ferries, and other pivotal infrastructure) are vulnerable and should be evaluated and invested in with a view to improving national resilience.
- NZ's current reliance on global trade was emphasised. Concerns were raised about the shutdown of facilities like Marsden Point oil refinery, which was viewed as undermining our resilience as there is currently no 'backstop' to fuel dependency in agriculture, food supply, and other sectors. On a brighter note, Lucie Douma showcased the growing adoption of sustainable ventures, such as the all-electric cherry orchard in Central Otago, with co-benefits of strengthening resilience in food production and reducing emissions.
- In response to the research teams' upcoming technical paper, panellists supported a multifaceted approach to ensuring fuel and energy resilience. They underlined the significance of readiness to escalate biofuel production, but emphasised the need for a range of solutions, praising steps towards electrification and alternative options.

Evaluating New Zealand's Global Dependencies:

- A key conversation centred on NZ's complex international relationships, highlighting potential strengths and vulnerabilities. The emphasis was on integration and ties with major trade partners, and proximate allies like Australia and the Pacific. In catastrophic events, NZ might offer strategic partnerships with these nations, but also bear a responsibility to assist Pacific neighbours. In this way, trade ties within a globalised society were perceived as a potentially double -edged taiaha (sword).

Community Resilience in Focus:

- Charlotte Brown, alongside Mark Trüdinger, highlighted the urgent need for stronger backing for local councils and community-driven initiatives.

THE PANEL

Ben Reid:
Founder of Memia, shared insights from his deep understanding of emerging tech trends, highlighting NZ's related vulnerabilities, but similarly highlighting potential for 'quick wins' with improving resilience.

Charlotte Brown (Ph.D.):
Joint Managing Director of Resilient Organisations, leveraged her extensive background in community disaster resilience and organisational risk management, including community preparedness.

Hamish Gow (Ph.D.):
As the Sir Graeme Harrison Professor at Lincoln University and a member of Fonterra's Milk Price Panel, navigating between academia, government policy, and industry, he provided a multifaceted view on food sector and economic challenges in a severe catastrophe.

Lucie Douma:
Drew from her leadership role at Farmers Mutual Group (FMG) and her significant contributions to Covid Recovery and Supply Chain at the Ministry for Primary Industries.

Mark Trüdinger:
Delved into the planning and political considerations surrounding potential disasters, informed by his position as Group Recovery Manager for Northland's Regional Civil Defence Emergency Management Group.

- Both highlighted New Zealand's widespread vulnerabilities, emphasising the unpreparedness of many families, particularly within the Māori and Pasifika communities, for looming risks. They stressed that social inequality exacerbates these vulnerabilities. Numerous Kiwi families are struggling to meet costs, with a concerning one in five households facing weekly food shortages. Such day-to-day challenges limit the ability to prepare for adverse events, whether they originate globally or locally.

Strengthening Ties Between Policymakers and Citizens:

- All participants called for improved discussion of national risks and simplifying complex subjects to bridge the gap between policy and decision-makers and the public. It was suggested that NZ needs to look at successful international models and address growing scepticism towards official channels of information, as was prevalent in the national response to the Covid-19 pandemic and vaccination mandate. One solution is to make the National Risk Assessment process transparent and open to public engagement, rather than a 'closed shop' process undertaken by incumbent governments and the Department of Prime Minister and Cabinet. Panellists identified that large-scale risks, like nuclear war, cyber threats, super-pandemics, super-volcanoes and other geohazards should be front and centre with appropriately balanced profile in the national risk conversation.
- Panellists emphasised that risk-focused conversations must empower communities to engage and act. This underscores the need for two-way dialogue and bottom-up approach that feeds into policy and decision making in a way that prioritises, values, and acts upon feedback from the public.
- We can have improved, balanced, and factual risk communication. New Zealanders need an approach that is constructive and avoids excessive pessimism, as this can potentially lead to fatalism and inaction.

Reflecting on Previous Oversights to Rethink Decision Making:

- The panel critically evaluated NZ's COVID-19 pandemic response. Although the government's response has been globally viewed as exemplary, the delayed reaction to early COVID-19 warnings and the absence of prior planning systems were highlighted. The panel attributed the country's low infection and casualty rates more to its isolated geographical location and swift lockdown measures than to proactive strategic planning.
- The panel deliberated on how short-term political goals often eclipse long-term resilience planning. They highlighted the need for a mechanism that detaches national risk policy from partisan politics. Proposals included establishing an independent risk commission or a related think tank.

> *"We have a three-year political cycle that is very much focused on who's going to pay for what. This past three years, it was all short-term domestic issues. There wasn't a single conversation about foreign policy in the recent election. There's no long-term view."*

Designing Robust Emergency Response Mechanisms:

- The ongoing NEMA CATPLAN work was cited as an example of the importance of strategic planning for large-scale threats, which was considered to have been largely omitted from previous national-level risk planning. Drawing inspiration from models in the UK and US, the panellists stressed the value of a holistic National Risk Assessment approach, that includes sound analysis of low probability but high impact catastrophic risks.[1] The panellists agreed that we should approach all risks with a methodical and well-documented process, ensuring comprehensive coverage within a transparent National Risk Assessment and management processes.

Navigating Digital Infrastructure Vulnerabilities:

- The panel discussed the consequences of rapid technological advancements, particularly in the field of AI, and how they might lead to cyber threats against critical digital infrastructure.
- There was generally consensus that placing excessive reliance or global tech giants could pose risks, as it would be akin to consolidating all critical resources in one place, making them inaccessible in

[1] The UK and other European Countries have implemented publicly available National Risk Assessments. The UK government have recently included 'nuclear miscalculation' and super-volcanic eruptions beyond the UK's territory within their assessment process and metrics. The US recently enacted the Global Catastrophic Risk Management Act (2022) which recognises the potentially unbearable impact of catastrophic events and enshrines in law the need to devise and implement national resilience measures.

the event of a data crisis, whether caused by nuclear warfare, cyber terrorism, or other data-related threats.

- The panellists championed open-source solutions and underscored the importance of national digital security. Ben Reid emphasised the advantages of retaining control over our data sovereignty and essential digital infrastructure, particularly in areas like banking, national security, and emergency response. He stressed the value of understanding and managing our own systems, especially in potential trade isolation scenarios, underscoring that this approach not only strengthens New Zealand's digital security but also fosters tech innovation and industry growth.

> *"What's missing here is what you're doing. You're a small think tank, you're apolitical. When you compare to other countries with similar strategic precariousness, we [NZ] under invests."*

The panellists expressed support for the resilience measures proposed by research participants. These measures encompassed the incorporation of Global Catastrophic Risks (GCRs) in a National Risk Assessment and the formulation of National Food Security and Digital Continuity Strategies, among other concepts. Further information on these initiatives can be found in the survey and interview reports.

Ngā mihi nui

Ngā mihi nui and kudos to the panellists! We are grateful for their ongoing engagement with the project and offer sincere appreciation for their contributions to the webinar. Their insightful discussion strengthened our research team's work in promoting proactive risk management and collaboration, to enhance New Zealand's strategy and preparations for catastrophic threats.

We encourage you to keep updated with via our project's website, blogs, and regular updates by team members on LinkedIn. Keep an eye out for the upcoming project report, which will be available by November 30, 2023. If you have any questions or suggestions, we'd welcome hearing from you.

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NZ Cat Project Team

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Ben Payne (Ph.D.):

Co-facilitator of the Webinar. An independent researcher with expertise in consultancy across sustainability, climate change science, advocacy and mitigation, and Disaster Risk Reduction.

Sam Ragnarsson:

Co-founder of Rongo, a Christchurch-based sustainability consultancy with broad project management experience at the interface between science and policy.

Nick Wilson (Ph.D.):

Professor of Public Health at the University of Otago based in Wellington. Nick is a medical doctor who subsequently specialised as a public health physician and then moved into university-based research.

Simon Terry:

Executive Director of the NZ Sustainability Council, with diverse research interests in the areas of sustainability and decarbonisation (including climate change mitigation and adaptation, energy & transport), law and regulatory governance.