Transforming the Social Contract for Natural Hazard Risk Management in New Zealand:
Influences and Outcomes of Governance and Land Use Decisions Following the 2010-2011 Canterbury Earthquakes

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David Johnston
M7.1 (9/4/10); M6.2 (2/22/11); M6/M5.6 (6/13/11); M5.9/M5.8 (12/23/11)
- 185 deaths (~464,000 population in 3-council affected region)
- 100,000 damaged housing units (225,000 households); >424,000 residential building damage claims and >142,000 land damage claims to the NZ Earthquake Commission
- Most of 2,000 Central Business District buildings damaged and >50% likely to be demolished; initially cordoned off 4 sq km/114 city blocks, displacing 6,000 businesses (55,000 employees); portions remained closed for >2 years
- Massive coordinated rebuild of all horizontal infrastructure (SCIRT) through 2016 at a cost of >NZ$2 billion
- Total reconstruction estimate: NZ$40 billion (NZ GDP $190 billion); national government contribution estimate: NZ$15 billion; Insurance contribution estimate: NZ$12 – 30 billion
In Large Disasters, the Post-Disaster Environment Consists of a Compression of Activities in Time and Focused in Space

Normal city building processes, in all their complexity, now must happen much more quickly (100 years → 10 years)

Source: Olshansky, Hopkins, & Johnson, Natural Hazards Review, August 2012
Other Effects of Post-Disaster “Time Compression”

- Different activities compress unequally (e.g. financial transactions are easier than construction, which is easier than institution building)
- Bureaucratic processes do not compress easily, typically lack flexibility to innovate, and not designed to act quickly
- Cooperation among neighbors and community organizations can occur quickly through many informal channels. Thus, self-help networks and new NGOs emerge to fill coordination and information gaps and provide more resources
- Thus, post-disaster governance becomes procedurally different from its pre-disaster structure, and from other places in new ways
  - New organizations created to improve coordination and reduce inefficiencies (e.g. set priorities and policy, identify and manage financing; collect, maintain, distribute information; and provide leadership and technical assistance)
  - Existing institutions and procedures are modified or adapted
Civil Defense Emergency Management (CDEM) Recovery Framework

Sept. 4
- M7.1 EQ
- Local emergency declared
- National Crisis Management Centre activated

Sept. 6
- CDEM Recovery Framework activated
- Cabinet Minister for Earthquake Recovery
- Ad Hoc Cabinet Committee on Earthquake Recovery

Sept. 14
- Canterbury Earthquake Response and Recovery Bill
- Canterbury Earthquake Recovery Commission (CERC)
Feb. 22
- M6.2 EQ
- Local, regional and national emergencies declared

March 16
- Ad Hoc Cabinet Committee on Earthquake Recovery began considering new national governance arrangements

March 29
- Canterbury Earthquake Recovery Authority (CERA) provisionally established

April 14
- Canterbury Earthquake Recovery (CERA) Act

April 30
- CERA assumed primary responsibility for recovery; CER Act sunsets 2016
Canterbury Earthquake Recovery Authority (2011 – 2016)

CER Act Authorities of CERA and Minister:
- Restrict or prohibit access to any specified area or building, or any road or public place
- Take land in the name of the Crown and acquire land compulsorily
- Subdivide, amalgamate, improve and develop all or any land acquired by the Crown
- Suspend, amend, and revoke key local government and national planning and building Acts, and any plan or policies developed under various Acts
- Direct any local authority to take or stop any action, or make or not make a decision, or perform or exercise specific responsibilities, duties, or powers.

Activities/Plans/Programs of CERA:
- Building demolitions
- CBD red zone access program
- Recovery Strategy
- Christchurch City Recovery Plan and Blueprint
- Central City Development Unit
- Residential Red Zone program
- Regional Land Use Recovery Plan
- Planning for Reuse of the Red Zone lands

Focus on “Transformation” and Use of an Actor-Oriented Framework for Policy Analysis

- **Transformation** is 1 of 6 interacting elements of the risk management solution space, by altering of fundamental attributes of a system, including value systems and regulatory, legislative, or bureaucratic regimes (Intergovernmental Panel on Climate Change 2012)

- Transformational change depends upon disruption of the existing system and its reconstruction around a new institutional norm, encompassing fundamental changes in institutional aims, values, consequent procedures and behavior; impacting organizations, legal or management regimes, and development pathways (Gibson 2014)

- Disasters are policy focusing events; the larger the disaster in terms of lives lost, property damaged and physical area covered, the larger the potential influence on the political and policy world (Birkland 1997, 2006)

- Use of an **actor-oriented framework** (actors, interactions, drivers, and outcomes (from resistance through incremental change to transformation of the situation) (Pelling, O’Brien, and Matyas 2014), to consider how key legislation and decisions following the Canterbury earthquakes may be transformative both in terms of recovery governance and implementation in the Canterbury region as well as the social contract for natural hazard risk management in New Zealand
The Social Contract

“Man was born free, and everywhere he is in chains”
(Jean-Jacques Rousseau 1762)

- People give up some freedoms in order to benefit from the fairness and order provided by the government
New Zealand’s Social Contract for Natural Hazard Risk Management

Shared system of governance, with common and overlapping responsibilities apportioned among levels of government and citizens both pre- and post-disaster:

- **Civil Defence Emergency Management (CDEM) Act 2002** – defines the national government leading in policy and direction setting and local authorities responsible for implementation as well as coordination through regional groups

- **Local Government Act (LGA) 2002** – defines regional authorities responsibility for environmental management, regional transport and public transit, and regional land management, and local authority responsibilities for local-level land use management, network utility services, local roads, libraries, parks and reserves, and aspects of community development

- **Resource Management Act (RMA) 1991** – confers responsibility to regional and local authorities to avoid or mitigate the effects of natural hazards as part of land use planning and development

- **Building Act 2004** – places responsibility with local authorities for building consenting (i.e. permitting), inspections, code enforcement and other actions, and includes provisions for avoiding or mitigating natural hazards as part of building design and construction

- **Earthquake Commission Act 1993**– provides national government-backed, “first-loss” insurance for residential properties for loss or damage (structures, contents, and land) caused by earthquakes and other natural disasters
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**National Government**
Providing the authorities, guidance, resources, and support as needed.

**Local and Regional Governments**
Land use and building policy to avoid and mitigate hazards.
Supplying resources when disasters do occur.

**Citizens**
Responsible for protecting their assets.
Structure and Actors
State (Prime Minister, Cabinet and Ministries, Minister for Earthquake Recovery, Canterbury Earthquake Recovery Authority (CERA), Earthquake Commission (EQC))
Territorial Authorities (Regional and Local Councils)
Insurers/Reinsurers
Geoscience/Geotechnical Experts
Insurance Policyholders/Affected Property Owners, Residents, and Businesses
General Public

Interactions
Progressive centralization of disaster recovery governance (CERR Act 2010 and CER Act 2011)
Insurance claims settlement and land damage assessment processes
Residential land zoning and policy implementation (red, white, orange and green zoning; voluntary purchase offers, technical categories 1, 2 and 3)

Drivers
Canterbury Earthquake Sequence
Time-compression effects on post-disaster activity space
Enhanced understanding of risk
Fiscal responsibility and accountability for public expenditures on disaster recovery

Outcomes: Transformation in social contract for natural hazards risk management policy and governance
- State-level centralization of authority and decision making for disaster management and natural hazards land use policy
- Increased state-level liability exposure for disaster recovery financing
- Reduced local authority and capacity for disaster and land use management
- Reduced public involvement and citizenship in disaster/land use governance and decisionmaking
Canterbury New Zealand, 2010-2011 Earthquakes “Red Zone” Buyout of >7,300 Homes

http://cera.govt.nz/maps/technical-categories

January 31, 2014 marked the final settlement day for most residential red zone property owners; owners of nearly all 7,349 properties zoned red accepted the national government’s offer (CERA 2014)

As of July 2013, 7,143 red zone property owners (95 percent) had accepted 1 of 2 options (NZ HRC 2013):

- **1,657 (23 percent)** selected **Option 1** to sell both their land and structures at the most recent property rating valuation (less any property insurance payments already made for the home or other buildings on the property, or for contents); and,
- **5,486 (77 percent)** selected **Option 2** to sell only their land and maintain their insurance claims to buildings and fixtures, as well as contents.
Actor-Oriented Framework Policy Analysis: Outcomes

1. Post-disaster tension between speed and deliberation persists, in spite of efforts to centralize and expedite recovery decision making and implementation.

2. Centralization of recovery operations and land use policymaking at the national level has also reshaped the governance structure in the Canterbury region which may have negative long-term implications, if not addressed.

3. The suite of national legislation and key decisions made in response to the Canterbury earthquakes are potentially transforming the social contract for natural hazard risk management framework for the entire country.
   - The post-earthquake policy and governance transformations in the Canterbury region may also be viewed as a rapid adaptation embedded within an overall trend in governance reforms underway in New Zealand prior to the earthquakes.
Concluding Remarks

● Caveat – the impacts and outcomes of the Canterbury earthquake series will take many more years to fully assess

● Actor-oriented framework helped to identify key actors, the drivers and key interactions they have had, and the potential consequent outcomes

● Transformation of the social contract for natural hazard risk management framework may also be underway as a result of the Canterbury earthquakes, which is consistent with prior studies of large-scale disasters as focusing events for policy and political transformation.

● Policy implications may be useful in New Zealand as it continues recovery implementation in the Canterbury region and also considers potential changes to the nation’s natural hazards risk management framework.
  - May also be useful to other regions of the world in managing natural hazard risk and governing post-disaster recovery.
## Acknowledgments

- Canterbury Earthquake Recovery Authority
- City of Christchurch
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- Tonkin and Taylor

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- Global Assessment of Disaster Risk Management (GAR)
- Ljubica Mamula-Seadon

- Many stakeholders participating in countless interviews and discussions throughout this 4-year period.

### Thank You!

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### Public Participation in Normal vs. Post-disaster Time Periods

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<thead>
<tr>
<th>Inform</th>
<th>Consult</th>
<th>Involve</th>
<th>Collaborate</th>
<th>Empower</th>
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<td>To provide the public with balanced and objective information.</td>
<td>To obtain public feedback on analysis, alternatives, and/or decisions.</td>
<td>To work directly with the public throughout the process.</td>
<td>To partner with the public in each aspect of the decision</td>
<td>To place final decision-making in the hands of the public.</td>
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**Promise to the public**

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<td><strong>Empower ecosystem of recovery rebuilders to “tip in”</strong></td>
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- **Inform**
  - We will keep you informed.
  - We will keep you informed, listen to and acknowledge concerns and aspirations.
  - We will provide feedback on how public input influenced decisions.

- **Consult**
  - We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.

- **Involve**
  - We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed.

- **Collaborate**
  - We will look to you for advice and innovation in formulating solutions.
  - We will look to you for advice and recommendations into the decisions to the maximum extent possible.

- **Empower**
  - We will look to you for advice and innovation in formulating solutions.
  - We will place final decision-making in the hands of the public.

**Example techniques**

- Fact sheets
- Web sites
- Open houses
- Public comment
- Focus groups
- Surveys
- Public meetings
- Workshops
- Deliberative planning
- Citizen advisory committees
- Consensus-building
- Participatory decision-making
- Citizen juries
- Ballots
- Delegated decision

*Source: IAP2 Spectrum of Public Participation, 2007*
(Source: Haas, Kates, and Bowden, 1977, Reconstruction Following Disaster)
5 Factors Influencing Post-Disaster Recovery Timeframes

1. Complexity of property ownership and parcel characteristics
2. Availability and types of financing, and funding requirements
3. Existence and effects of pre-existing plans and conditions
4. Institutional framework and level of stakeholder involvement
5. Level of government intervention and complexity of the regulatory framework

Traditional Governance

- More directive leadership model
- Manager is organizer/controller.
- Goals are clear, and success is attainment of the goals.
- Linear/rational approach to planning
- Public participation – Complies with legal requirements, educate the public, and obtain public support for proposals.

Collaborative/Network Governance

- More generative leadership model, creating conditions to bring teams together and help build collective capacity to learn about problems and find solutions together
- Manager is a mediator and process manager
- Goals are sometimes in conflict or likely to change as part of deliberation. Success is realization of collective action and capacity to adapt to change.
- Non-linear approach to planning where goals may be revisited as part of analysis, policy development or implementation
- Public participation – Engage in joint learning and deliberation; build public capacity for problem-solving and adaptation

Source: Louisiana Speaks Long-term Recovery Planning (www.louisianaspeaks-parishplans.org); Innes and Booher, Planning with Complexity, 2010
- Federal and state disaster recovery coordinators
- Local disaster recovery managers (pre- and post-disaster responsibilities)
- Six Recovery Support Functions (RSFs) within ICS/NIMS framework