

Land use planning for natural hazards in New Zealand



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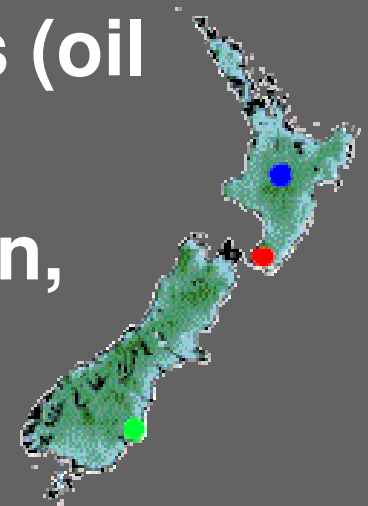
What is GNS Science?

- Crown Research Institute (CRI) wholly owned by the New Zealand Government and incorporated on 1 July 1992
- The government's principal earth systems and isotope science researcher and advisor
- Our core purpose is to understand natural processes in the earth's crust and physics-based technologies and to transform this knowledge into economic and social benefits for New Zealand.



What does GNS do?

- Active faults, landslides, volcanos, tsunami, climate change, resources (oil etc),
- Offices in Wairakei, Avalon, Dunedin, with over 250 staff

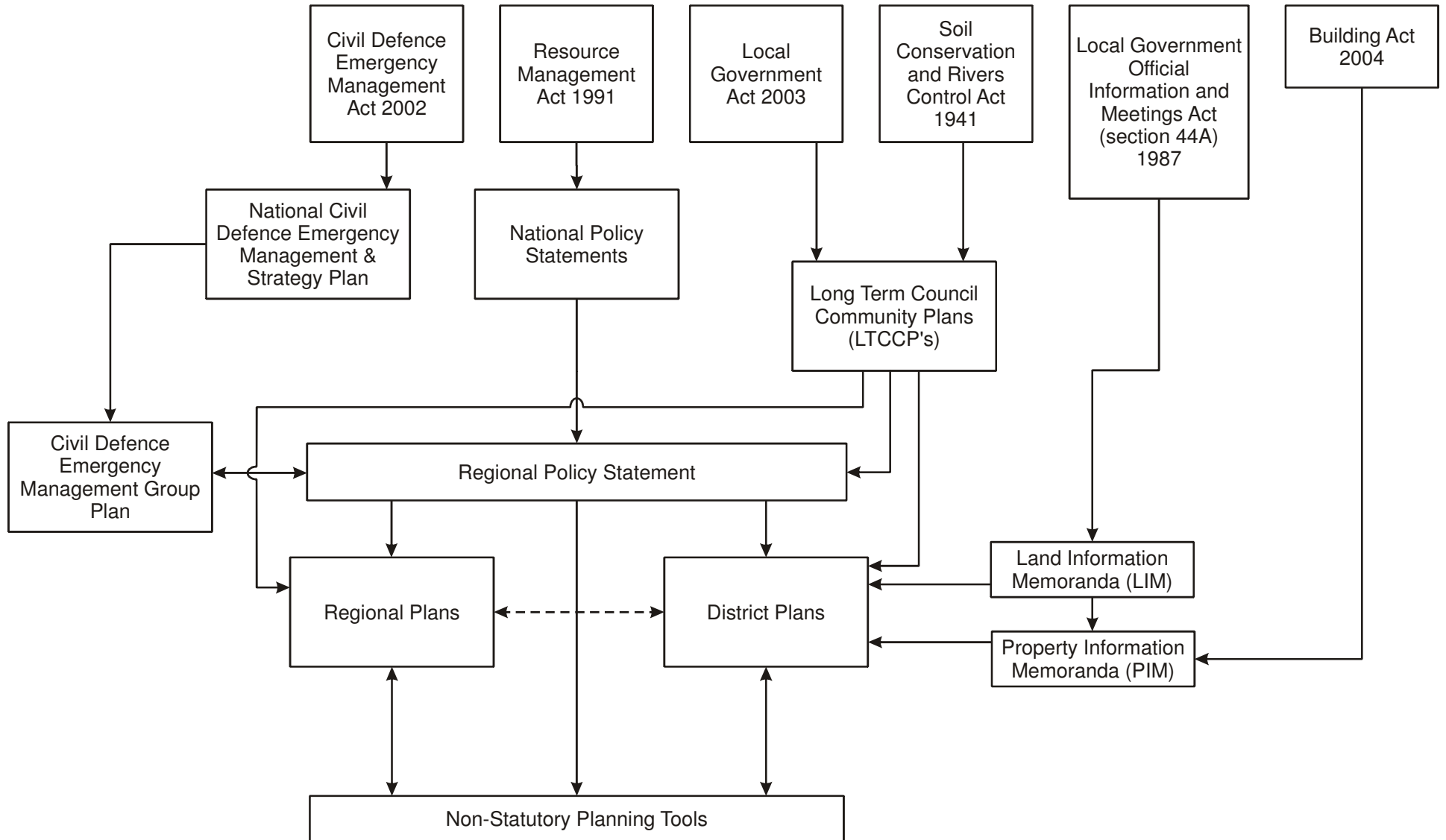


What are we going to discuss?

- **Legislative approaches**
 - RMA
 - CDEM Act
- **Opportunities for improving natural hazards planning**
- **Barriers**

Current legislative approaches for managing natural hazards

Relationships between key legislation for the management of natural hazards



Resource Management Act 1991 (RMA)

- To promote the sustainable management of natural & physical resources
- Regional – control *use* of land for the avoidance of natural hazards
- Territorial – control *effects* of the use of land for the avoidance of natural hazards
- Applicable in 30 sections/parts/schedule
- Coastal Policy Statement – 7 sections

NEW ZEALAND
COASTAL POLICY STATEMENT

1994

This New Zealand Coastal Policy Statement 1994 was issued by notice in the Gazette on 5 May 1994.

Responsibilities under the RMA for natural hazards

Regional Councils (hazard identification)

- Regional significant threats
- Monitoring and warning
- Research
- Education & information
- Works & services i.e. stop bank repair
- Regional hazards register

Territorial Authorities (hazard management)

- District level risks
- Control of development via district plans & consents
- Hazard management plans i.e. flood management plans
- District hazards register

Legislative requirements under the CDEM Act 2002 for managing hazards

An introduction to the Civil Defence Emergency Management Act 2002

- **To promote the sustainable management of hazards in a way that contributes to the social, economic, cultural and environmental well-being and safety of the public, protection of property**
- **To encourage and enable communities to achieve acceptable levels of risk including**
 - **Identifying, assessing and managing risks**
 - **Consulting and communicating risk**
 - **Identifying and implementing cost-effective risk reduction**
 - **Monitor and review**



Figure 1.1: Relationship of the National CDEM Plan to the CDEM Act, National CDEM Strategy, CDEM Group plans, and other agencies' operational plans. Readiness, response and recovery planning and activities also link to more broadly based risk reduction policies and programmes at the national and local levels.

(Guide to the National CDEM Plan, 2006)

What is reduction?

Reduction is:

“identifying and analysing the long-term risks to human life and property from natural or non-natural hazards; taking steps to eliminate these risks if practicable, and, if not, reducing the magnitude of their impact and the likelihood of their occurring”

(National CDEM Plan, 2005)

The 4-R's of Emergency Management



Readiness, response and recovery are detailed in the CDEM Act 2002

CDEM Reduction Framework - issues

- **National Strategy Goal 2**
 - To reduce the risks from hazards to New Zealand
- **National Plan**
 - Operational
 - Goal 2 only addressed in part
 - Readiness, response, recovery no reduction
 - Consequence driven
- **Group Plans**
 - Some do, some don't
- **Relationship to the RMA requires strengthening and promoting**

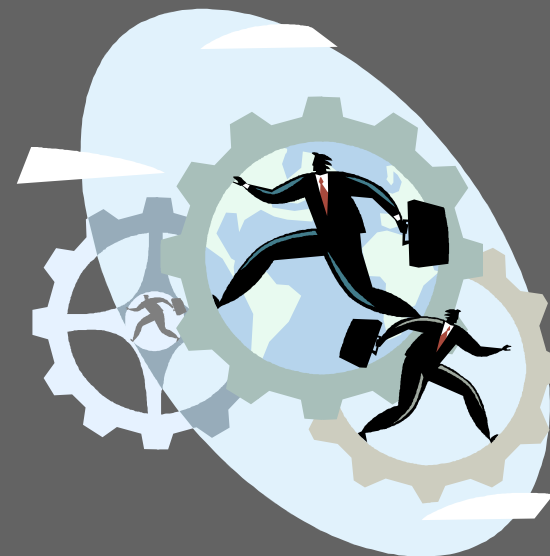
Results of good planning for reduction

- Reduced risk and vulnerability
- Faster recovery
- Increased community resilience
- Sustainable communities
- Better decision making



Barriers to good practice

- Resources
- Staff retention
 - Lack of experience/knowledge
- Higher priorities
- Poor linkages between departments/staff
- Timeframes
- Political implications
- Development pressure
- Marginal land vs land values
- Reliance on mitigation measures/warning systems



Opportunities for improving natural hazard planning: Suggestions for good practice from the New Zealand experience

What is good (or best) practice?

- Sometimes best practice will emerge from success
- Often the mistakes and failures in practice point to better ways of doing something
- Involves identifying pitfalls, and learning from any mistakes made so that they aren't repeated



(www.qualityplanning.org.nz)

Opportunities for improvement 1: A proactive rather than reactive approach

We recommend a PROACTIVE rather than reactive approach to hazard management.

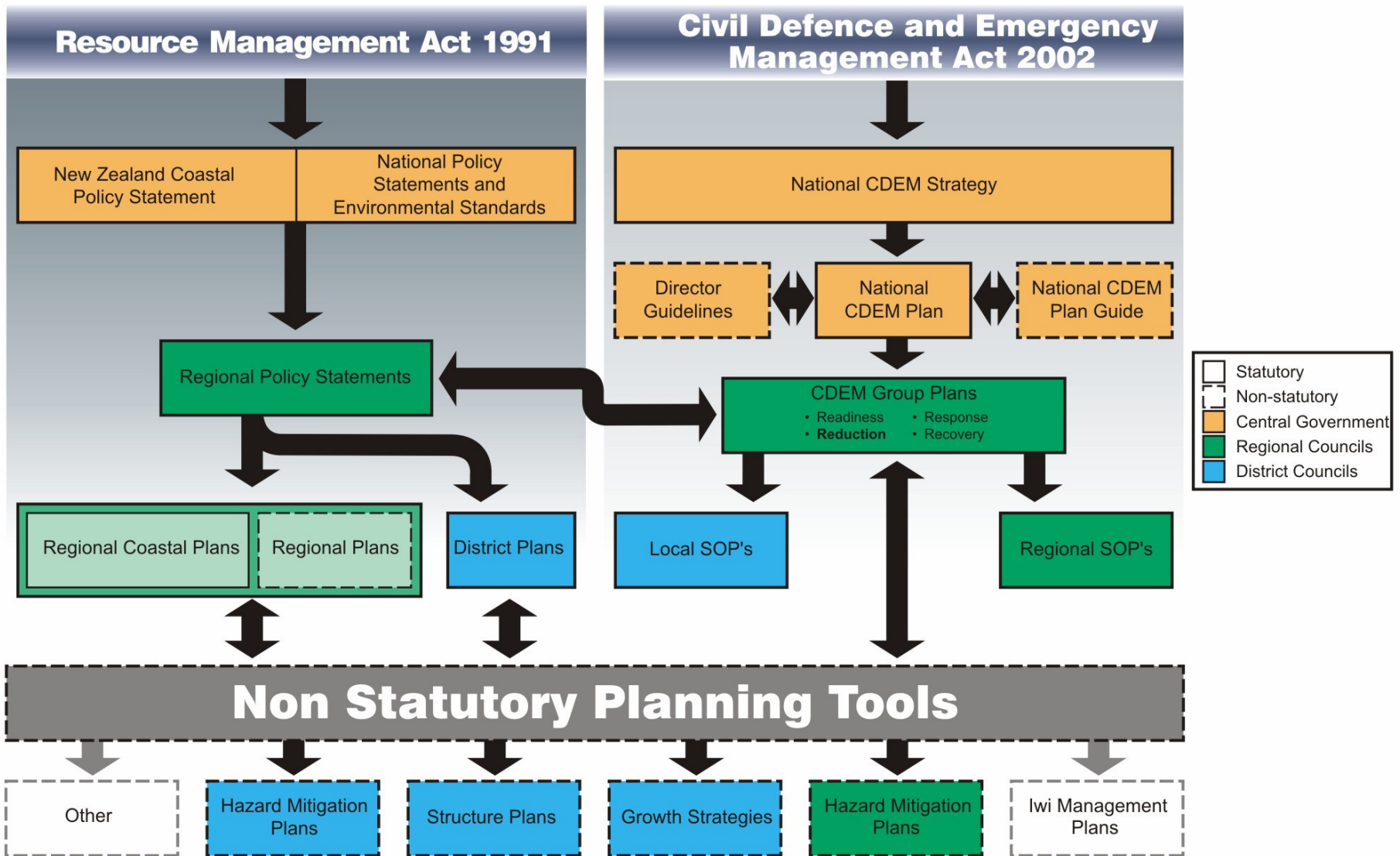
- **On an undeveloped (Greenfield) site we should:**
 - **Avoid the risk in the first instance OR**
 - **Reduce risk where complete avoidance is not possible**
- **Mitigation measures (structural “hard” measures or “soft” measures) should only be used where development has already taken place and there are no other options.**

Opportunities for improvement 2: Ensure policy, plans and other documents address reduction

- **Produce plans that reduce vulnerability**
- **Second generation planning**
 - **Natural hazard policy**
 - **Consent requirements**
- **Quality of AEE's/technical reports**
 - **If in doubt, peer review**
- **Guidance available**
 - **Quality Planning website**
 - **Active fault and landslide guidelines**

Opportunities for improvement 1: Ensure integration occurs between different sectors

ws06034ag



**Opportunities for improvement 3:
Ensure that innovative solutions are also effective**

(Kaihikatea Estates)

**Opportunities for improvement 4:
Account for cross-boundary issues**

**Opportunities for improvement 5:
Monitor and measure effectiveness of policies**