
Resilience Management:

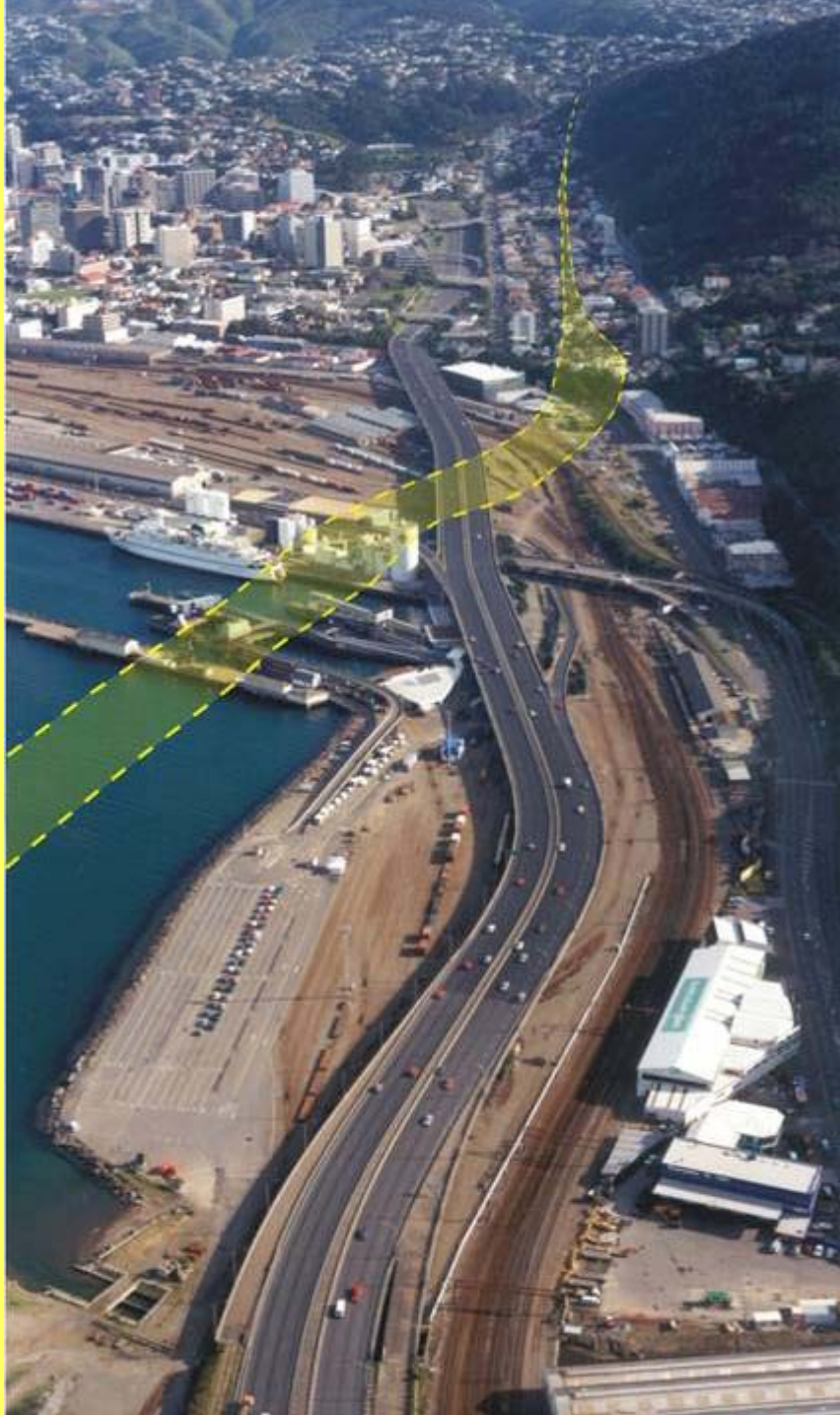
A framework for evaluating and improving organisational resilience

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To ***understand and reduce the impact*** of hazard events, we need to be able to ***evaluate*** how ***key organisations*** are going to ***perform*** during and after these events.





6 year FRST funded research programme that continues until 2010.

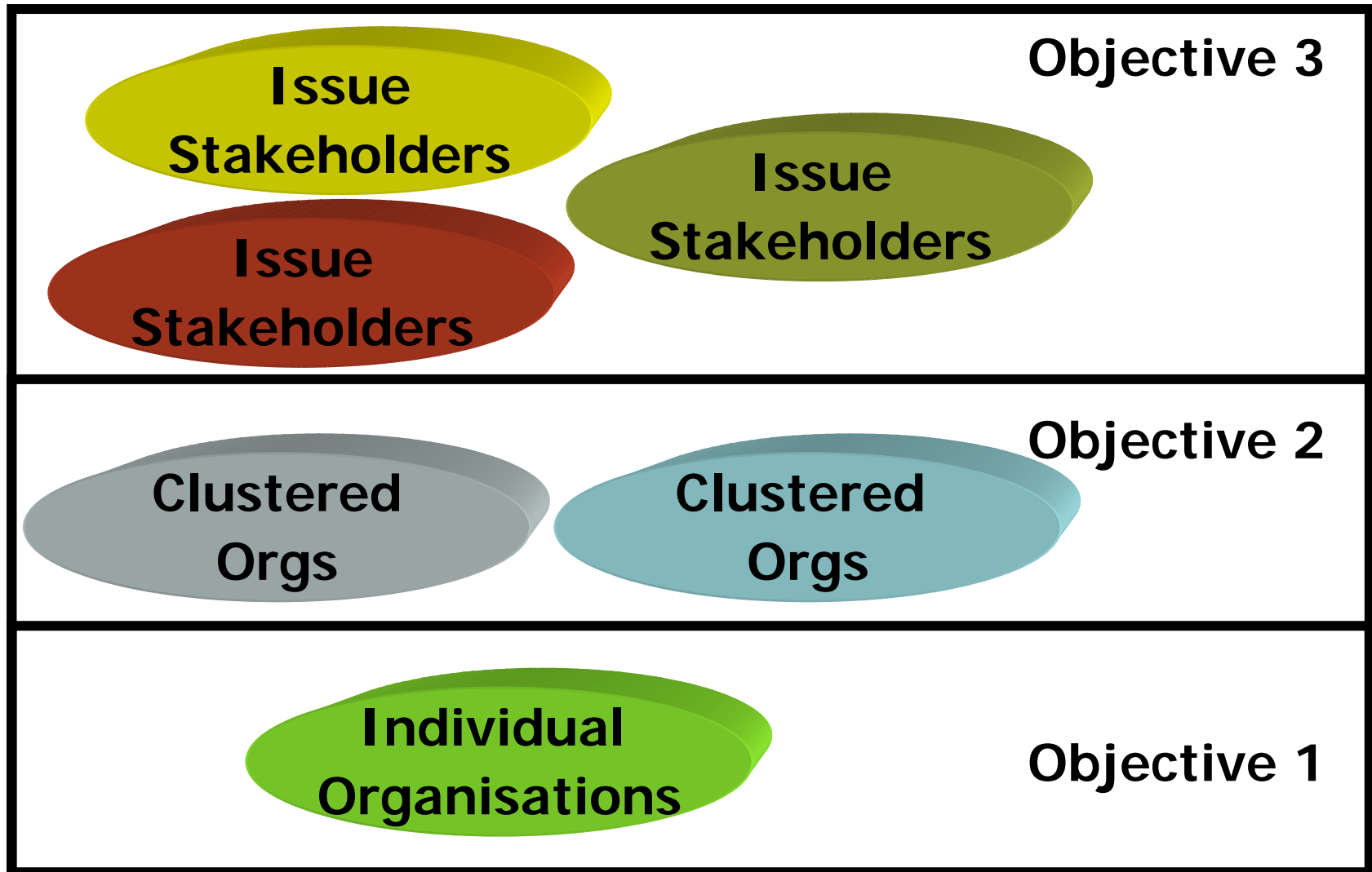
www.resorgs.org.nz

The programme has three main objectives

1. Organisations planning for hazard events
2. Prioritisation and deployment of resources
3. Legal and contractual frameworks



Layers of Resilience



Layers of Resilience

- How can we tell, by looking at an organisation during 'peacetime' how resilient that organisation is likely to be during times of crisis?
- Are there some simple strategies we can use to engage organisations in proactively building resilience?

**Individual
Organisations**

Objective 1

What is Resilience for an Organisation?

- Resilience definitions are as varied as the disciplines they come from
 - Ecological resilience
 - Engineering resilience
- We needed a definition that:
 - Recognises the different personalities that organisations have
 - Covered a broad spectrum of resilience qualities
 - Is easy to communicate and grasp



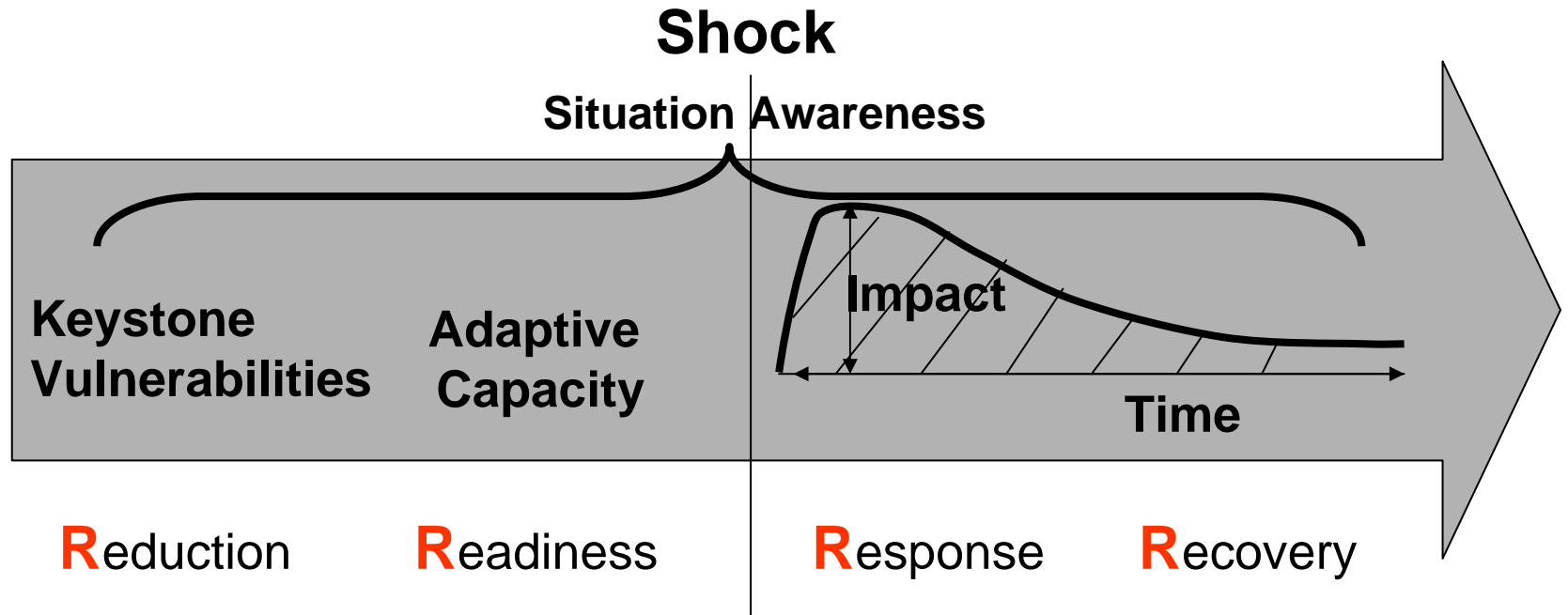
Organisational Resilience is a function of:

- ❑ **Situation awareness**
- ❑ **Keystone vulnerabilities, and**
- ❑ **Adaptive capacity**

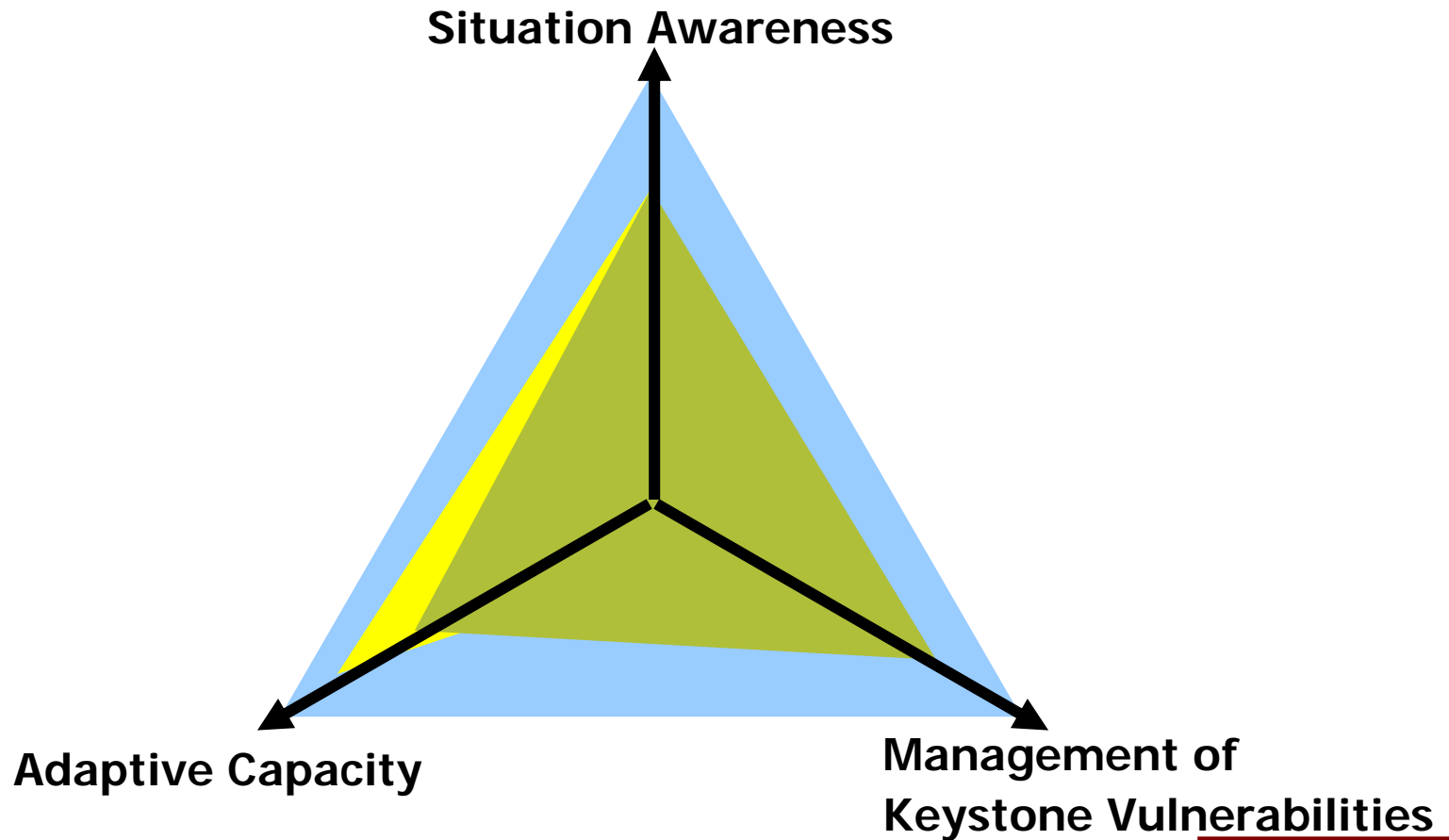
within a complex, dynamic and interdependent system



Resilience Management



Resilience Profile



...bridging the interface between...

- ❑ **Risk Management**
- ❑ **Business Continuity Planning**
- ❑ **Emergency Management**
- ❑ **Strategic Planning**
- ❑ **The Culture of an Organisation**



- 10 Case Studies of very different organisations.

- Research questions:
 - Are there common attributes of organisations that are likely to help or hinder during times of crisis?
 - Can we develop a robust, repeatable, yet simple process for exploring resilience issues with organisations of different scales, sectors and types?
 - Given that resilience is contextual to the hazard can we develop a generic means of comparing the resilience of different organisations?



Resilience Management Process (tools and techniques)

- Semi-structured interviews (*10-15 per organisation*)
 - Introduce resilience concepts
 - Collect information on the organisation's current resilience
 - Mapping the Organisational Elements

- Discussion document to validate info from interviews

- Half-day workshop
 - Consequence Scenarios
 - Assessment of Keystone Vulnerabilities
 - REDS (Readiness Exercises and Disaster Simulations)

- Final Report on Resilience
 - Resilience Profile



Consequence Scenarios

Regional Event	Significant physical damage to buildings, contents, and resources coupled with severe disruptions to lifeline services such as transportation, electricity, water and telecommunications.



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Distal Event	<p>Impacts business flow through key suppliers or customers.</p>



Mapping Organisational Components

INTERNAL COMPONENTS					
Physical Components		Human Components		Process Components	
Buildings and Equipment	Offices	Comms and Relationships	General Staff	Direct Planning	Risk mgmt
	IT Hardware		Senior Staff		Continuity plans
	Security		Board		Emergency mgmt
	Vehicles	Management	Leadership		Cash flow
	Software/IP		Succession		Brand knowledge
	Inventory		Staff Welfare		Insurance
Services	Generators	Information/ Knowledge	Backup		
	Fuel Supplies		Privacy		
	IT Networks		Training/review		
EXTERNAL COMPONENTS					
Physical Components		Human Components		Process Components	
Services	Electricity	Comms and Relationships	Emerg.services	Indirect Planning	Interconnectedness
	Water		Local authority		Govt. Legislation
	Sewerage		Customers		Contracts
	Telecomms		Suppliers		Reputation/Image
	Transport		Media		

■ Criticality

- How severe is the impact on the organisation if this organisational component is compromised?

■ Preparedness

- How well prepared is the organisation to continue functioning if this component is compromised?



Vulnerability Matrix

Preparedness	None				
	Low		4		2
	Mod		5	1	3
	High	7		8	
		Low	Moderate	High	V High
		Criticality			

■ Criticality

- ❑ How severe is the impact on the organisation if this organisational component is compromised?

■ Preparedness

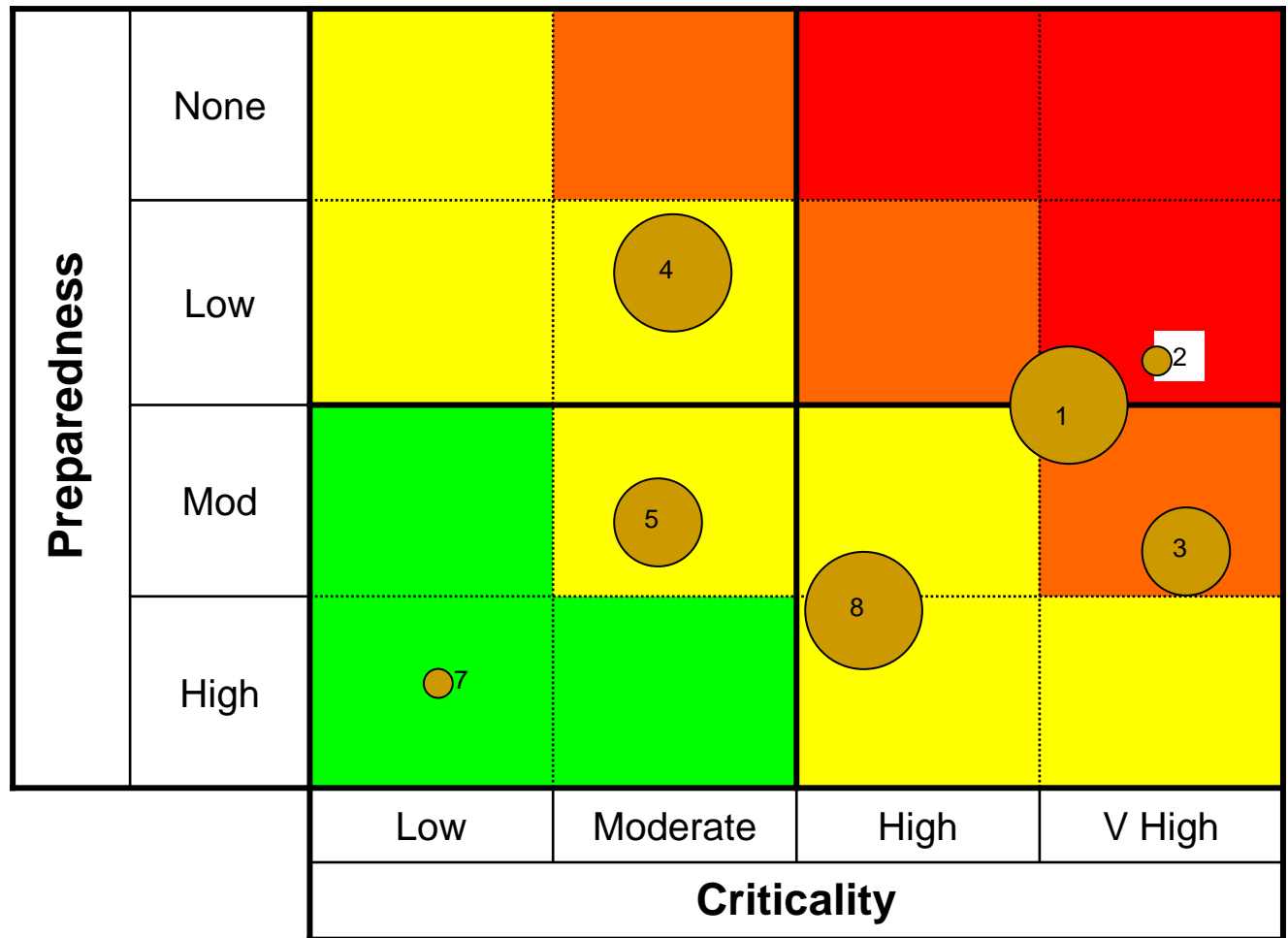
- ❑ How well prepared is the organisation to continue functioning if this component is compromised?

■ Susceptibility

- ❑ Contextual: how badly impacted will this component be in the event of this particular scenario?



Vulnerability Matrix



REDS: Readiness Exercises and Disaster Simulations

- Simple tabletop ‘war-gaming’ exercise, useful for:
 - highlighting **keystone vulnerabilities** (and creating the motivation for reducing them)
 - improving the **adaptive capacity** of the organisation by gaining experience in working together to solve unique problems,
 - and enhancing **awareness** of critical dependencies and functions within the organisation, plus giving the confidence to seek out opportunities even in times of crisis.



REDS: Emergency Management Meeting Concept

- ❑ X has just happened, you have 20 minutes to develop your response strategy...
- ❑ We observe how they work together as a team, then:
 - Hold a mirror up so they reflect on their response
 - Teach them new mgmt strategies they can use
- ❑ Roll the scenario forward in time, now Y has happened..., you have 20 mins to develop your strategy
- ❑ Take out one or two members from each group to look at the same issue from a stakeholders perspective –what does that stakeholder *expect* from the organisation
- ❑ Present strategies and compare with stakeholder expectations
- ❑ Group discussion about what learnings this has for a real crisis.

REDS: the prompts

- For each scenario the group has 4 sheets of flip chart and four questions:
 - What are the **major issues** for the organisation at this time? **Brainstorming**
 - What are the **top priorities** and how might they be implemented? **Strategizing**
 - What is a **lower priority**, and how long until it becomes more critical? **Horizon Scanning**
 - What can we **do now** to make life easier in a real crisis? **Preparing**



Indicators: Situation Awareness

Attribute	Indicator		Description
Situation Awareness	Roles and Responsibilities	SA ₁	Awareness of roles and responsibilities of staff internally in an organisation and the roles and responsibilities of the organisation to its community of stakeholders
	Hazards and Consequences	SA ₂	Awareness of the range of hazard types and their consequences (positive and negative) that the organisation may be exposed to.
	Connectivity Awareness	SA ₃	Awareness of the links between the organisation and its entire community of stakeholders, internally (staff) and externally (customers, local authorities, consultants, competitors etc).
	External help and support	SA ₄	Awareness of the obligations and limitations in relation to business interruption insurance and other insurance packages that the organisation may have or have available, business advice and mentoring services, government aid etc.
	Recovery Priorities	SA ₅	Awareness of minimum operating requirements and the priorities involved in meeting these requirements, together with expectations of key stakeholders.

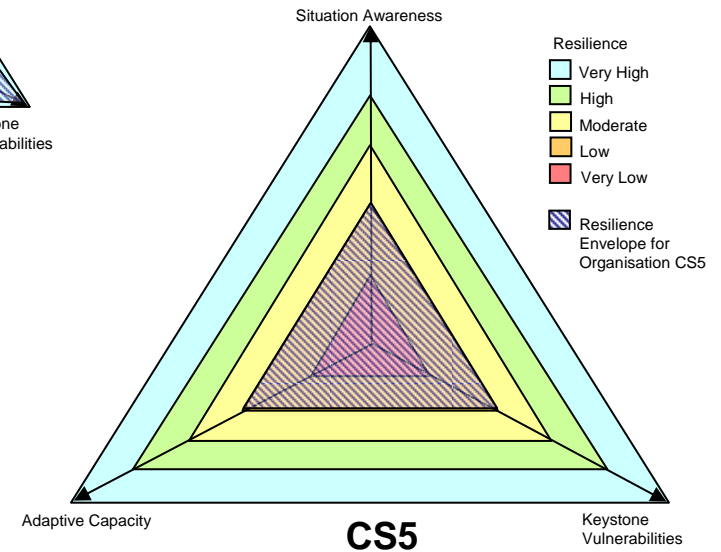
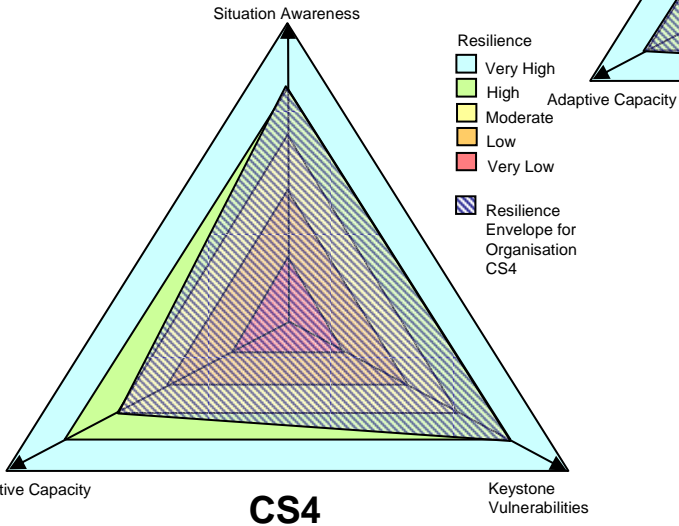
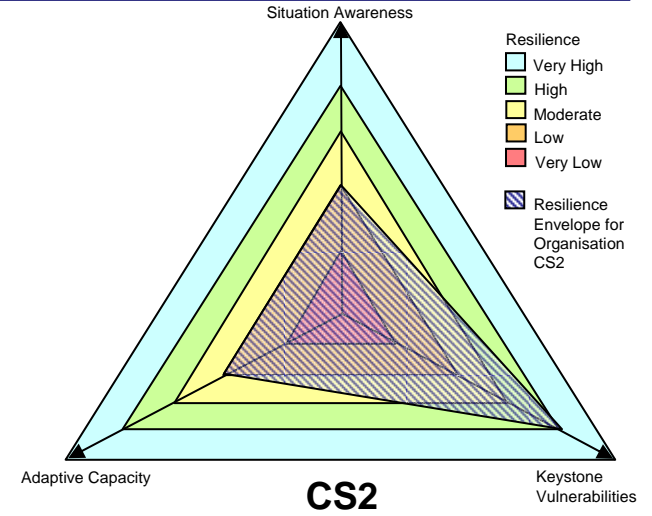
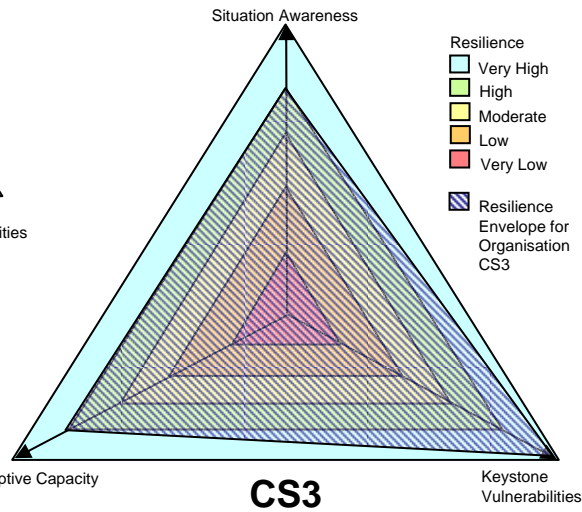
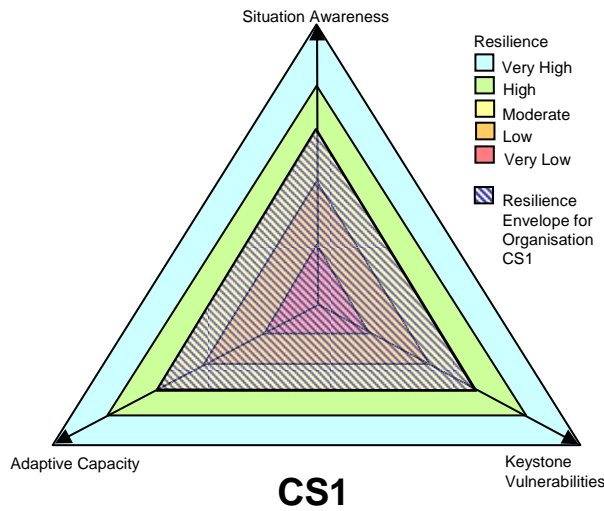
Indicators: Keystone Vulnerabilities

Attribute	Indicator		Description
Keystone Vulnerabilities	Planning	KV ₁	The extent to which the organisation has participated in planning activities including risk management, business continuity and emergency management planning.
	Exercises	KV ₂	The extent to which the organisation has been involved in external emergency exercises or created exercises internally for staff and stakeholders.
	Internal Resources	KV ₃	The capability and capacity of physical, human and process related resources to meet expected minimum operating requirements in a crisis. Includes economic strengths, succession and structural integrity of buildings.
	External Resources	KV ₄	The expectations of the organisation for the availability and effectiveness of external resources to assist the organisation in a crisis.
	Connectivity	KV ₅	The extent to which the organisation has become involved with other critical organisations to ensure the availability of expertise and resources in the event of a crisis.

Indicators: Adaptive Capacity

Attribute	Indicator		Description
Adaptive Capacity	Silo Mentality	AC ₁	The degree to which the organisation experiences the negative impacts of silo mentality and the occurrence of strategies in place for mitigating them.
	Communications and Relationships	AC ₂	The effectiveness of communication pathways and relationships with all stakeholders, both internally and externally in day-to-day and crisis situations.
	Strategic Vision	AC ₃	The extent to which the organisation has developed a strategic vision for the future operations and the degree to which that is successfully articulated through the organisation.
	Information and Knowledge	AC ₄	The degree to which information and knowledge is acquired, retained and transferred throughout the organisation and between linked organisations.
	Leadership and Management	AC ₅	The degree to which leadership and management encourage flexibility and creativity in the organisation and how successful decision making is in times of crisis.

Resilience Profiles



Target Outcomes:

1. Development of a resilience management framework.
2. Metrics for benchmarking resilience across different organisations.
3. Best practice principles for improving resilience.



Next Steps:

- Continue refining the suite of Resilience Indicators
- Funding for International case studies
- Pilot study: benchmarking the resilience of organisations in Auckland City, NZ
- Resilience strategies:
 - Breaking down silo mentality
 - Resilient leadership

