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Risk Management Approaches to National Security Issues

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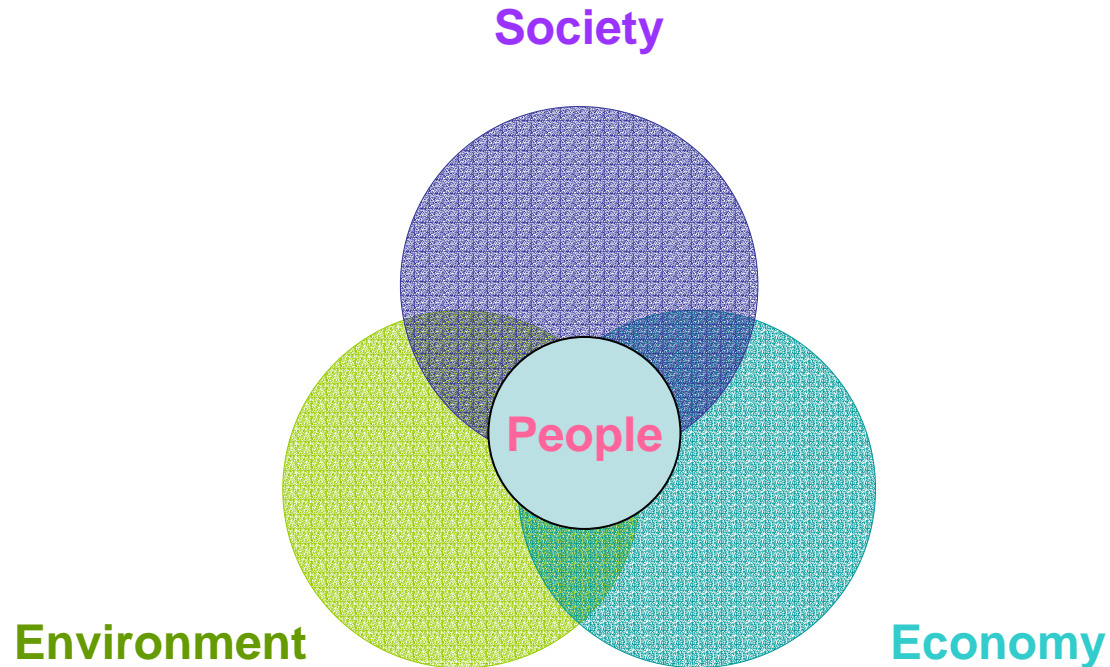


Outline

- Contemporary Security Issues
- Systems Approach
- Management Strategies
- Standards



21st Century Security Concerns





Security, Safety and Stability

These are fundamental roles for governments, but:

- Increasing array of new societal and systemic risks
- Complex, unpredictable, and create apprehension
- Multivariat, and complicated interdependencies
- Public vulnerabilities are increasing
- Precautionary principle still dominates planning



Trends

Disasters and failures are growing in number, scale, complexity, consequences and costs

- “Normal” threats/hazards are being managed better
- Unusual problems are causing larger impacts
- Failures more easily cascade across sectors & widen
- Problems often occur through multiple co-incidences

Conclusion: The security overheads of life are increasing



Contemporary Security Issues

Natural

- Natural Hazard:** flood, earthquake, volcano, storm, drought, wildfire, etc
- Bio-security:** plant and animal disease, foot & mouth, etc
- Health Emergency:** epidemic, SARS, H5N1

Technology

- Infrastructure:** accident, engineering failure, service outage, utility loss
- Transport:** aircraft, train, ship accident; road or bridge closure
- Hazardous Materials:** chemical leakage, marine oil spill, plume
- Food:** safety issues, quality, distribution, contamination, cumulative risk
- Supply Chain:** fuel interruption, energy distribution, shortages of imports

Human

- Failings:** accidents, negligence,
- Malice:** malevolence, criminal activity, arson, protest
- Unconventional Attack:** cyber-threat, hacking, service denial
- Sovereignty:** border violation, espionage, trans-national crime, poaching
- Organized Threats:** military, para-military, terrorism, asymmetric warfare

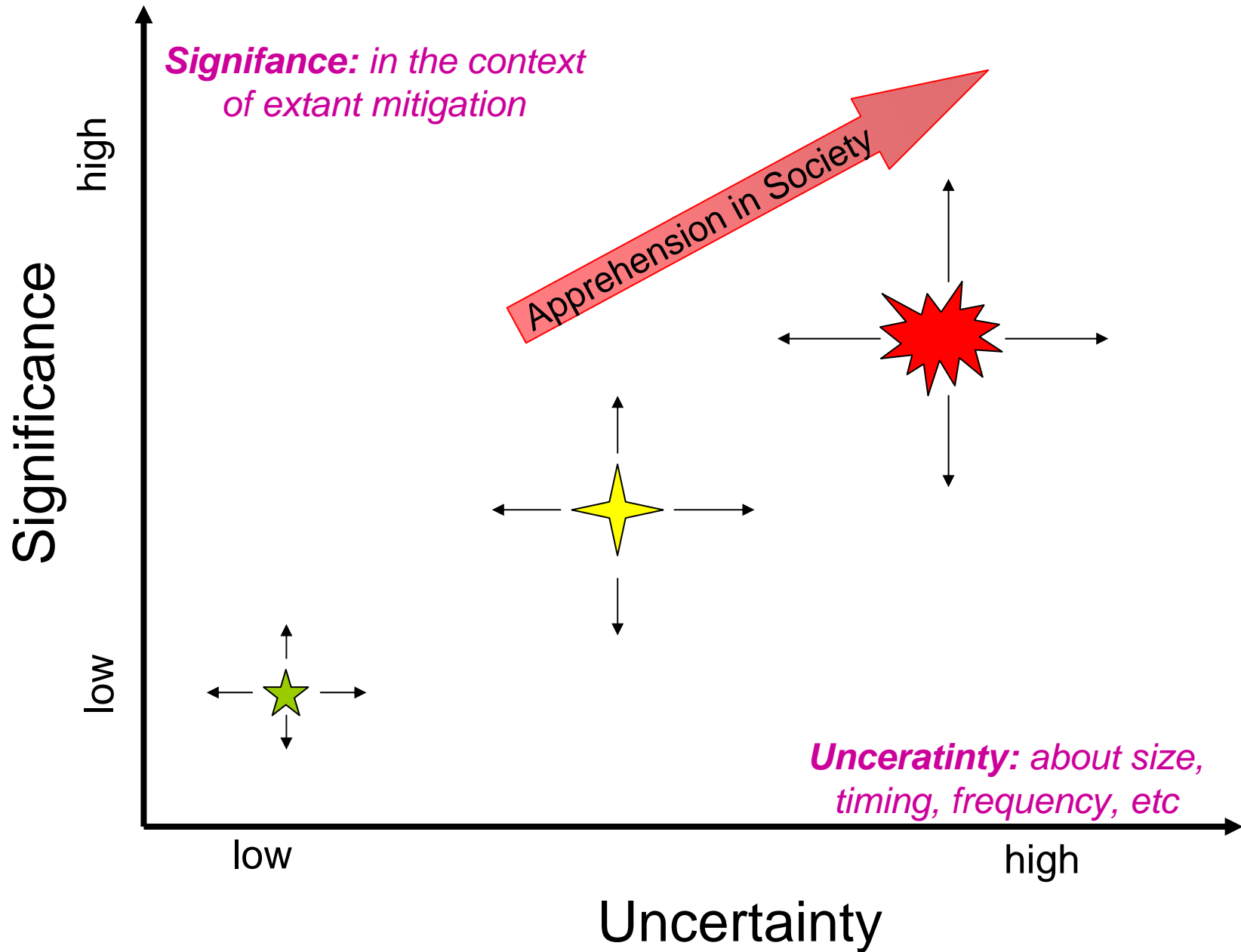


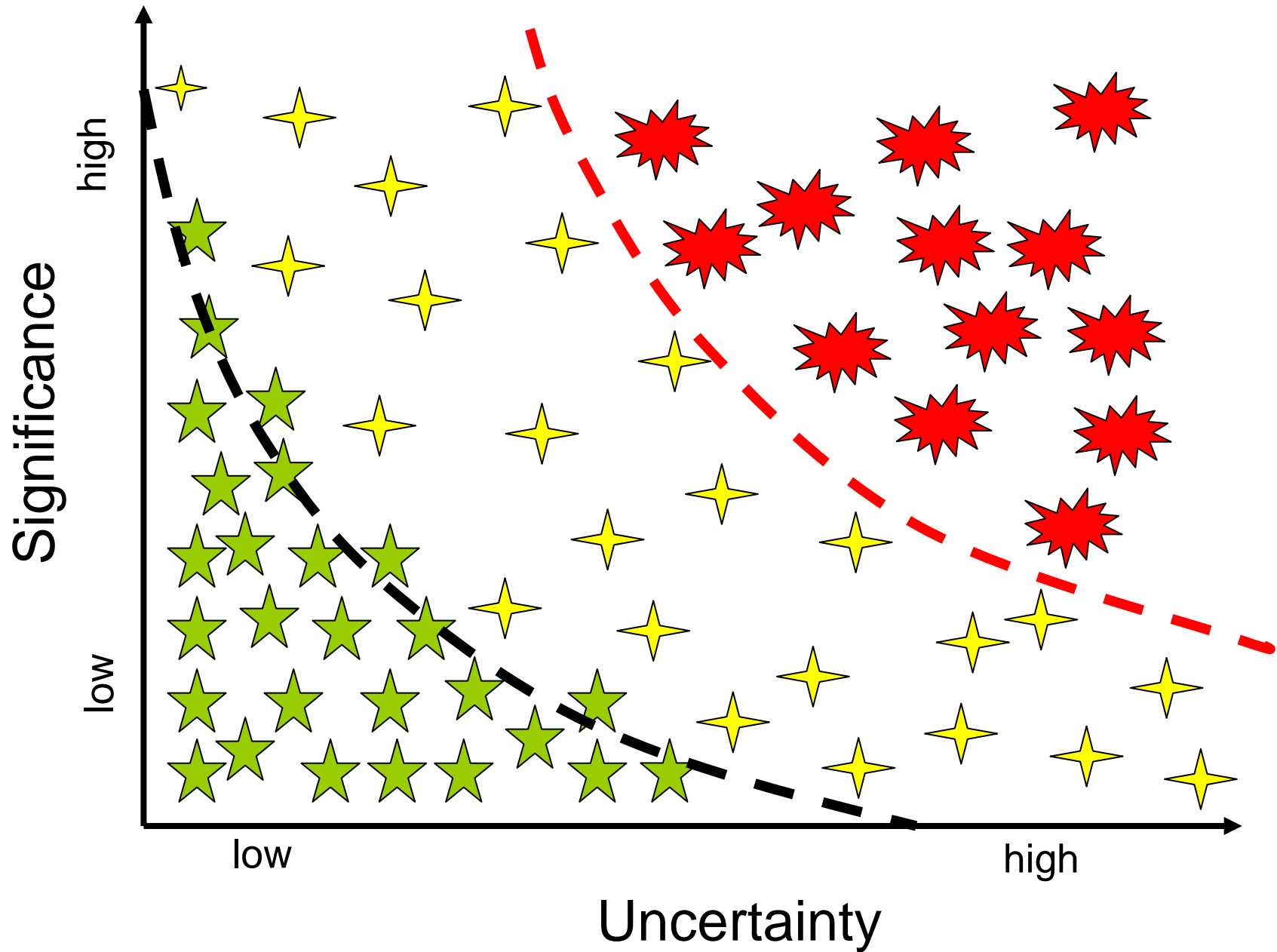
What Really Matters? How Much Security is Enough?

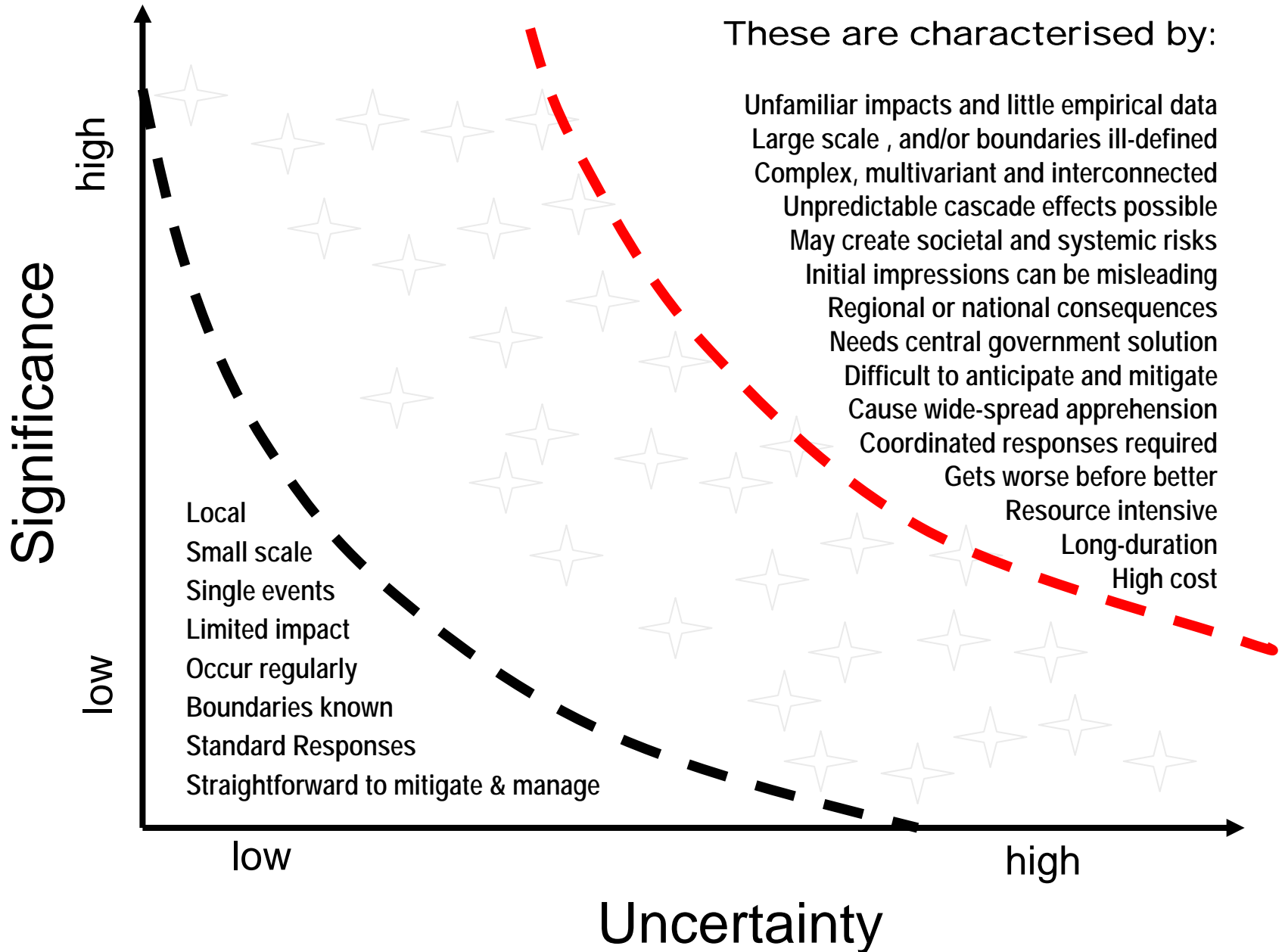
Perceptions of harm are characterized by

Significance & Uncertainty

*These two measures provide a planning basis
for
mitigation and management*



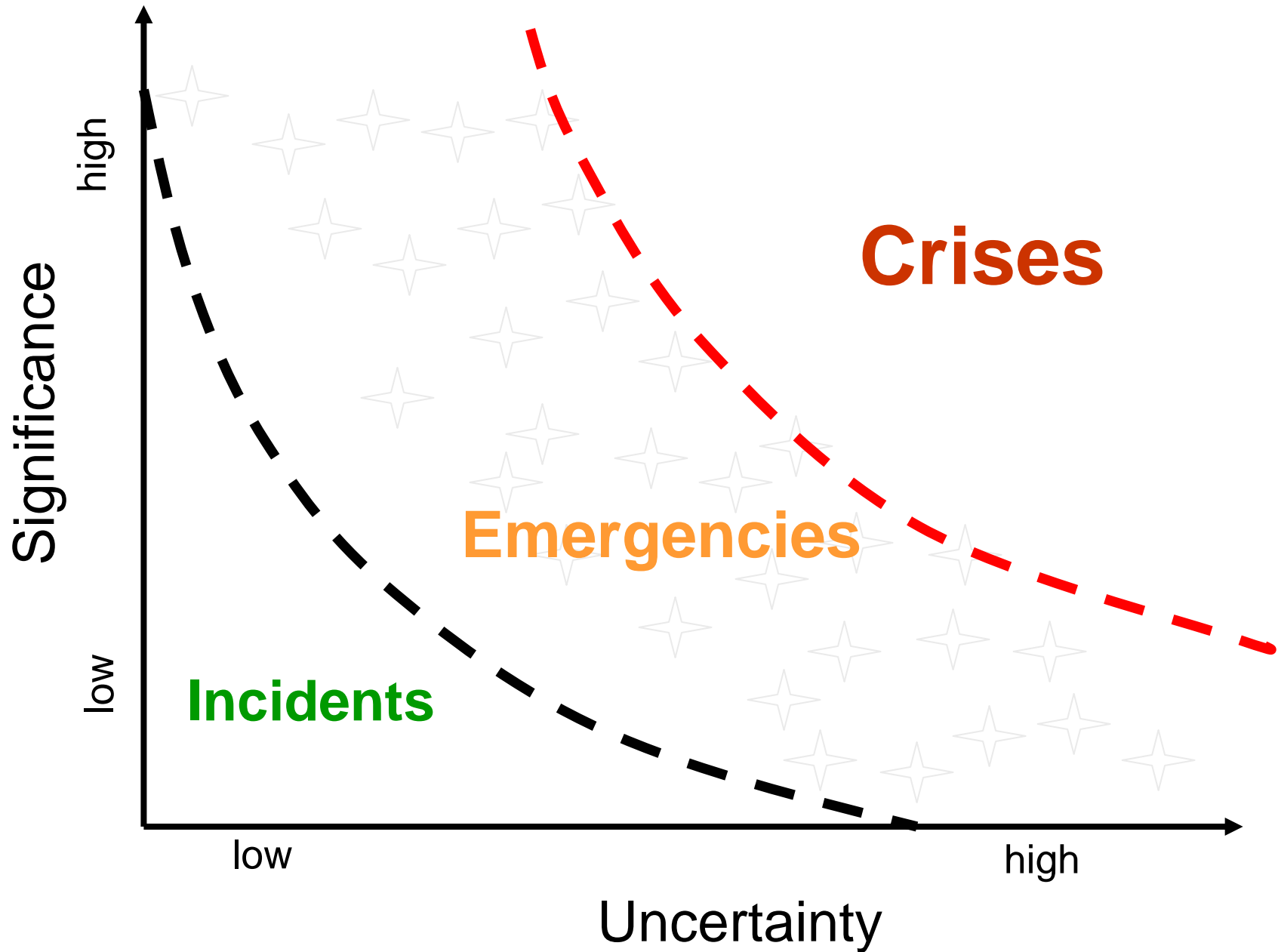


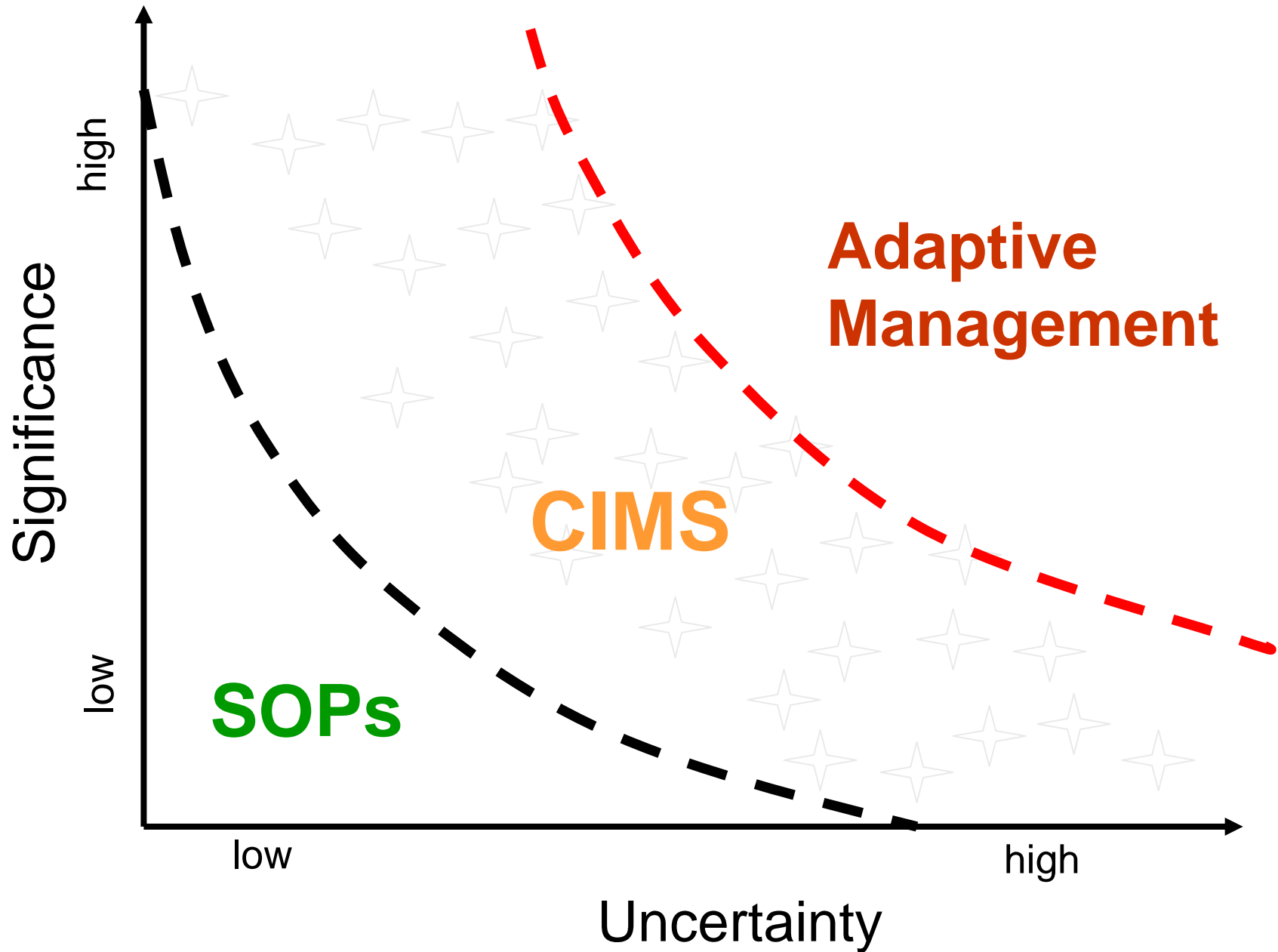


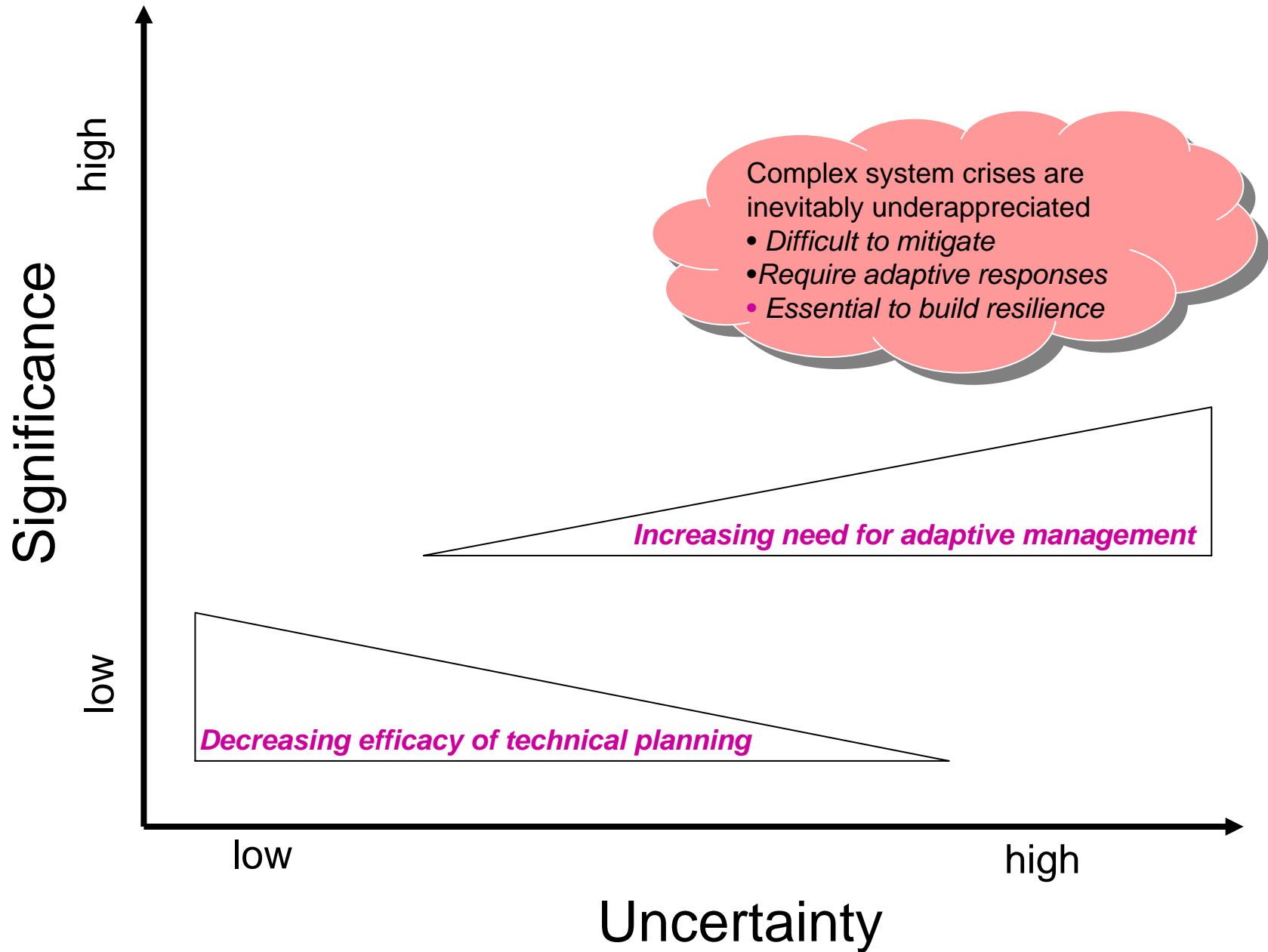


Management

Each category is managed differently

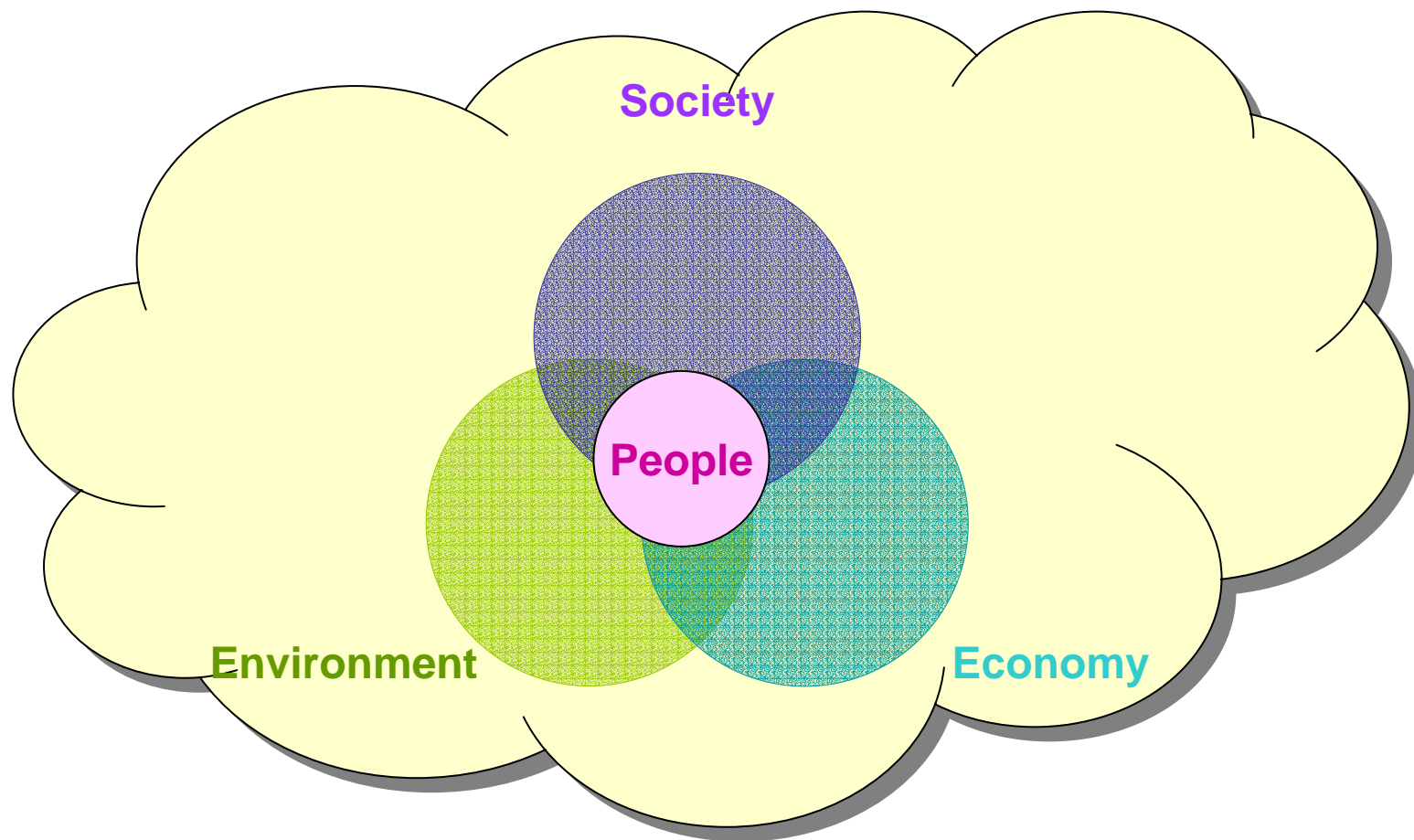








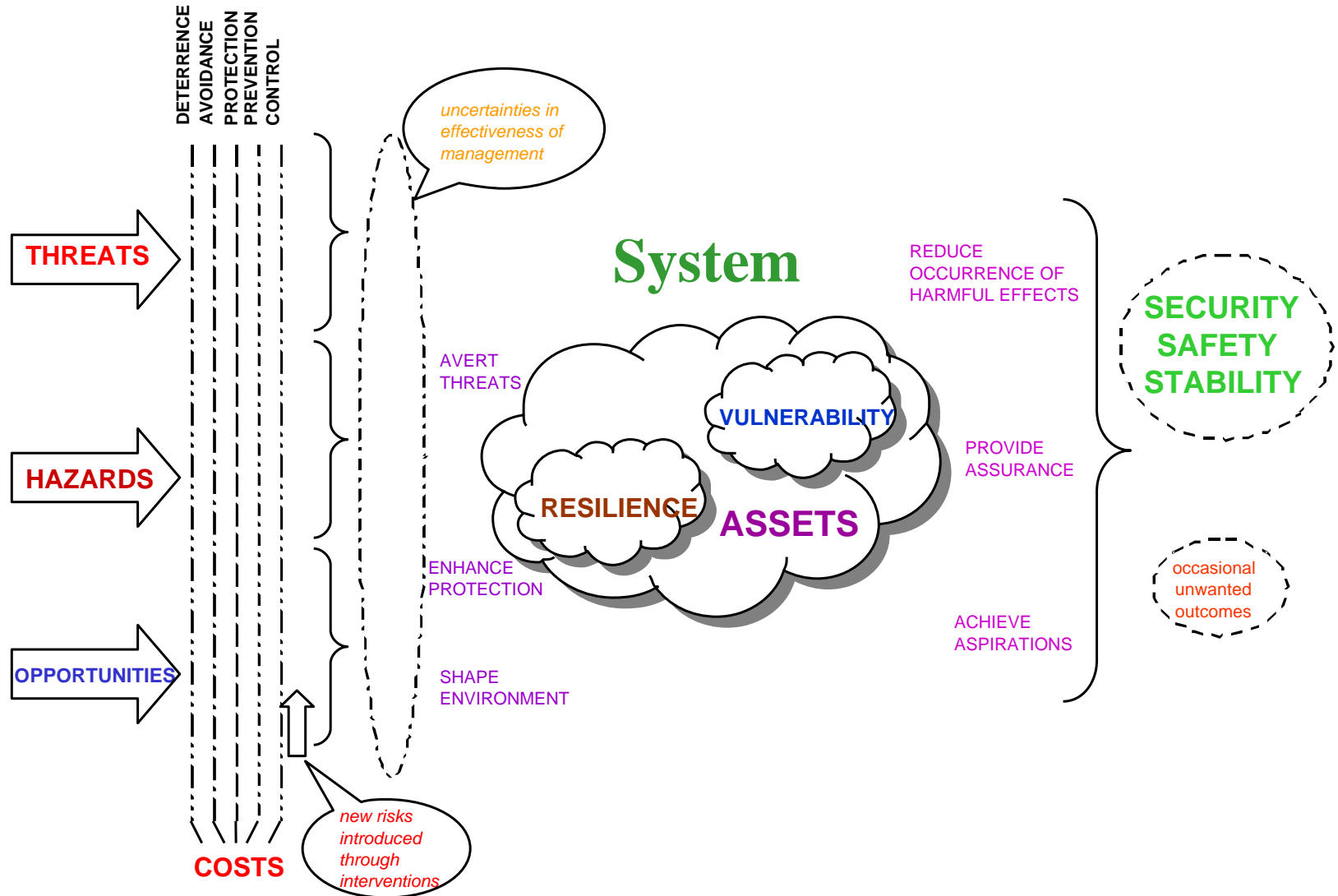
National Security 'Assets'



MANAGEMENT

GOALS

OUTCOMES





Management of the System

All of the elements in this model comprise a 'system', and each must function correctly.

The elements include individuals, communities, businesses, local government, central government, the legal system, knowledge providers, insurers, risk assessments, mitigative measures, management strategy, response mechanisms, etc.

The system relies on every stakeholder being committed to managing down the risks within the same framework.

Central government and problem owners must ensure that:

- each risk is managed appropriately (proactively & reactively)
- national resources for mitigating each is proportionate
- the total set of risks is managed optimally.



System Resilience

Resilience in the “System” requires:

Coherence across all elements

Connectedness between elements and with other systems

Completeness so every significant element is included

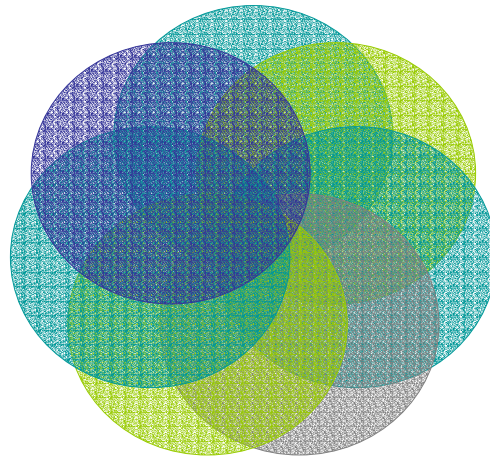
Clarity of understanding about the total system

Consistency in terms of processes and standards applied

Integrity & Balance right throughout the system.



Systems Approach to Security Risks

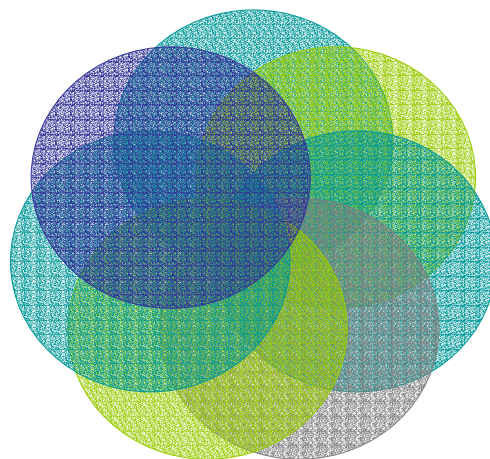


A systems approach focuses on the **interactions** between the various elements in a system in order to understand the **unique relationships** these interactions produce (in contrast to the traditional linear analysis of reductionist methods)



Management of National Security Risks

**National Security Risks must be analysed and managed
in a **total system context****



**Systemic risks require complex solutions
because, in “systems”,
the **whole** is not only **greater** than the sum of the parts
it is **fundamentally different** from the sum of the parts**



Management Strategy

- 1. Understand the ‘system’**
- 2. Utilise risk management**
- 3. Improve system resilience**

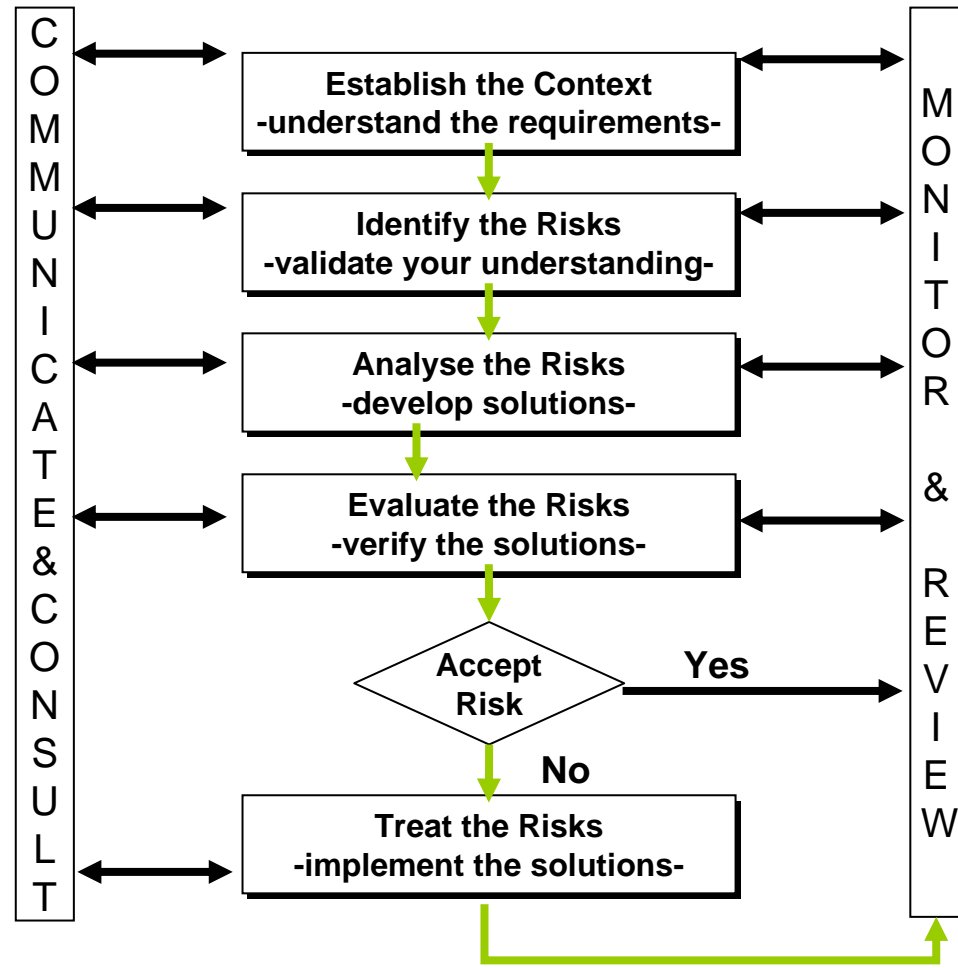


Resilience in Practice

- ▶ Establish the widest relevant context
- ▶ Map out system, including processes and flows
- ▶ Consider hazards, threats and opportunities
- ▶ Identify vulnerabilities and resilience
- ▶ Consider basic strategy
- ▶ Identify, analyse and evaluate major risks
- ▶ Test preparedness: controls, defences, recovery plans
- ▶ Continuous improvement to:
 - Identify latent or unknown vulnerabilities
 - Improve preparedness
 - Adapt to new situations



Risk Management Standard (AS/NZS 4360:2004)





Reducing Risk

Every single contributing factor needs to be considered:

ie, analysed, evaluated, and controlled

. . . . so policies can be developed that result in the optimum balance of effort and mitigation across all factors

Risk management is a continuous process, not an event

Managing complex risks involves:

- trade-offs between mitigation measures
- wise use of funds and resources
- hard choices for decision-makers



Management Strategy

<i>Proactive</i>		<i>Reactive</i>	
Prevention	Preparation	Response	Recovery

*The goal for policy-makers
is to achieve
the optimum balance
across all four elements*



Pandemic Management Strategy

<i>Proactive</i>		<i>Reactive</i>	
Prevention	Preparation	Response	Recovery

Intelligence					
		Infrastructure advice			
		Business Continuity			
Border Management					
			School Closures		
		Vaccines ordered			
		Medical advice	Home Primary Care	Medical Services	
Consideration within DESC System					
				Legal Provisions	
Communications					



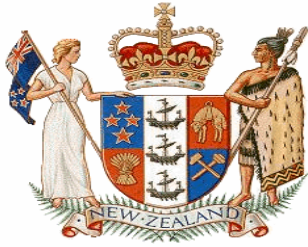
Pandemic as a risk issue . . .

- Difficult risk – low probability; high consequence
- Many uncertainties
 - in likelihood of a human pandemic developing (1.2 million: 1)
 - in prospect of reaching New Zealand
 - in potential consequences for people
- Complex risks to understand and control (beyond experience)
- Potentially would create New Zealand's most serious crisis
 - but, neither inevitable nor apocalyptic



Initial Principles of Management

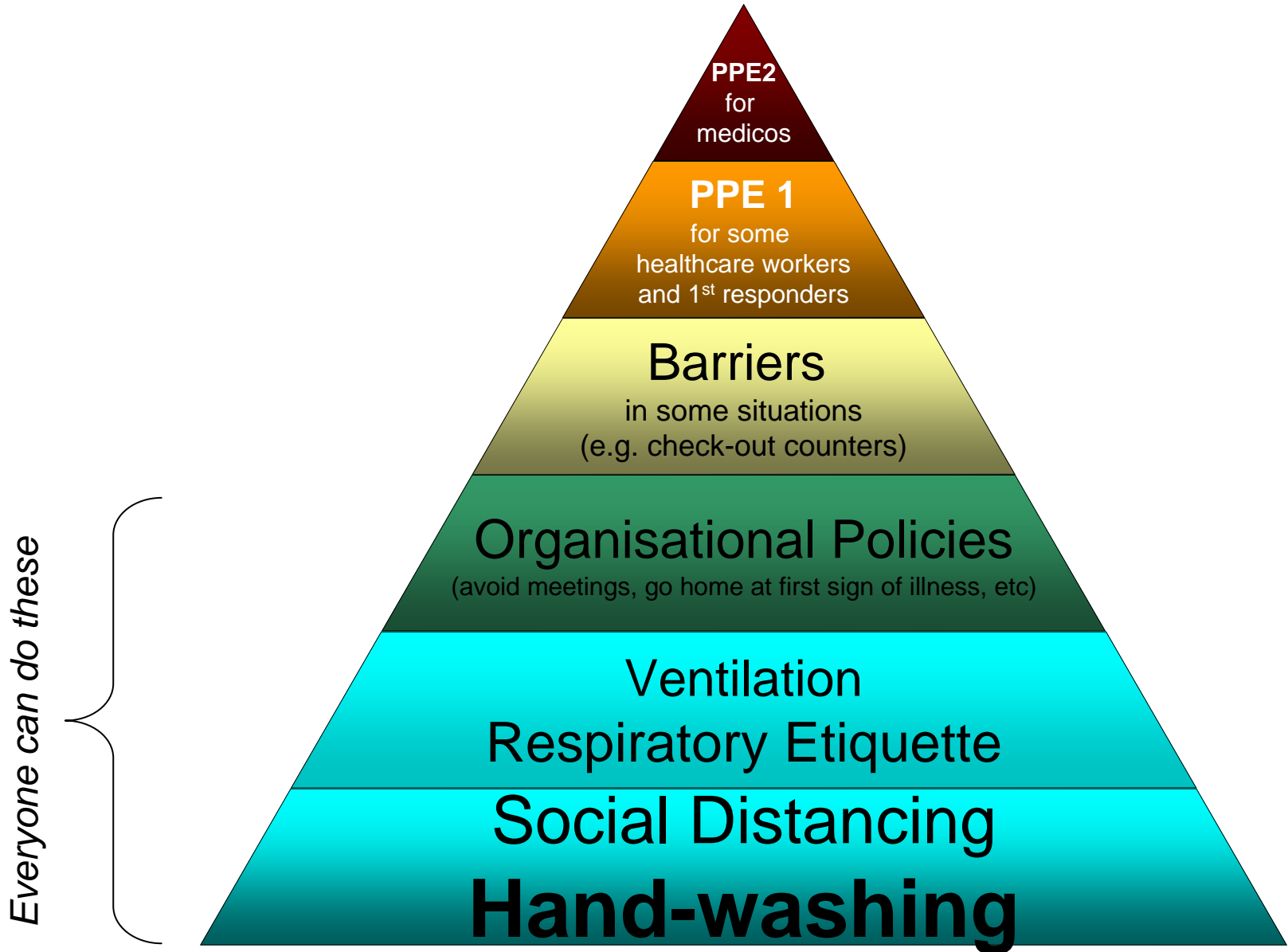
- Central government would have to lead
- Need for comprehensive and integrated management
- Require total community engagement at all levels
- W-O-G pre-planning and coordination essential
- Precautionary principle, surveillance, and very rapid response
- Well-targeted mitigation & responses would attenuate effects
- Strategy: Prevent/delay/slow spread, and control outbreaks
 - Buy time to enable vaccines to be developed and distributed



Management Strategy

<i>Proactive</i>		<i>Reactive</i>	
Prevention	Preparation	Response	Recovery
Planning			
	Border Management		
		Cluster Control	
		Pandemic Management	
			Recovery

Hierarchy of Pandemic Precautions





Process Standards

AS/NZS 4360:2004 is a process standard, outlining required steps rather than technical specifications.

It is currently being adopted by the International Standards Organisation as the basis of a new global standard to be known as ISO 31,000

New Zealand is developing a new series of standards for hazards management (NZS 9400 series). It builds on the *National Hazardscape Report*. The first standard, on flood resilience (NZS9401), is near completion.



Conclusions

New Zealand's experience in the past two decades has convinced us of the importance of:

- having systematic approaches to analysing hazards & threats
- developing a comprehensive framework for security
- taking a systems approach
- using formal risk management strategies (eg, 4Rs or PPRR)
- ranking and quantifying the most serious risks
- building resilience to deal with unexpected or uncertain risks.