

T2-A9 Natural Hazards and resilience in complex urban systems

Stakeholder Briefing

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Overview

- Background and context
- Project aim, team and approach
- Discussion



Background and context

86% of Australia's population lives in a major urban centre (in low-density suburbs)

Most population growth happens in major cities and fast-growing coastal cities

Exposure to natural hazards, e.g. extreme heat, flooding, cyclones, bushfires

Multidimensional, cascading & compounding impacts can lead to complex impacts

Climate change will exacerbate frequency and intensity of natural hazards

Need for understanding of

- Causes and effects of (urban) disaster risk
- Systemic vulnerability
- Exposure intensity and scale



Background and context

Complex, tightly interconnected and dynamic nature of urban systems

Diversity of urban systems (spatially, economically, socially, culturally, politically etc.)

Rapid change (urbanisation, demographic shifts, climate change etc.)

Decisions of many stakeholders (government, businesses, community etc.)

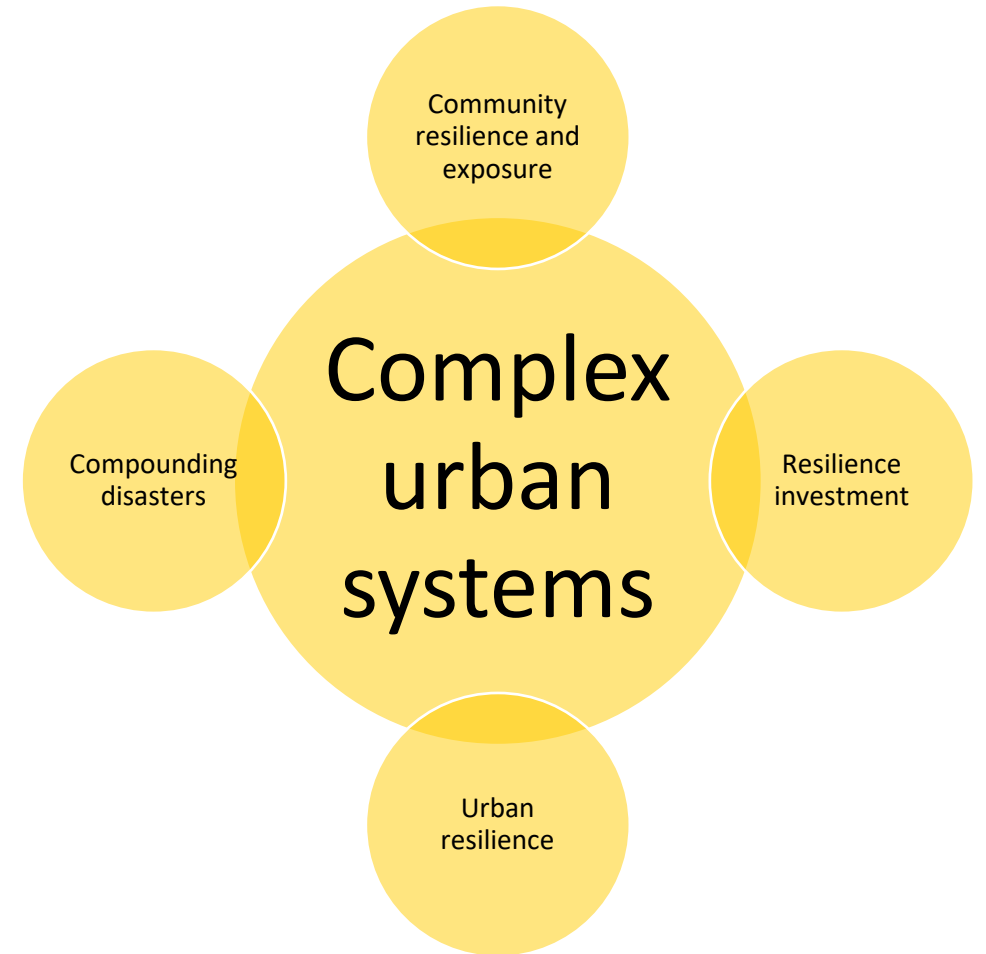
Urban resilience:

“capacity of **individuals, communities, institutions, businesses and systems** within a city to adapt, survive and thrive no matter what kind of chronic stresses and acute shocks we experience” (UNDP 2021, own emphasis)



Background and context

- Resilience strategies and investments
- Understanding of vulnerabilities to multidimensional, compounding and cascading disaster impacts within complex urban systems
- Better understanding of how to build urban resilience and reduce disaster risk



Project aim

The aim of the project is to contribute to the following long-term impacts:

- Increased organizational and operational understanding and capacities in disaster, resilience and other agencies for responding to multidimensional disasters in major urban areas
- Increased adaptive capacity to reduce the impacts of multidimensional hazard events and disasters in major urban areas
- Effective partnerships between disaster and resilience agencies, communities, and further stakeholders (e.g., hospitals, GPs, logistics companies, planning and transport agencies) in mitigating the impacts of compound disasters
- The mitigation of risks and impacts of multidimensional hazard events and disasters and improved recovery from them



Project team

→ Expertise:

- Disaster risk
- Complex urban systems
- Urban planning
- Urban resilience
- Post-disaster recovery
- Housing (re)construction
- Emergency communication
- Urban governance
- Infrastructure
- Transport
- Policy analysis
- Community engagement



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+ two Research Fellows (pending)

+ inclusion of RMIT PhD students

+ Translation and Implementation Panel

+ Project Management Committee



Project approach

The project will develop practical guidance, including tools (where appropriate), for:

- a) Assessing and mapping vulnerabilities and resilience within urban systems at local scales
- b) Operationalising, monitoring and evaluating urban resilience strategies, plans and investments; and
- c) Suggested process principles and standards for prioritising and influencing urban resilience investments



Project approach

Four phases/work packages

1. Review of the state of knowledge of multidimensional, compounding, and cascading disaster impacts in major urban areas and how these may change over time
2. Review of practices for conceptualising and mapping vulnerabilities and resilience within urban systems
3. Review of practices and processes used to prioritise, influence, and undertake urban resilience investments
4. Dissemination and translation activities



Work package 1 – State of knowledge

Objective: Review of the state of knowledge of multidimensional, compounding and cascading disaster impacts in major urban areas and how these may change over time.

Tasks:

- 1. Literature review Part 1:** State of knowledge of multidimensional, compounding and cascading risks and disaster impacts in major urban areas
- 2. Literature review Part 2:** State of knowledge of the nature, scope and purpose of urban resilience policies and strategies
- 3. Interviews** with key stakeholders
- 4. Report** on findings



Work package 2 – Mapping resilience

Objective: Review of practices for conceptualising and mapping vulnerabilities and resilience within urban systems (conceptual mapping, not spatial mapping)

Tasks:

1. **Document analysis** - current practice:
 - a) Mapping vulnerabilities and resilience
 - b) Strategies for operationalising resilience within urban systems
2. **Interviews/focus groups** with representatives of relevant Australian organisations
3. **Feeding into WP 4:** Practical guidance tool, proof of concept case study



Work package 3 – Resilience investment

Objective: Review of practices and processes used to prioritise, influence, and undertake urban resilience investments

Tasks:

1. **Document analysis** - current practice:
 - a) Processes used to prioritise and influence urban resilience investment
 - b) Monitoring and evaluation of resilience investments
2. **Interviews/focus groups** with representatives of relevant Australian organisations
3. **Feeding into WP 4:** Draft process principles & standards for prioritising investments, draft guidance on monitoring and evaluation



WP 4 – Dissemination & translation

Objective: Dissemination and translation of findings

Tasks:

- 1. Practical guidance tool:** conceptual mapping of vulnerabilities/resilience at local scales
- 2. Proof of concept** case study for guidance tool
- 3. Draft process principles and standards** for prioritising and influencing urban resilience investments
- 4. Draft guidance** on monitoring and evaluation of urban resilience investments
- 5. Communications product**, e.g. contribution to AIDR handbook, HazardNote
- 6. Further communication products:** online webinars, industry briefs, short readable brochure, academic publications etc.



Stakeholder involvement

- Project Management Committee
- Stakeholder Advisory Group/Translation and Implementation Panel
- Nominate potential case studies
- Get updates on findings through webinars, website, brochures etc.



Discussion

- Do you have any comments or questions about the objectives and approach?
- Are there any extra priorities, or key gaps we should be addressing?
- What topics or issues are most pressing in your area of work?
- Are there any recent challenges or promising approaches that fit this research?
- Are there any inputs you or your organisation would like to contribute during the project?

