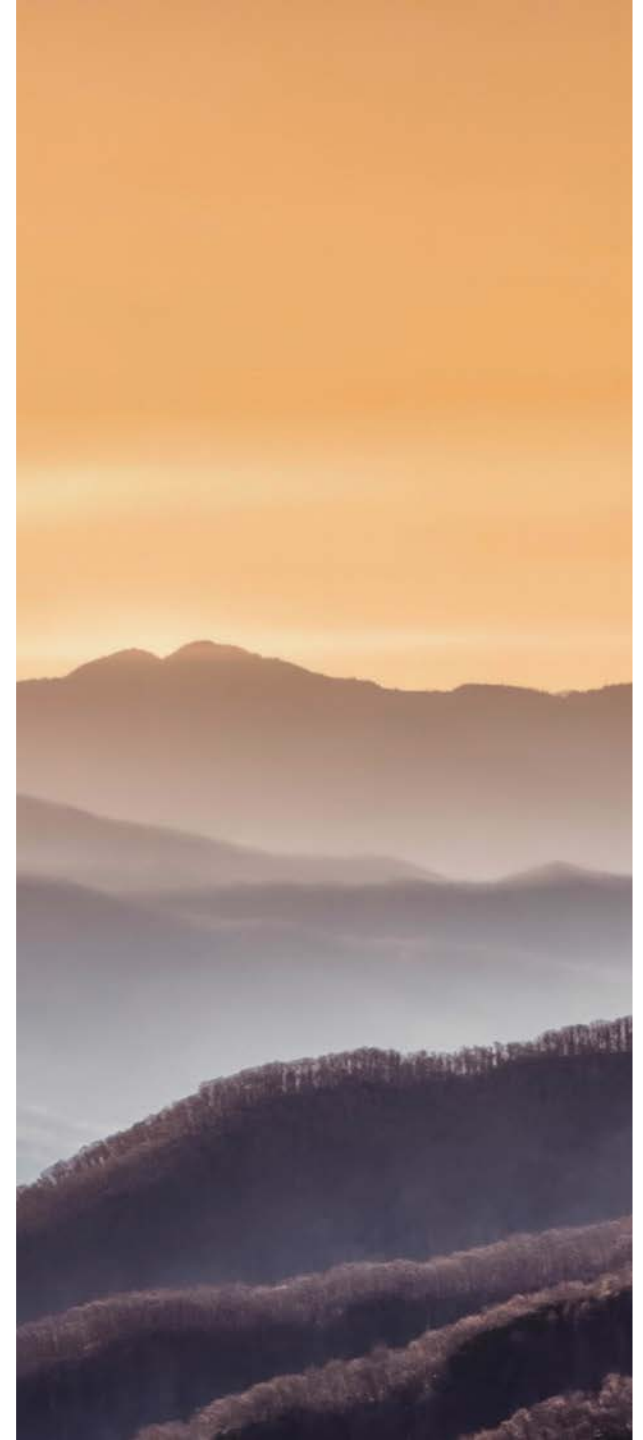


ENABLING COMMUNITY RESILIENCE TO FIRE AND FLOOD

MR. EUAN HIND, PHD CANDIDATE
DR. ADRIANA KEATING, RESEARCH FELLOW

MONASH SUSTAINABLE DEVELOPMENT INSTITUTE

24 JULY 2024

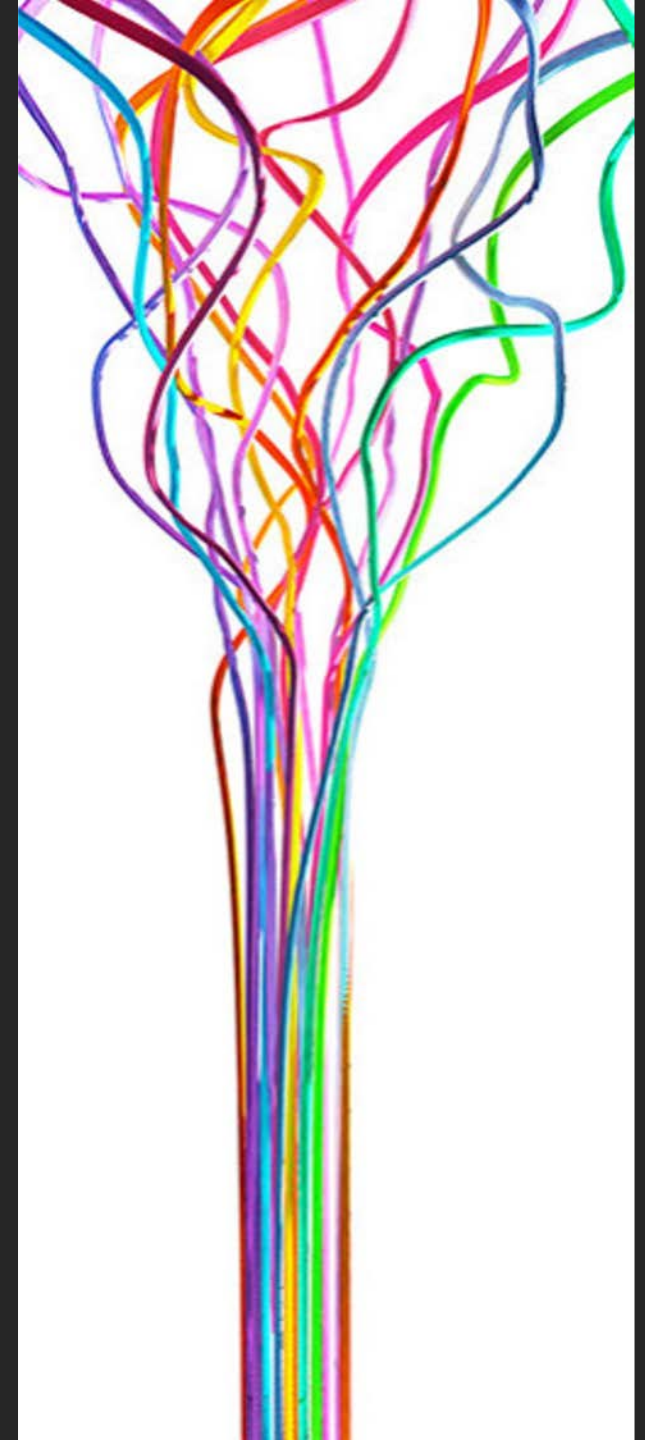


Enabling resilience-oriented urban flood governance

DOCTORAL RESEARCH PROJECT

Research Team: Euan Hind, Professor Briony Rogers, Dr. Adriana Keating and Dr. Paul Satur

24 July 2024



PURPOSE

PROBLEM

Our ambitions for flood resilience do not fit easily with existing governance arrangements and processes.

AIM

Develop evidence-based guidance for identifying and prioritising the socio-institutional conditions that enable resilience-oriented urban flood governance

QUESTION

What socio-institutional conditions are needed for resilience-oriented urban flood governance to become deeply embedded?

KEY DEFINITIONS

FLOOD RESILIENCE

The ability of a community to thrive alongside flood risk by utilising individual and collective capacities to cope, adapt, and transform in the face of uncertainty.

Keating et al. (2016); Rockström et al. (2023)

GOVERNANCE

The broad interplay between public and private actors and institutions through formal and informal mechanisms in which decisions are made and services are delivered.

Kooiman (1999); Young (2013)

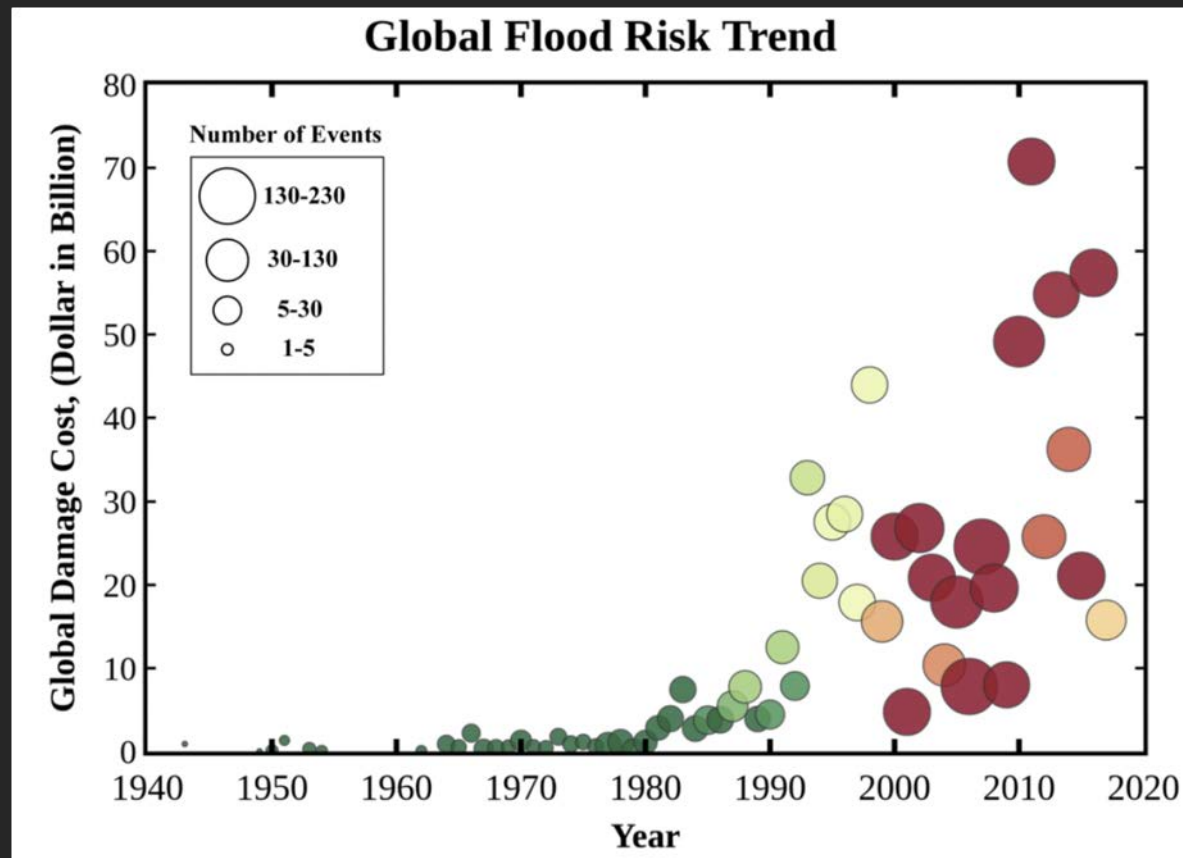
GOVERNANCE SYSTEMS

The ensemble of elements performing the function of governance.

Young (2013)

THE PROBLEM

FLOOD RISK IS INCREASING



THE PROBLEM

FLOOD RISK IS INCREASING

Lismore flood: hundreds rescued and thousands evacuated as NSW city hit by worst flooding in history

Swathes of Melbourne could face flooding from rising sea levels, new long-term modelling suggests

Three-year weather bill reaches \$12.3 billion

Half a million Australians face flood evacuation orders

2022 flood now third costliest natural disaster ever

THE PROBLEM

WE NEED TO CHANGE

Conventional approaches:

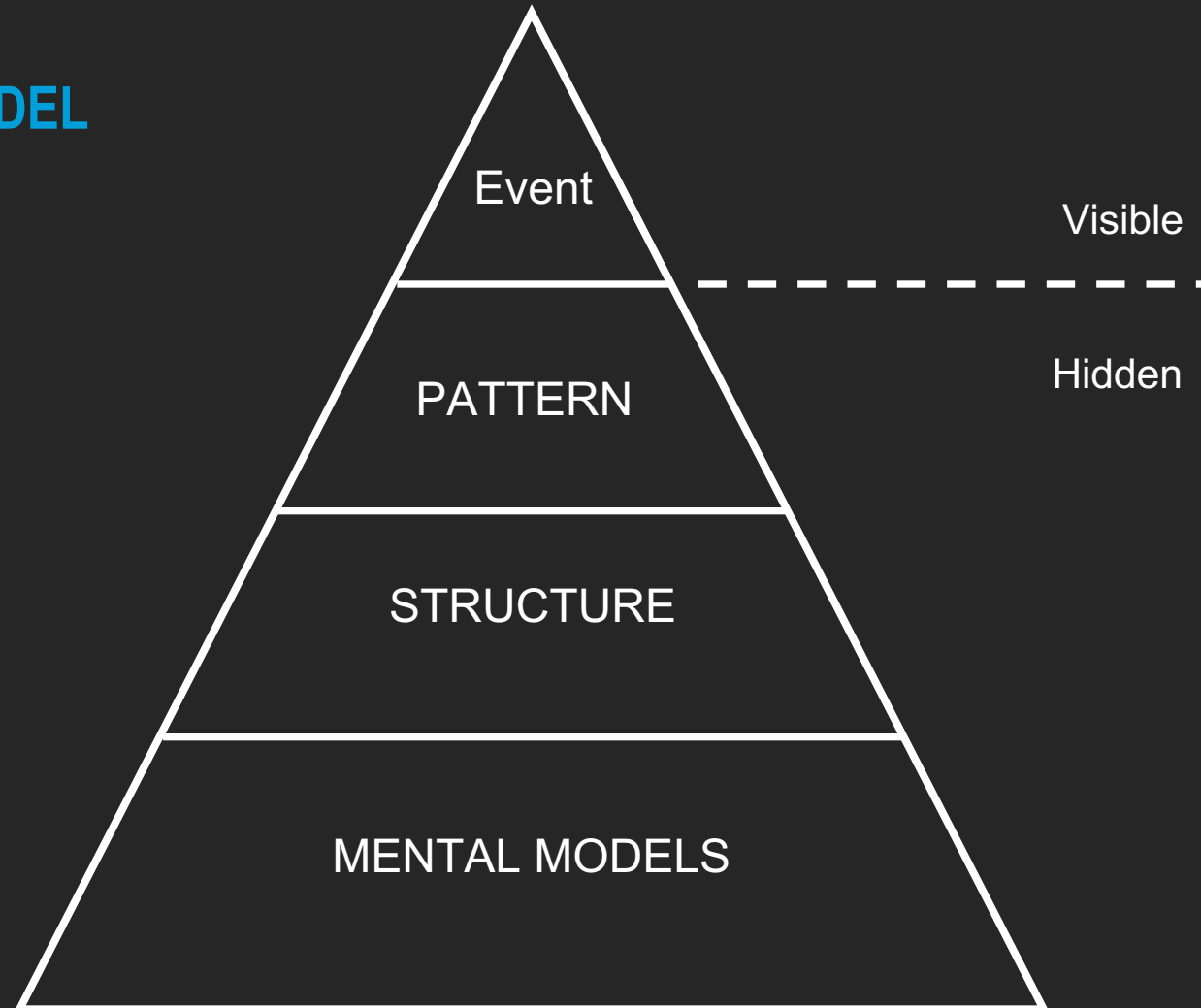
- Fragmented and siloed responsibilities
- Top-down, technocratic processes
- Lacks understanding of local context and strengths
- Reactive with overemphasis on structural measures
- Compounds systemic disadvantage

GOVERNANCE SYSTEMS ARE KEY

- Translating resilience into practice is proving difficult
- Existing setting uneasy fit with resilience thinking
- Ambitions have grown, but governance systems have not

SYSTEMS THINKING

ICEBERG MODEL



SYSTEMS THINKING

GOVERNANCE SYSTEM

Visible

PATTERN

Practices

Hidden

Policy

Resources

STRUCTURE

Mechanisms

Actors

Norms

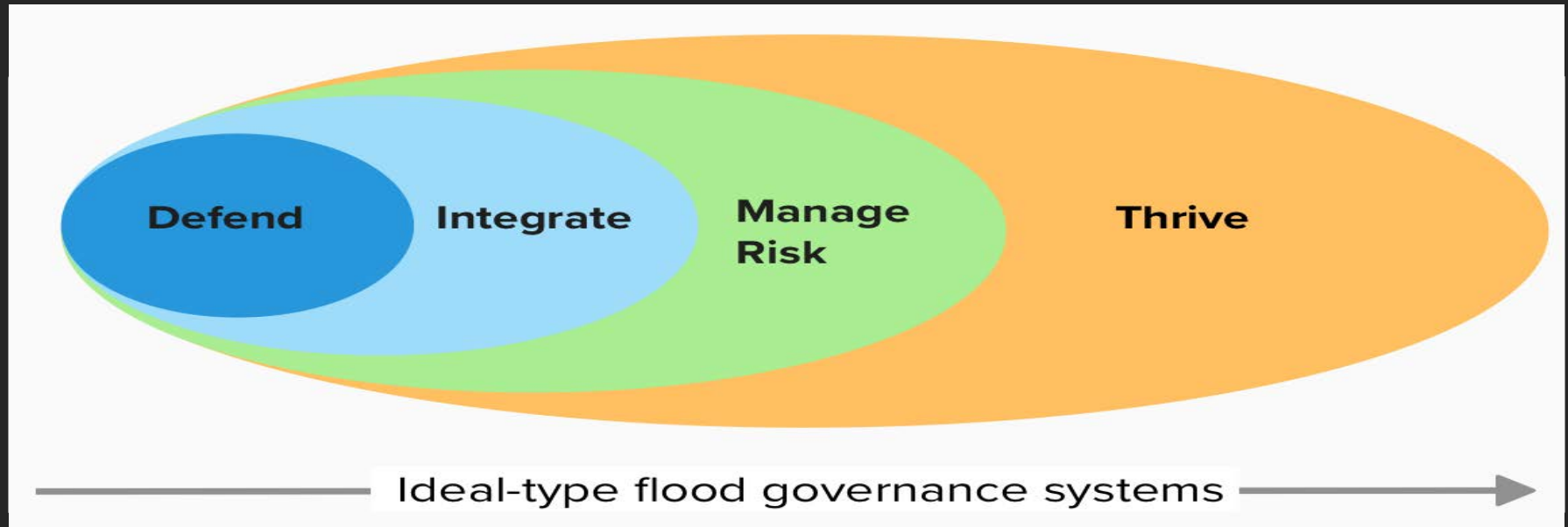
MENTAL MODELS

Values

Mindset

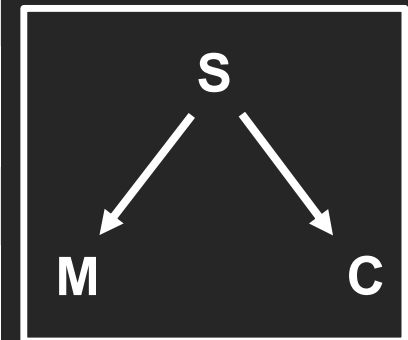
Knowledge

FLOOD MANAGEMENT APPROACHES



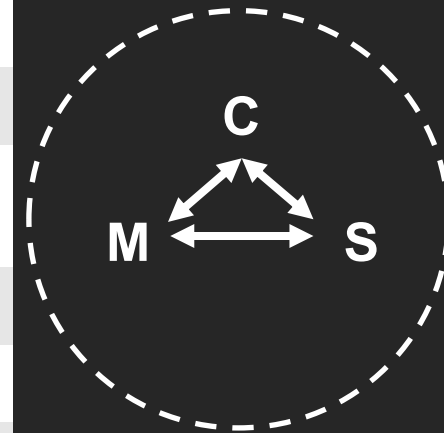
FLOOD MANAGEMENT APPROACHES

DEFENCE		
Mental models	Mindset	“Flood free” - resist and cope Stationarity Complicated problems
	Values	State led solutions and public good Physical capital
	Knowledge	Technical
Structure	Norms	Top-down decision-making Authority
	Actors	Central agencies
	Mechanisms	Hierarchical, closed
Patterns	Policy	Separate people and water Resist and cope
	Resources	Centrally owned public assets
	Practices	Technocratic Community excluded



FLOOD MANAGEMENT APPROACHES

THRIVE		
Mental models	Mindset	“Thrive with flood risk” – cope, adapt, transform Change Complex problems
	Values	Community outcomes and self-org. P, N, E, S, H, I capital
	Knowledge	Multiple knowledge domains
Structure	Norms	Community centered Legitimacy and trust
	Actors	Multi-actor – public and private
	Mechanisms	Polycentric, networked, open
Patterns	Policy	Tolerable risk Learn, navigate, transition
	Resources	Collective decisions on allocation
	Practices	Co-designed solutions Inclusive, networked, innovation



METHODOLOGY

COMPARATIVE CASE STUDY

Defend



Integrate



Manage
Risk



METHODOLOGY

QUALITATIVE ANALYSIS

Participant groups:

- Floodplain managers
- Local government
- Consultants
- Research
- Community members

THANK YOU

GET IN TOUCH

E: ewan.hind@monsh.edu

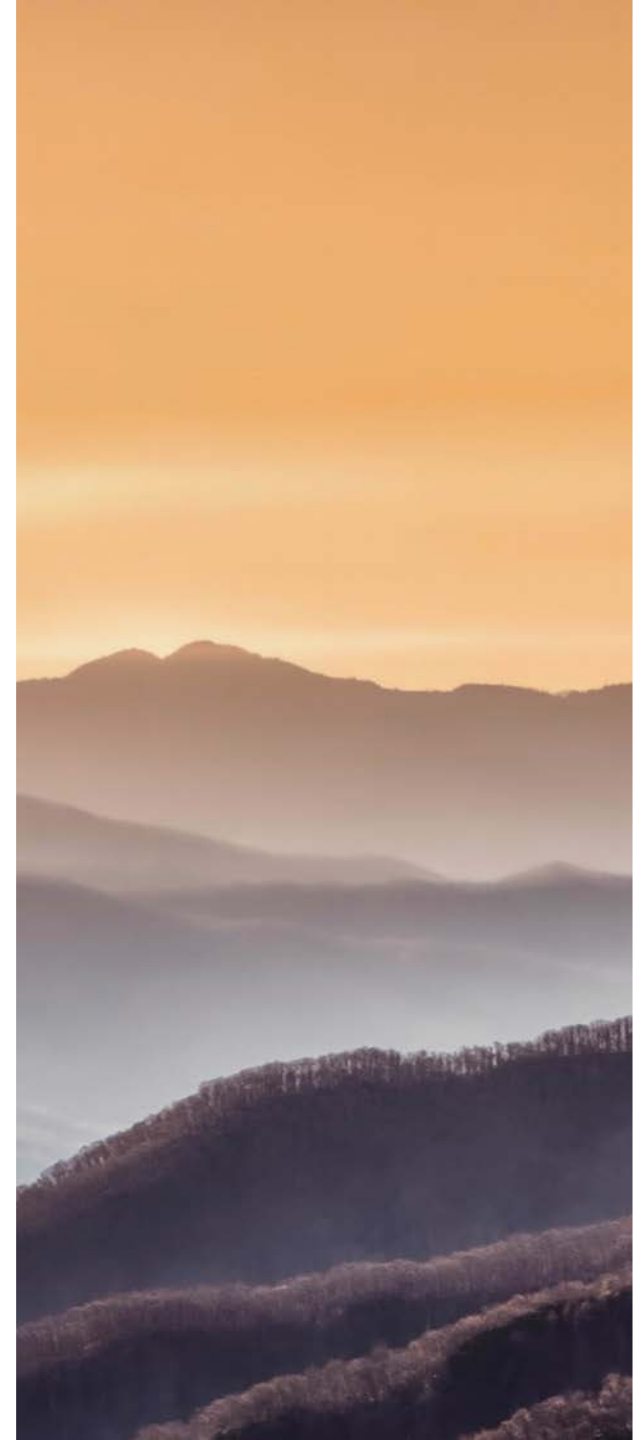
T: +61 477 191 549



“THRIVE” GOVERNANCE IN ACTION: COMMUNITY-LED DISASTER RESILIENCE IN FIRE TO FLOURISH

Dr Adriana Keating
Fire to Flourish, MSDI

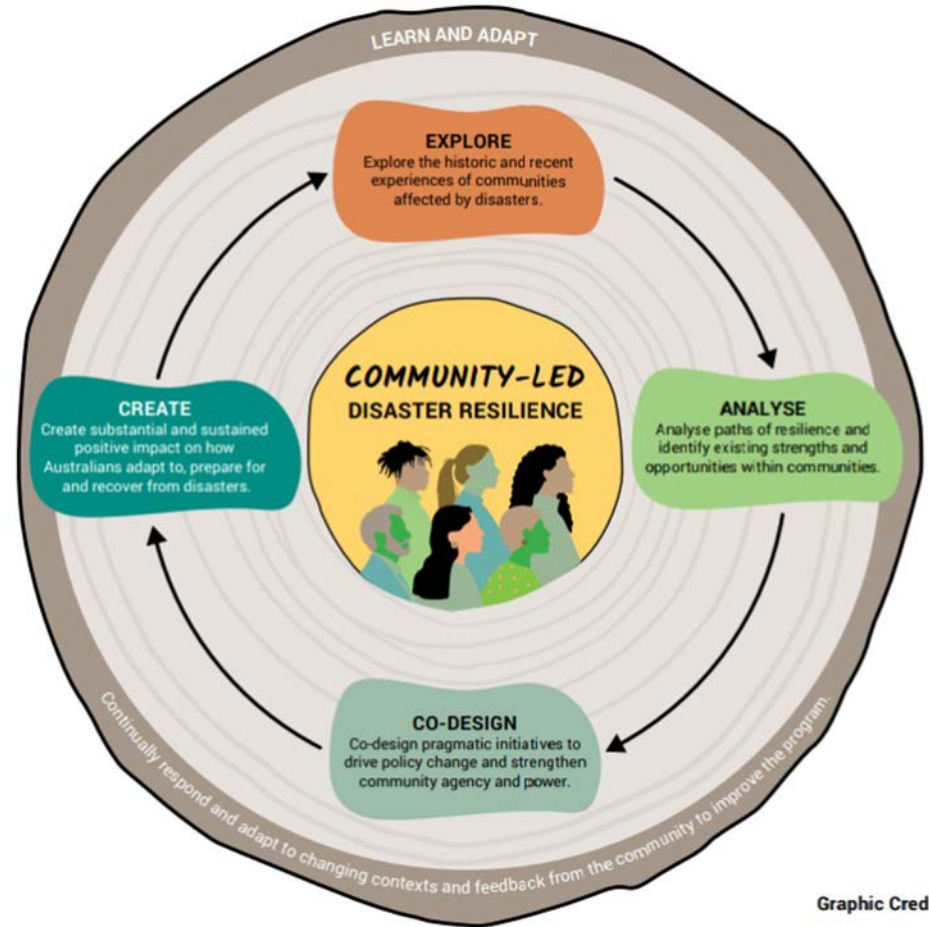
JULY 2024



FIRE TO FLOURISH PROGRAM

Our mission is to trial innovations in community-led resilience and influence system changes to support their scaling.

Fire to Flourish was conceived in the aftermath of the 2019/20 bushfires, which exposed the exacerbated impacts of disaster on communities experiencing entrenched disadvantage. Since those fires, we have been working deeply with four severely affected communities to support their recovery and longer-term resilience to climate change.

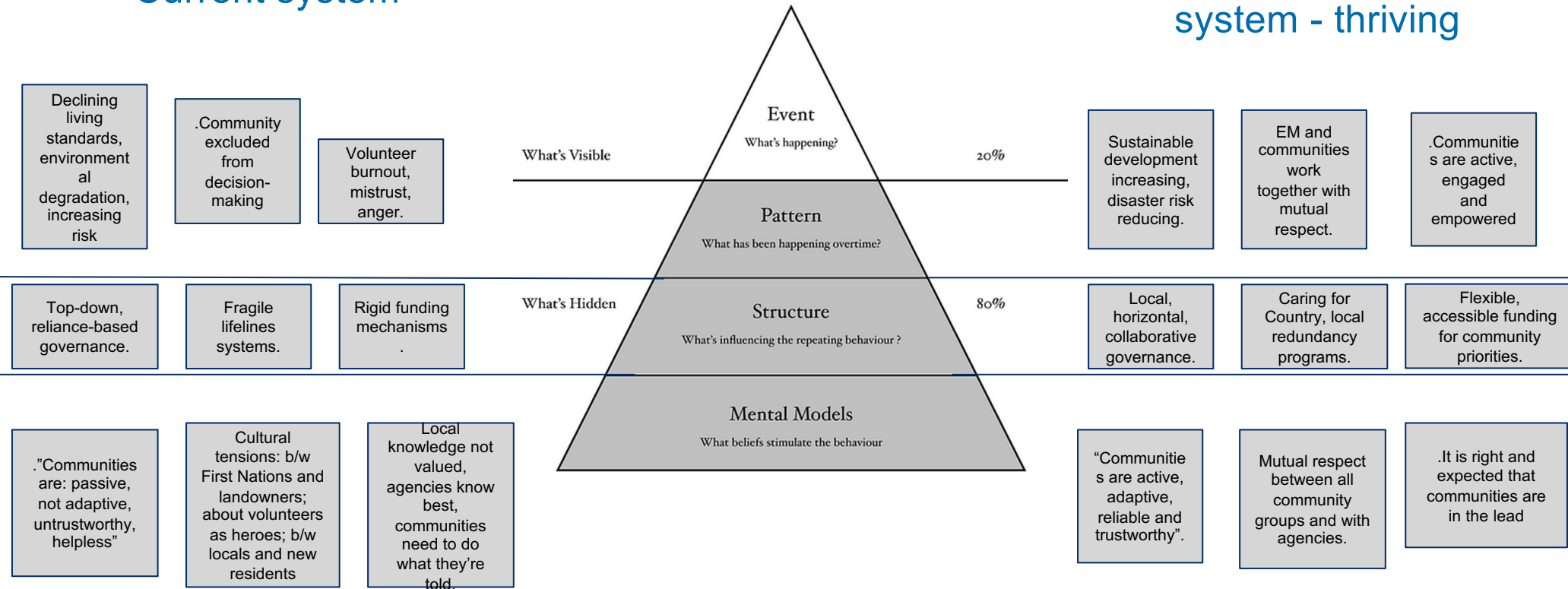


Graphic Credit: Ivy Hajduk

SYSTEMS TRANSFORMATION

Current system

Community-led, resilience-based system - thriving



Principles established to guide the Program's work

Be community-led:

We ensure the community shapes, drives and owns the program and their voices are foregrounded in its design and delivery

Foreground Aboriginal wisdom:

We respect the sovereignty of Aboriginal and Torres Strait Islander peoples, learn from Indigenous ways of knowing and being, and foster strong collaborations and partnerships

Address inequities, enhance inclusion and self-determination:

We to strengthen the participation, capabilities and outcomes for people who are often underrepresented or marginalised

Be strengths-based and trauma-informed:

We respect people's lived experiences, recognise and build on community strengths, and support collective healing.

Be holistic and impactful:

We contribute collaboratively and with evidence to improving people's lives and influencing changes in system conditions that hold problems in place.

Learn, adapt and evolve:

We respond to changing contexts, continually improve the program's design and delivery, and collectively advance knowledge and practices.

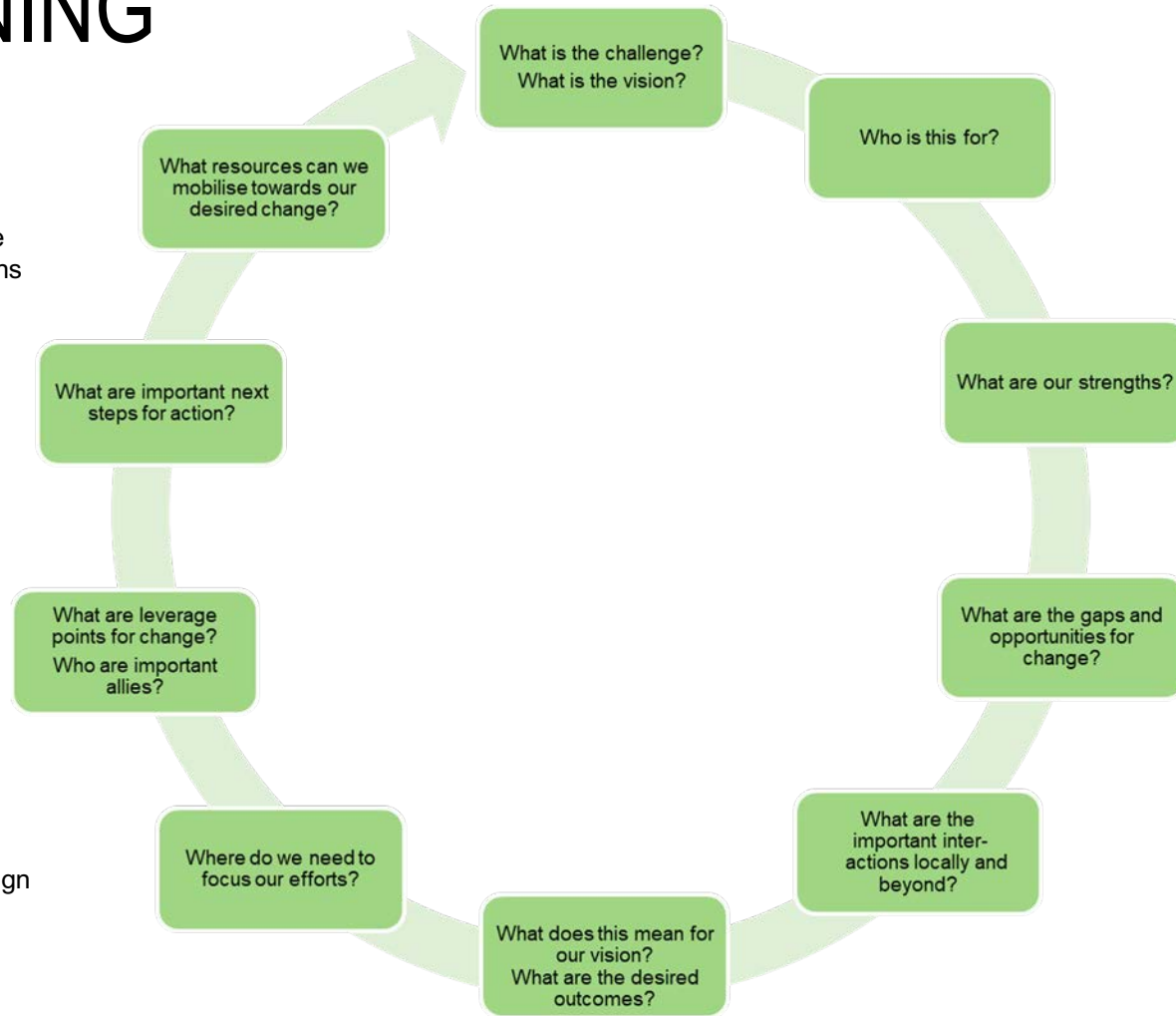
RESILIENCE PLANNING



Disaster resilience across five domains

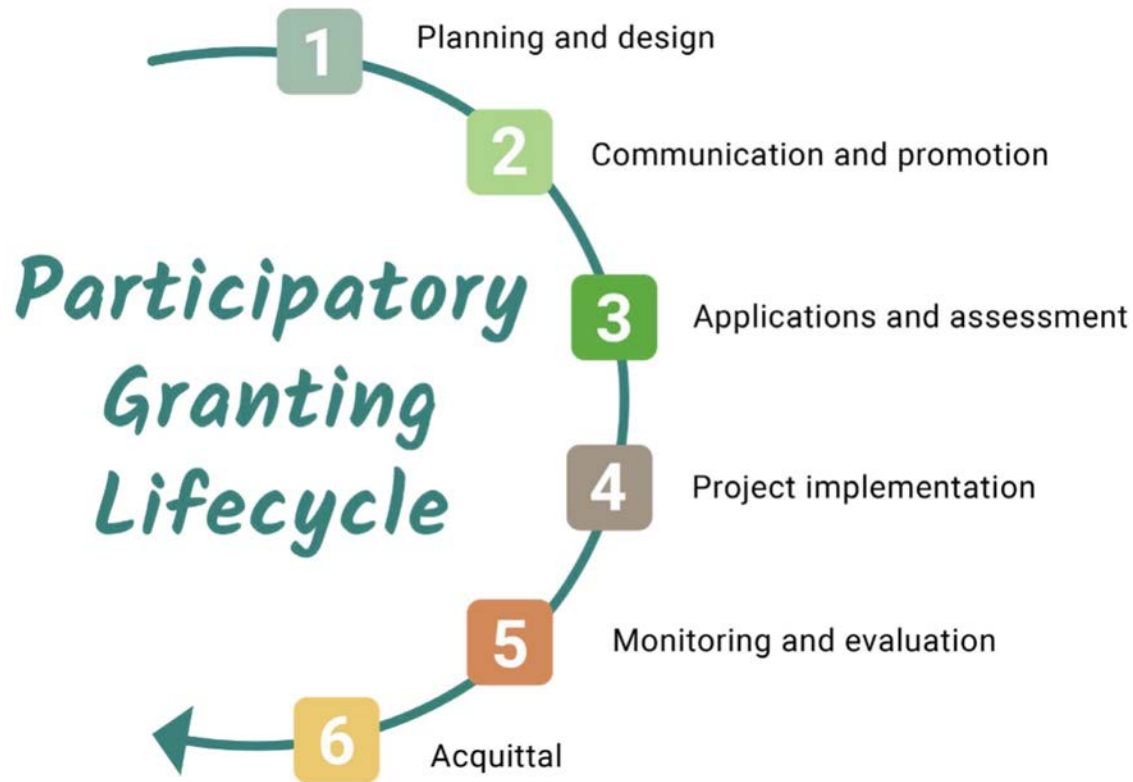


Community resilience co-design process in Tenterfield, NSW



Our community resilience planning process

PARTICIPATORY GRANTING IN 2023...

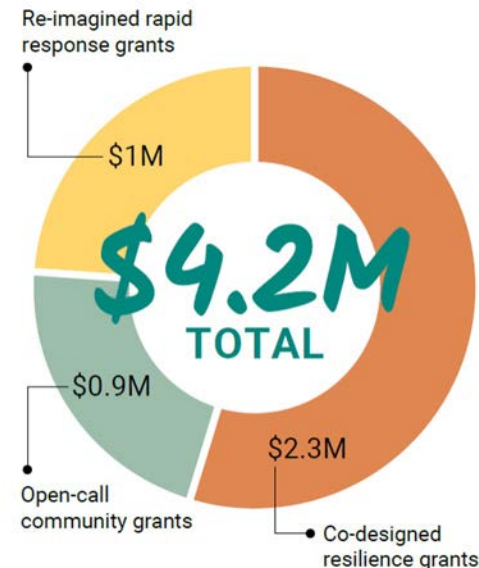


8
FUNDING
ROUNDS

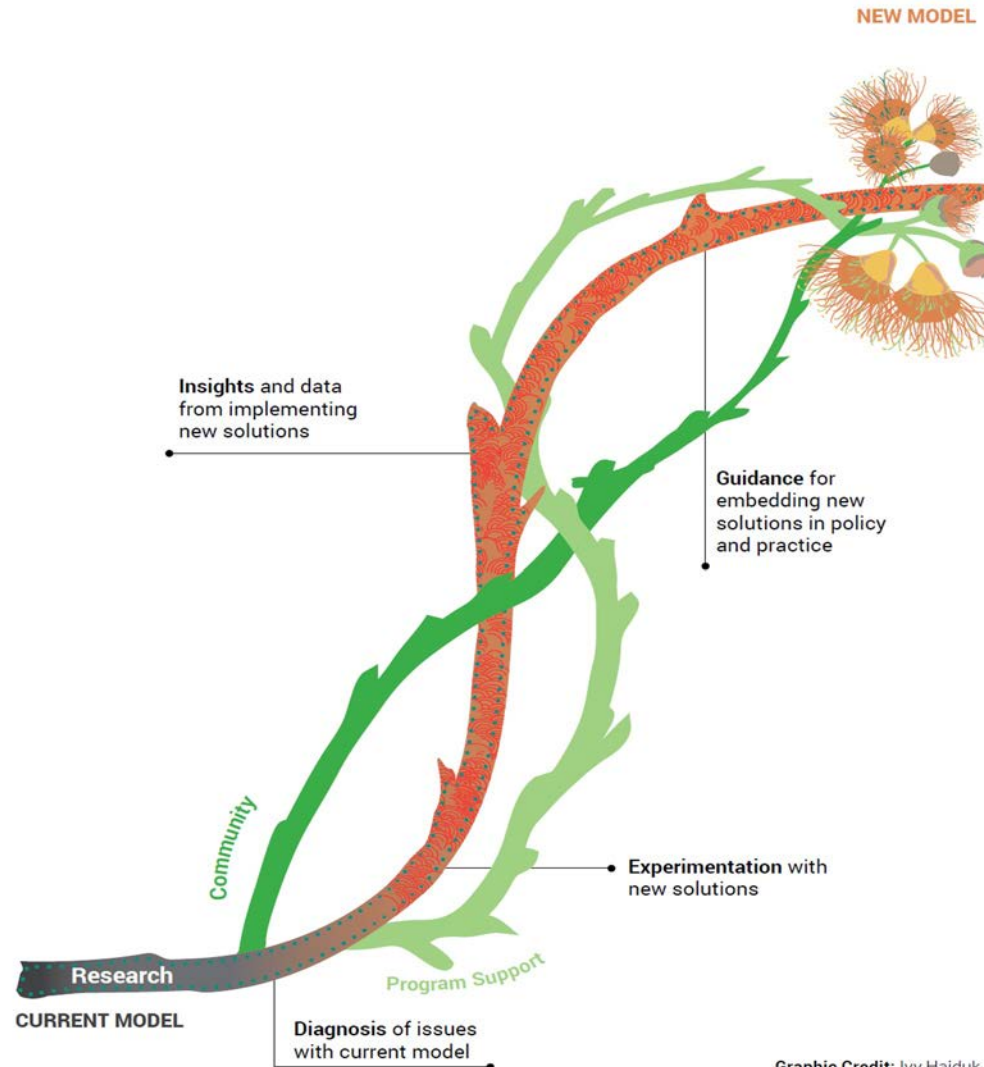
30
Community organisations
received funding

49
COMMUNITY
PROJECTS
SUPPORTED

\$4.2M
FUNDS DISTRIBUTED



TRANSITIONS IN POLICY AND PRACTICE



Graphic Credit: Ivy Hajduk

MEASURING BUSHFIRE AND FLOOD RESILIENCE

THE CRMC FRAMEWORK AND TOOL, ZURICH FLOOD RESILIENCE ALLIANCE

General sources

- Human Capital
- Social Capital
- Natural Capital
- Physical Capital
- Financial Capital

- Vulnerability and critical systems
- Graded only once

Hazard-specific

Flood

Bushfire

- Measure similar concepts that differ by hazard
- Graded for each hazard

Hazard-unique

Flood

Bushfire

- Measure sources unique to the hazard
- Graded for each hazard



Username *

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Language *
English

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MEASURING BUSHFIRE AND FLOOD RESILIENCE

INDICATORS AND DATA COLLECTION

78 INDICATORS TO ASSESS:

- GENERIC RESILIENCE (25)
- BUSHFIRE RESILIENCE (25)
- FLOOD RESILIENCE (26)



EAST GIPPSLAND

Bemm River
Cann River



CLARENCE VALLEY

Iluka
Woombah
Ashby

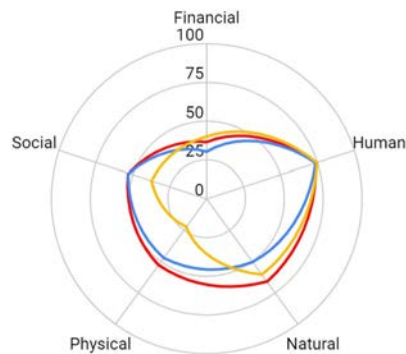


MEASURING BUSHFIRE AND FLOOD RESILIENCE

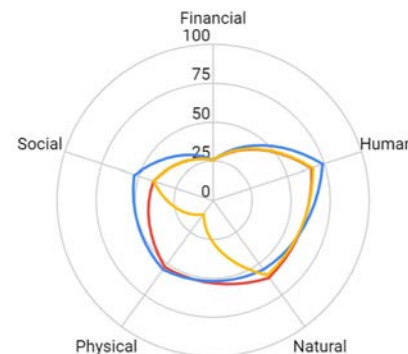
FINDINGS ACROSS FIVE COMMUNITIES

EAST
GIPPSLAND

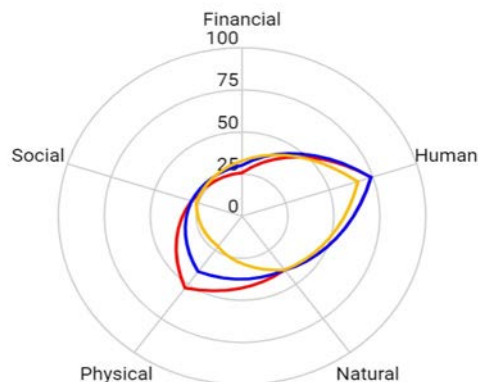
Bemm River Disaster Resilience



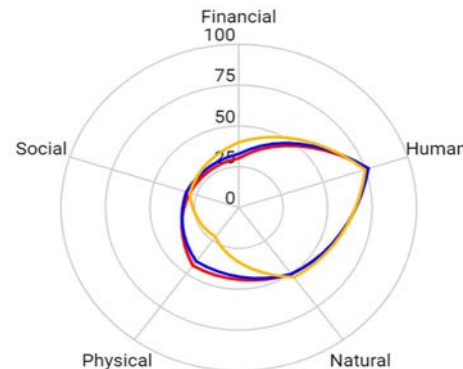
Cann River Disaster Resilience



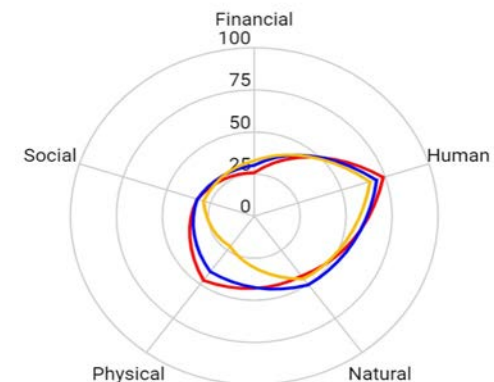
Ashby, Chatsworth and Harwood



Woombah and Goodwood



Iluka



CLARENCE
VALLEY

— Bushfire Resilience — Flood Resilience — General Resilience

SOME LESSONS LEARNED TO DATE

'Community-led'
is becoming
widely accepted

Communities
are ready and
able

Trust grows
when
commitment is
demonstrated

Networks,
networks,
networks

Community-led
does not mean
community
alone

Connecting in
person cannot
be undervalued

Communities
welcome
research that
gives back

Universities can
be reimagined
to serve
community

Long-term
investment is
crucial

Communities
want to be part
of shifting
practice

IN SUMMARY

MUCH POTENTIAL FOR CROSS-FERTILISING LEARNING

- In some ways the flood space is further along in the resilience journey, in other ways the bushfire space is.
- Flood resilience and bushfire resilience have many similarities, but a hazard-blind or 'all hazards' approach is not enough.
- Increasing risk and societal changes means that community resilience must be central to the future of disaster risk management.
- Community-centred, resilience-thinking work that enables thriving is challenging but possible.

Thank you! To learn more about Fire to Flourish or get in touch, go to:

<https://firetoflourish.monash/>