

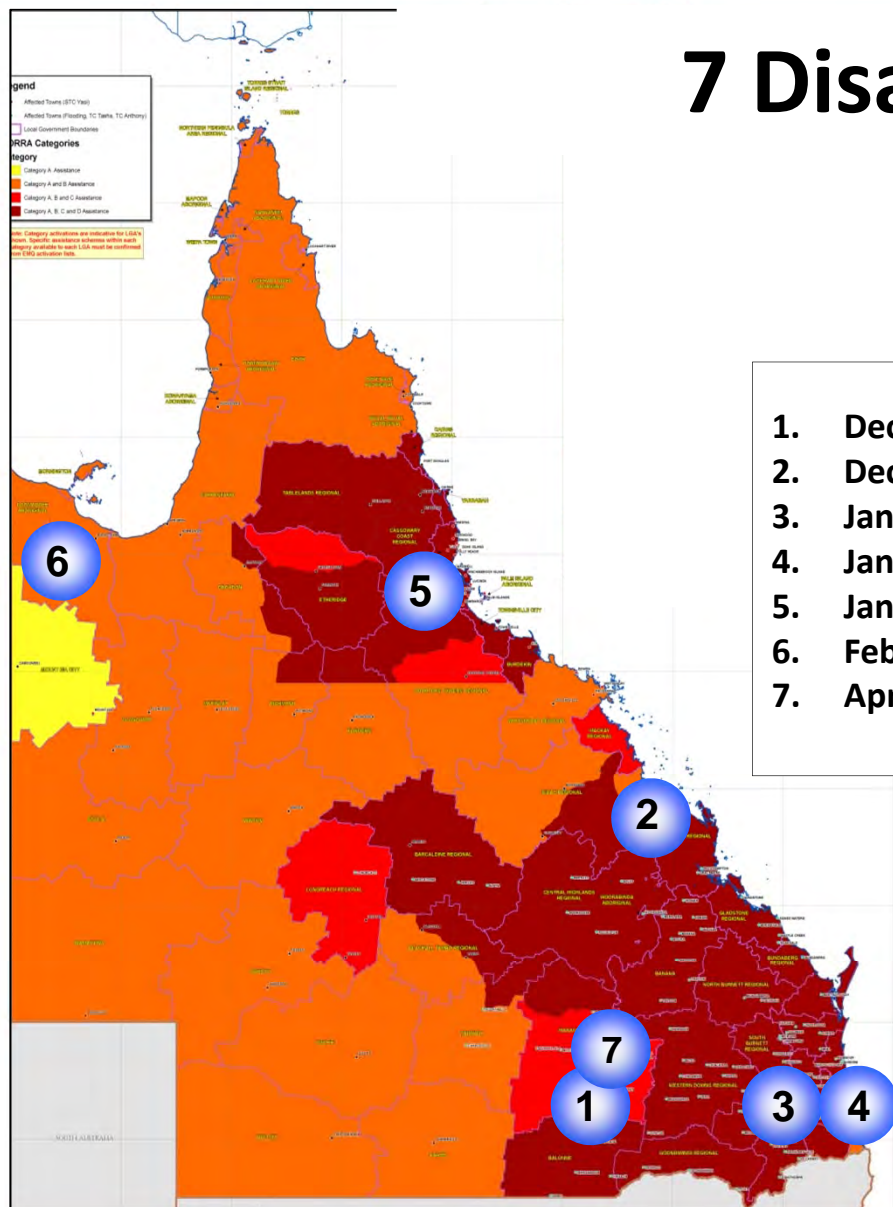


DISASTER RECOVERY AND RECONSTRUCTION



Queensland Reconstruction Authority
19 May 2011

7 Disaster Events



1. **Dec 2010** Rainfall & Flooding South-east/west
2. **Dec 2010** Tropical Cyclone Tasha
3. **Jan 2011** Flash Flooding Toowoomba/Lockyer Valley
4. **Jan 2011** Brisbane/Ipswich Flooding
5. **Jan / Feb** Tropical Cyclones Anthony & Yasi
6. **Feb 2011** Monsoonal Flooding
7. **Apr 2011** Maranoa flooding



CYCLONE YASI 2011

CATEGORY 5

LANDFALL: Near Mission Beach, south of Innisfail early morning February 03, 2011.

STORM SURGE: Cardwell 6.5-7m above normal (predicted)

RAINFALL: 1,000mm (predicted)

DAMAGE: Has devastated buildings in Mission Beach, Tully and Cardwell.

DEATH TOLL: 1.

WIND: 290 kph

SIZE: 600km wide.
EYE: 35km wide.



CYCLONE LARRY 2006

CATEGORY 4

LANDFALL: Innisfail area March 20, 2006

STORM SURGE: Clump Point 2.30m; Cardwell 1.76m; Mourilyan 1.34m. Highest inundation recorded was 4.9m above expected tide at Bingil Bay.

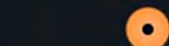
RAINFALL: Gereta Station 436mm (highest recorded); Johnstone River catchment 273mm; Babinda 230mm; Innisfail 289mm (two days after).

DAMAGE: \$1.5 billion to Innisfail and surrounding areas; severe damage to crops.

DEATH TOLL: No fatalities.

WIND: 240 kph

SIZE: 100km wide.
EYE: 25km wide.



HURRICANE KATRINA 2005

CATEGORY 5

LANDFALL: Louisiana, Mississippi, Florida, August 2005

STORM SURGE: Florida 8.2m; Louisiana - highest recorded at St Tammany Parish 4.9m; Mississippi 8.2m.

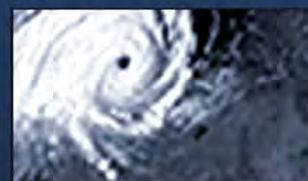
RAINFALL: Louisiana 380mm; Florida 350mm; Mississippi 250mm

DAMAGE: Approx \$US91 billion repair bill; rebuilding process is ongoing.

DEATH TOLL: 1,836.

WIND: 280 kph

SIZE: 640km wide
EYE: 51km wide



CYCLONE TRACY 1974

CATEGORY 4

LANDFALL: Darwin December 25, 1974.

STORM SURGE: Darwin Wharf 1.6m; Casuarina Beach 4m

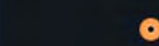
RAINFALL: Darwin recorded 280mm in 24 hours.

DAMAGE: Over \$800 million repair bill and around 90 per cent of homes destroyed or damaged.

DEATH TOLL: 71

WIND: Gusts of 217 kph recorded before the airport's anemometer was destroyed

SIZE: 50 km wide
EYE: 12km wide

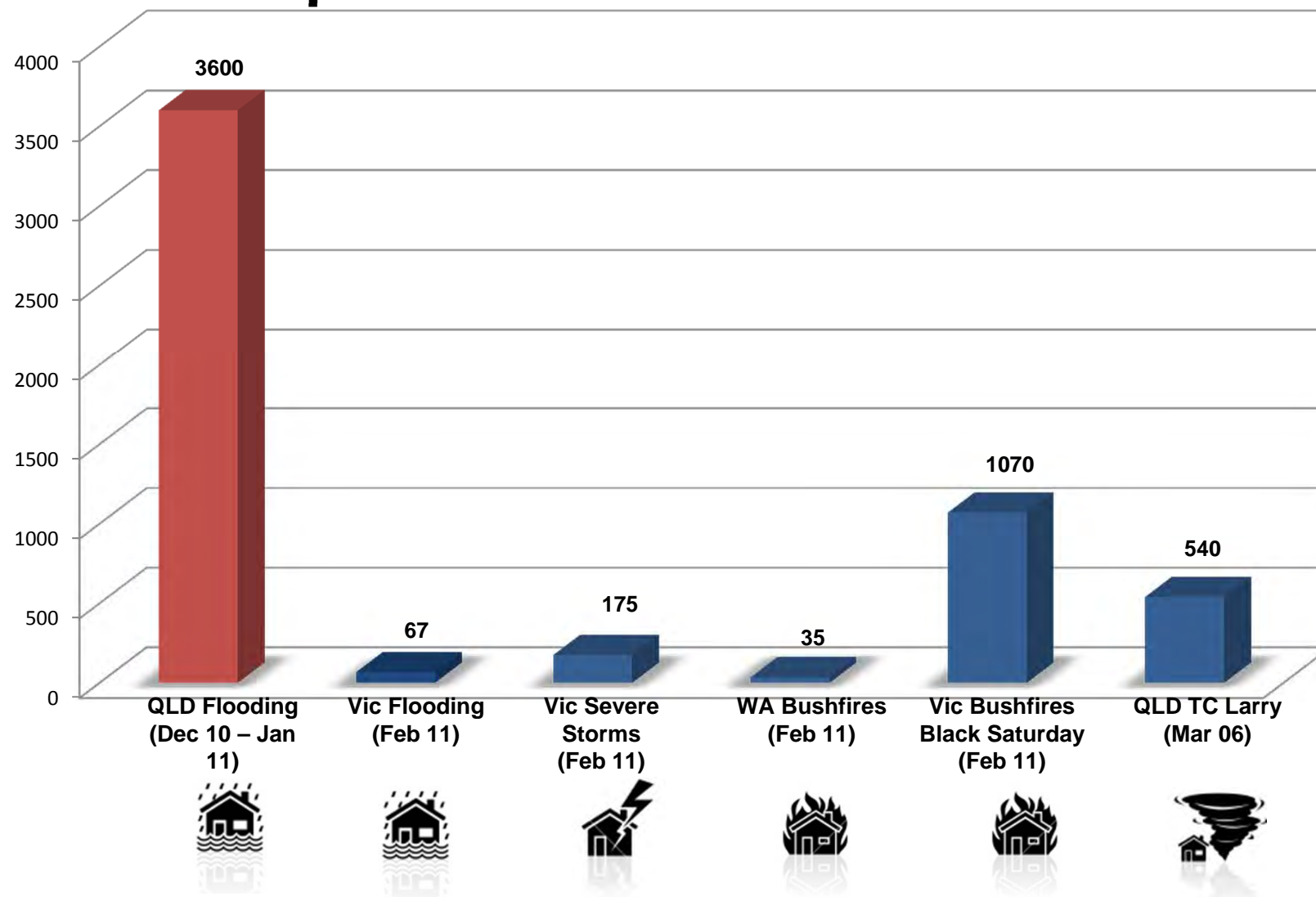


Disaster Comparisons – Infrastructure & People

	Cyclone Larry (2006)	Victoria Bushfires	Qld Disaster Events
LGAs affected	5 of 73	16 of 79	73 of 73
Communities affected	40	80	210
Estimated Damage	\$1.5B	\$1.2B	\$6B+
Insurance Claims	\$540M	10,000 (\$1.09B)	118 000 (\$3.6B)
Donated Relief Funds	\$22M	\$392 M	\$260M
Houses destroyed	600	2133	7 800
Loss of Life	Nil	173	37

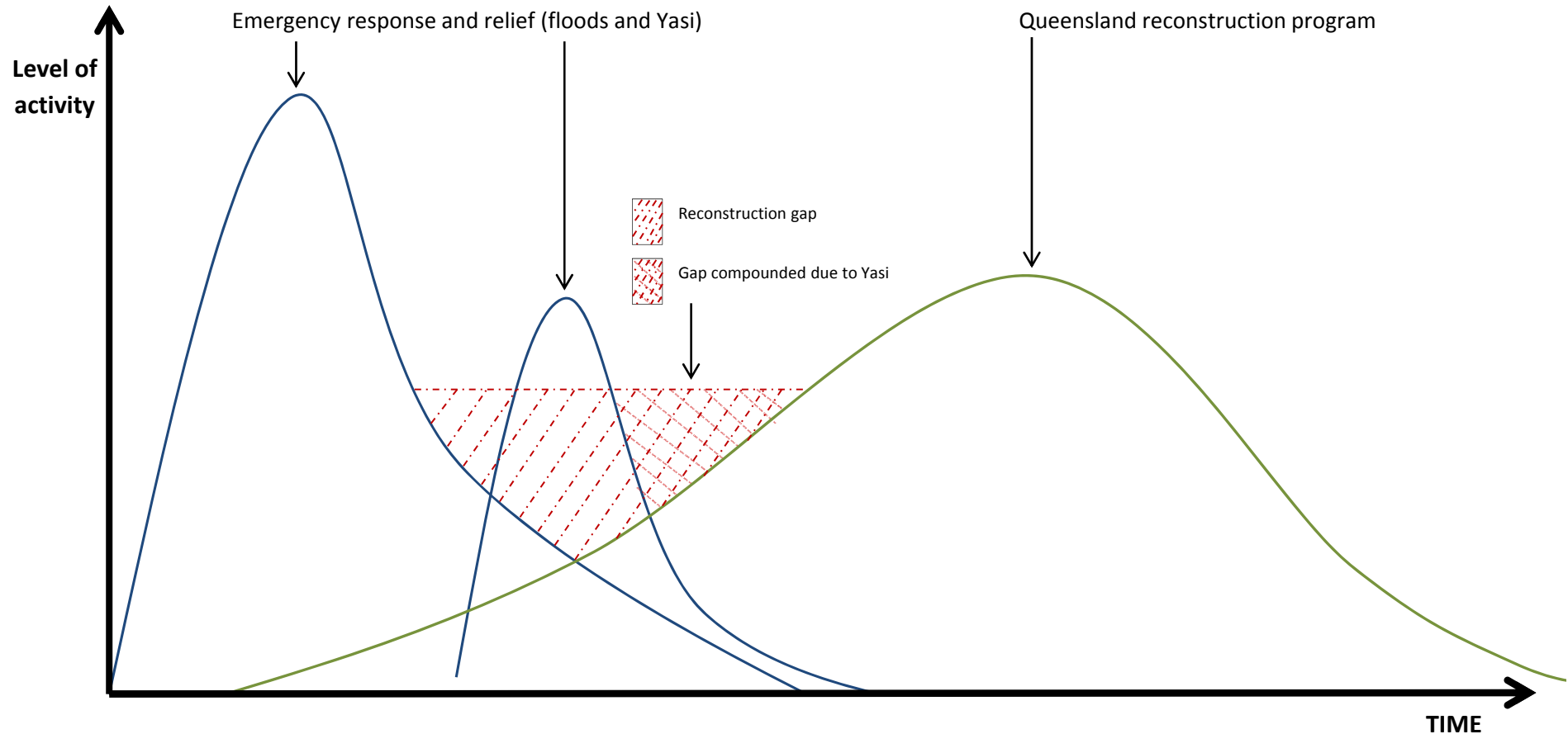


Comparison of Insurance Claim Costs



Source: Insurance Council of Australia 6 May 2011

Response and Reconstruction



Recovery Effort To Date



Premier's Relief Fund: \$261M donated, \$74M distributed

Personal Hardship & Assistance Grants: \$34M paid

Small Business & Primary Prod Grants: \$51M approved

Power: 468,000 homes & businesses reconnected

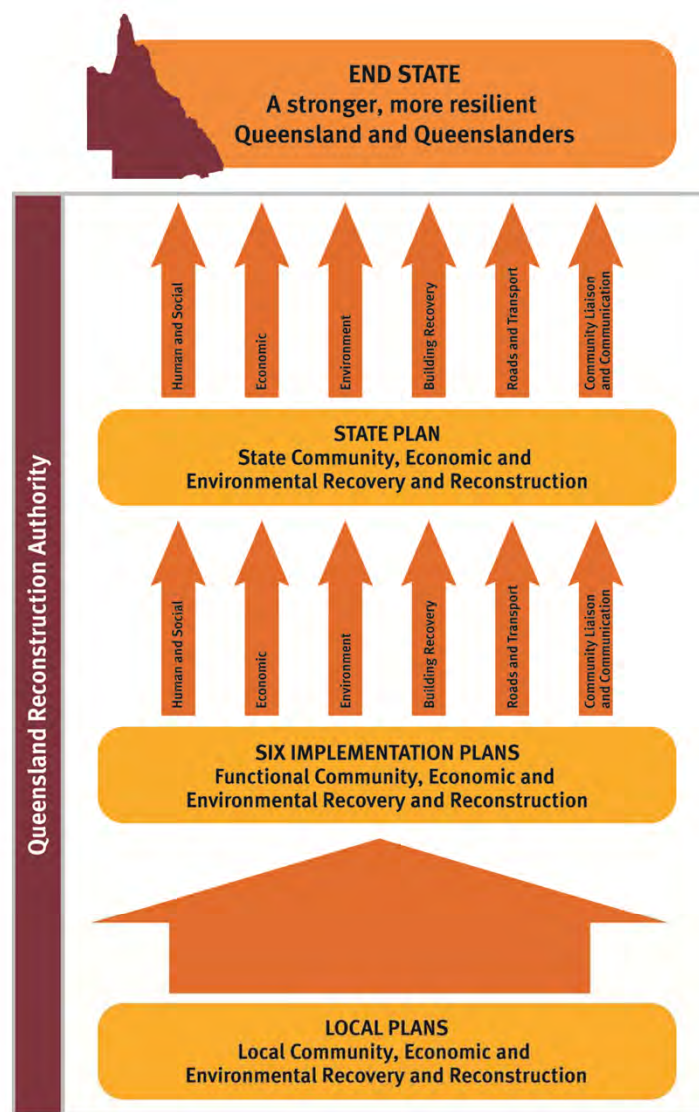
Insurance Claims: 118 000 (\$3.6B)

	Disaster peak Nov 2010 – Mar 2011	Repair as at 16 May 2011
Roads	9170 km state-owned road network affected	6627 km reopened
Rail	4748 km state-owned network affected	4421 km operational
Bridges & Culverts	89 bridges and culverts with major damage	64 reopened
Schools	411	410 operating from original location
Water supply	104 water schemes impacted	103 operating within approved standards

Queensland Reconstruction Authority



Queensland Reconstruction Authority



Operation Queenslander: The State Plan

Sets the framework to reconnect, rebuild and improve Qld and its economy

Three phases

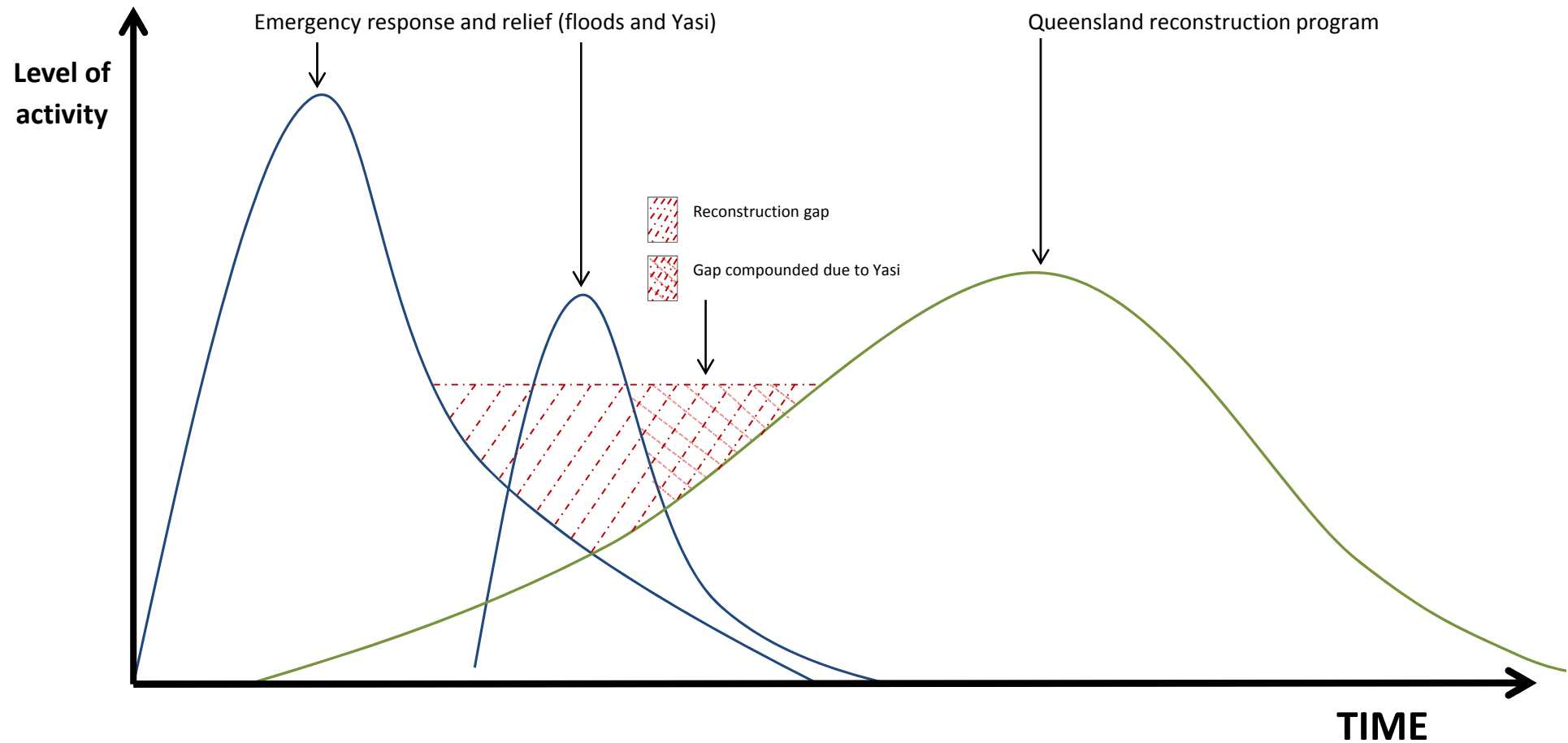
1. Recovery (to June 2011)
2. Reconstruction (June 2011 – Dec 2012)
3. Transition (Dec 2012 – Dec 2013)



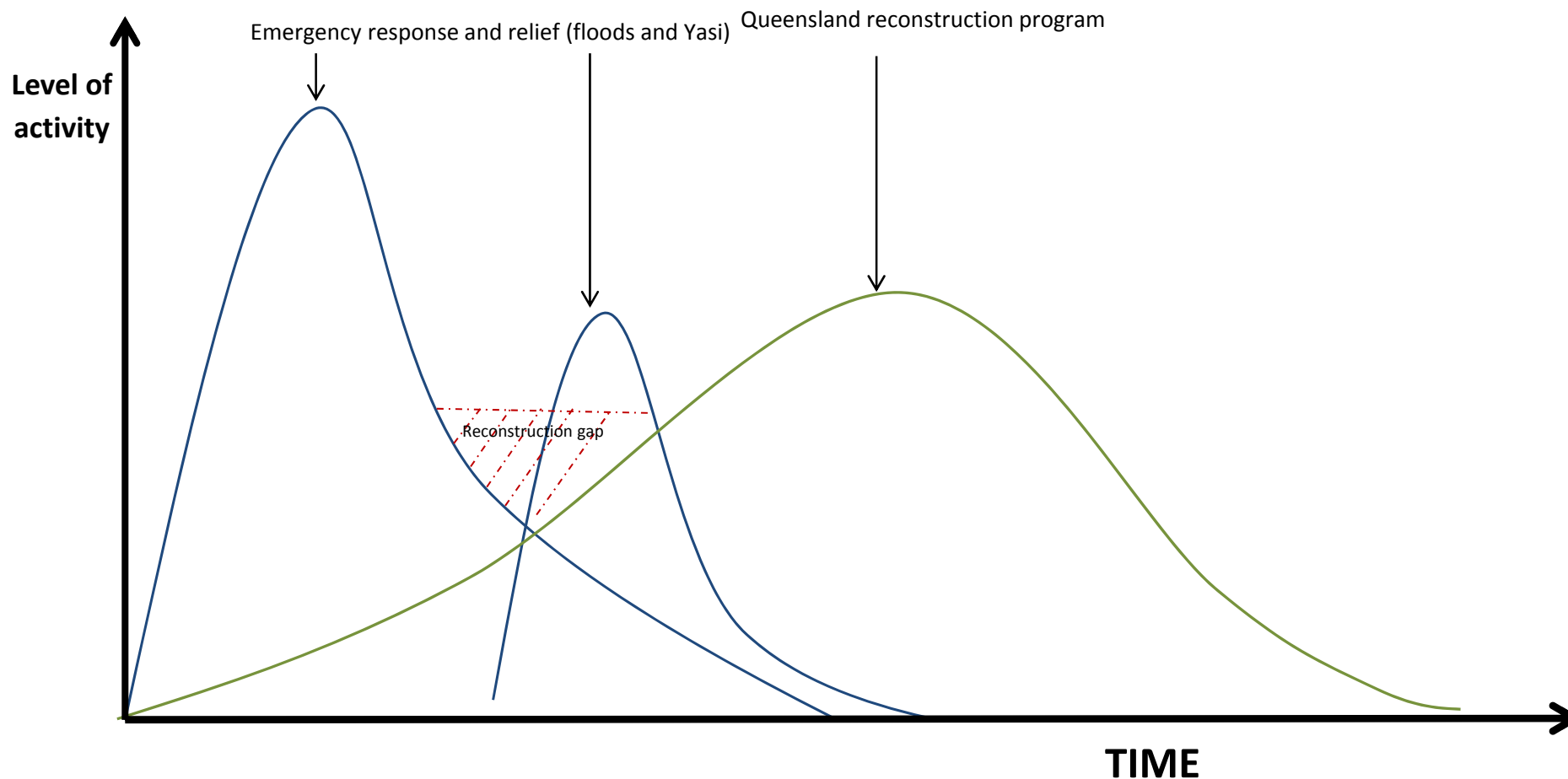
Opportunities for Research and Development

- Limited R & D resources must be targeted to high payoff areas
 - Reducing the Reconstruction Gap
 - More Resilient Reconstruction
- Impossible to entirely disaster-proof Qld
- Reasonable disaster-immunity for key economic & supply routes
- Balance between infrastructure rebuild & need for resilience planning
- Forecasting in future disaster events
- Data tracking, quality, exchange and sharing
- Evolving building codes

Response and Reconstruction



Speed of Response determines the Reconstruction Gap



Opportunities for Research and Development

- Limited R & D resources must be targeted to high payoff areas
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- Reasonable disaster-immunity for key economic & supply routes
- Balance between infrastructure rebuild & need for resilience planning
- Forecasting in future disaster events – sensors, records and forecasting
- Data tracking, quality, exchange and sharing
- Evolving construction techniques

Draft NQ Guidelines

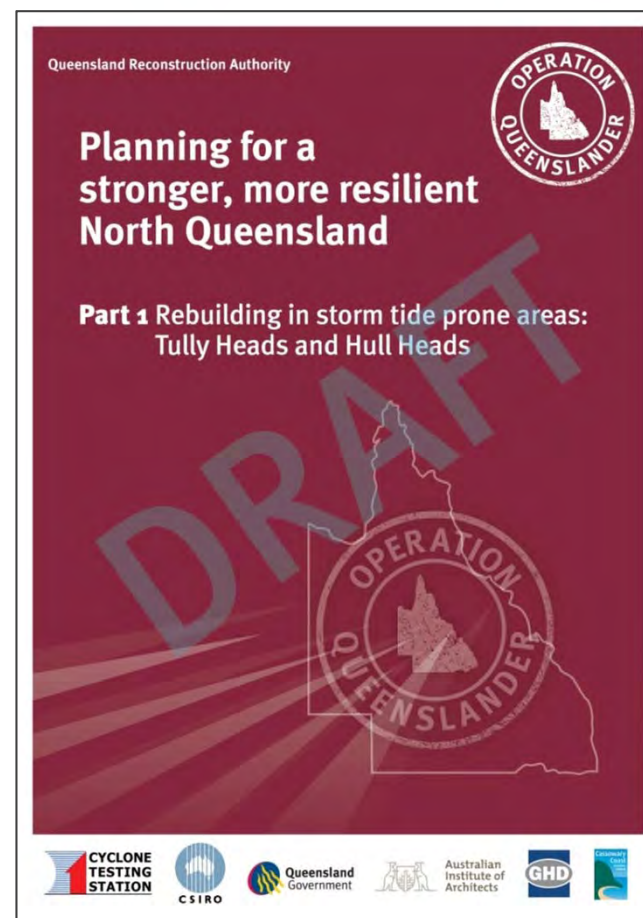
Part 1: Rebuilding in Storm tide prone areas (*released*)

Part 2: Wind Resistant Housing (*in development*)

Proposed

Part 3 - Preparing for Cyclones (release Jul/Aug)

Part 4 - Building in low lying coastal areas



Australian
Institute of
Architects



Relocation of Grantham Township

First designated reconstruction area under the QldRA powers.

Community-led master planning process involving residents and community representatives, the Lockyer Valley Regional Council and the Authority well advanced.



Queensland Reconstruction Authority



www.qldreconstruction.org.au