Executive Education Program on Disaster Risk Finance for Indonesia

SESSION: DRF Funds - Homeowners Protection (Global Experience)

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Disaster Risk Financing & Insurance Program
Supported by World Bank Group
Global Shield Financing Facility

Universal themes for DRF reserve funds (e.g. Indonesia PFB)

Funding Sources

Managing Income to ensure financial sustainability

Investment Strategy

Protecting the value of the Fund to support timely, targeted relief

Disbursement Framework

Effective and efficient payments and investment in better risk management practices

Risk Financing

Defining and securing effective financial protections (e.g. reinsurance or capital bonds)

Administration

Effective management of program practices and costs

Partnerships

Cross party collaboration for coordinated claim management

Who else is doing this?

State-mandated insurance schemes (protected by Fund or DRF instruments)

- Affordable disaster protection for citizens
- Access to global capital where needed

Country	Risks covered
California (USA)	Earthquakes
Caribbean (16 countries)	Earthquakes, Hurricanes
France	Natural perils
Iceland	Earthquakes, volcanic eruptions, avalanches, landslides, floods
Japan	Earthquakes, volcanic eruptions and tsunamis
New Zealand	**Earthquakes, tsunami, volcanic eruption, landslides, hydrothermal activity, storm and flood cover to land**
Norway	Flood, storm, landslide, avalanches, volcanic eruption, earthquake
Romania	Earthquake, flood, landslide
Spain	Flood, earthquake, storm, tsunami, volcanic eruption, meteorites and terrorism
Switzerland	Flood, storm, hail, avalanche, landslide, rockfall.
Taiwan	Earthquakes (and consequential events)
Turkey	**Earthquake (fire, landslide)**

Examples – New Zealand and Turkey

Learning objective (1)

Understand how state-mandated disaster insurance schemes are organised in two countries with risk exposure similar to Indonesia

Learning objective (2)

Explore how homeowner protection schemes can be adapted to other applications (e.g. public assets

Learning objective (3)

Consider how the experience of New Zealand and Turkey can inform requirements for Indonesia

Risk exposure and rationale: Turkey

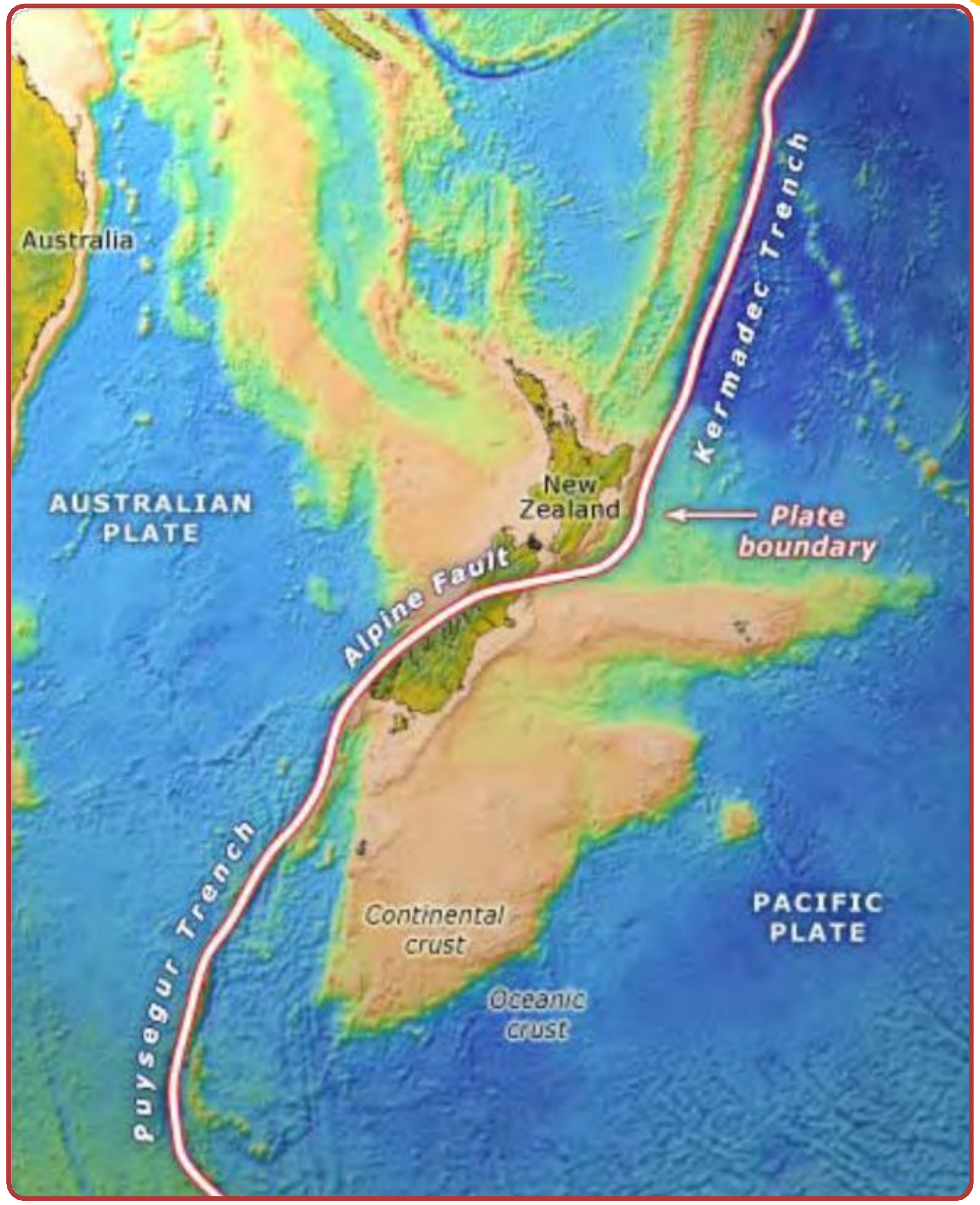
- Turkey straddles a major seismic region with majority of population exposed to high earthquake hazard
- In the last 60 years, severe damage and disaster relief has crowded out investment needed for longer term development
- The Mamara earthquake of 1999 led to the introduction of compulsory earthquake insurance, and the creation of the TCIP insurance pool
- Coverage has grown steadily to cover 58% of urban residential homeowners nationwide
- TCIP is administered by Turk Reasurans, a state reinsurer

Turkey's rationale for an insurance scheme and reserve fund :

- Provide funding for the repair of residential properties,
- Reduce the government's financial exposure
- Ensure the solvency of the scheme in the face of reasonably expected events, and
- Relieve pressure on the World Bank's reserves and those of other donors

Risk exposure and rationale: New Zealand

- New Zealand straddles an active seismic region with no room to diversify away from the geological risks
- Government is exposed to highly correlated impacts on public services, economic and social recovery following severe natural events
- Recent disaster losses (2010, 2011, 2016) have highlighted the importance of insurance protection for New Zealand, and awareness of risks that require active mitigation



Toka Tū Ake EQC

The foundation from which we stand strong, together

- Legislated Mandate – purpose enshrined in law
- Levy Funding – compulsory and set by regulation
- Governing Board – formal stewardship of Government policy

Resilience

funding research and education to help communities reduce risks

Readiness

working to ensure we're ready to support New Zealanders when they need us

Risk financing

ensuring we have the financial resources available to meet people's claims

Recovery

providing natural hazard insurance for homeowners across the country

EQC – New Zealand Natural Hazards Commission

Toka Tū Ake EQC

Objective

- **Affordable "first-loss" insurance protection for housing,** backed by a Government guarantee **(SOLIDARITY)**
- **Reduce** unplanned spending on catastrophes
- **A Natural Disaster Fund (NDF)** to buffer the impact of disasters
- **Cost effective risk sharing with reinsurance markets,** (can manage the rate of NDF growth or size over time)
- **Advanced capabilities** for geohazard research, monitoring and risk modelling, including public and professional training

Sources of Finance

- **Compulsory premium,** applied to all residential fire insurance policies
- Applied uniformly and collected alongside the insurance company premium
- **Reinsurance and catastrophe bonds**
- **Natural Disaster Fund – cash reserves and investment income**
- **Government guarantee** if the NDF and reinsurance are exhausted

EQC Institutional Attributes

Minister of EQC (Finance)

Responsible for the State's interest in EQC and appoints Commissioners to the Board.

Under certain circumstances may direct EQC, but normally influences strategic direction through annual business planning and reporting for Government entities

Consultation and reporting to Ministers and Parliament

Board of EQC

A skills and competency- based board

Primary monitor of EQC's performance and operates at arms-length from the Minister

- Service Users
- Suppliers
- Contractors
- General Public

EQC

Administers New Zealand's main source of residential natural disaster cover

Is a key contributor to the management of natural disaster risk.

The Treasury

Treasury - represents the State's interests and provides independent analysis, commentary and judgement to the Minister on the governance and performance of EQC and other state entities

Turkish Catastrophe Insurance Pool (TCIP)

Objective

- Affordable, first-loss insurance protection for homeowners
- Long-term fund accumulation
- Sharing the financial burden of earthquake with reinsurance markets
- Improvement of risk culture in the public
- Insurance at reasonable prices for people with average income
- Coordination of insurance companies and agencies to issue Compulsory Earthquake Policies
- Loss assessment and payment in case of an earthquake

Sources of Finance

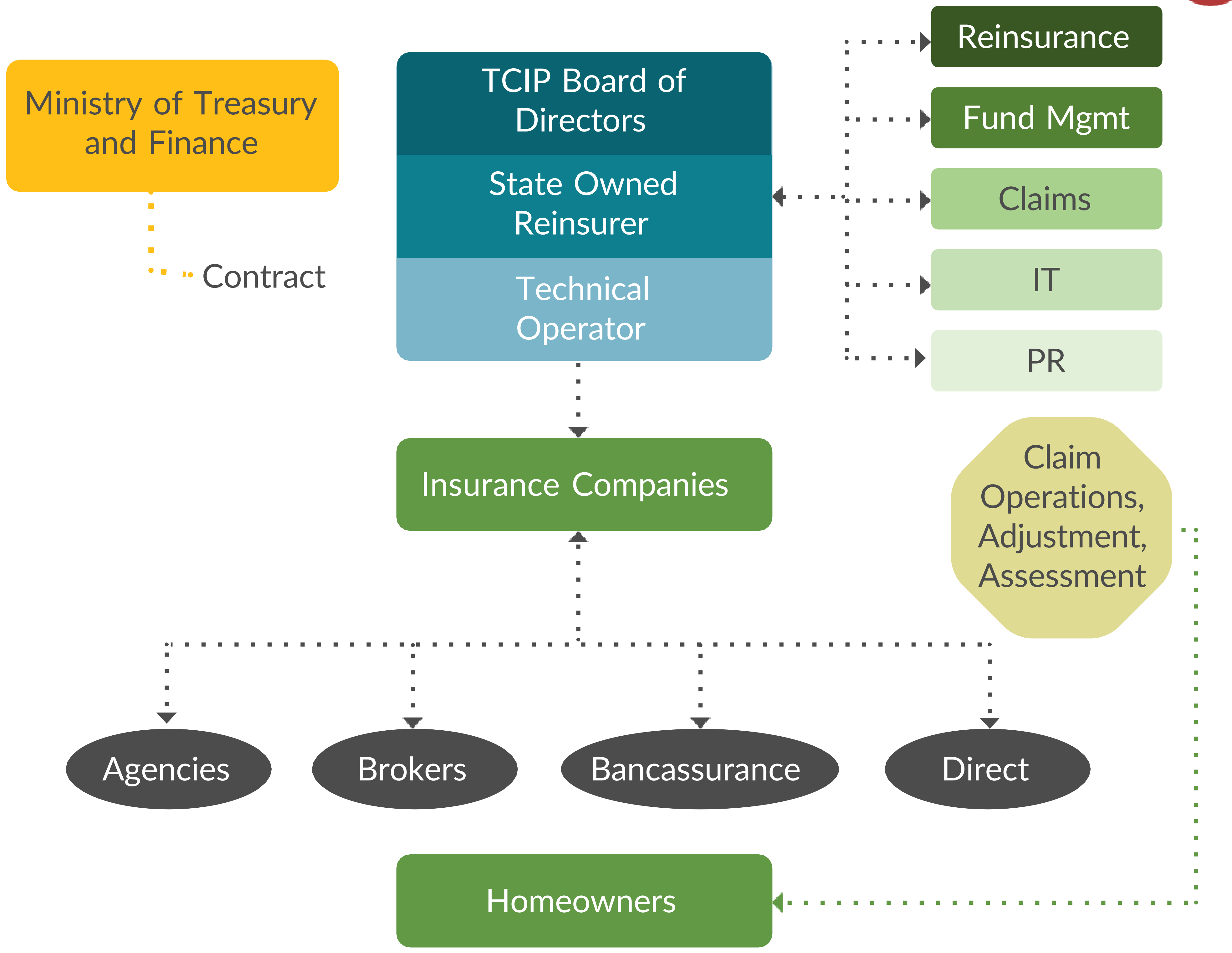
- Accumulated Earthquake Reserve
- Reinsurance protection

A World Bank loan of US$ 100 million provided capital to seed a disaster insurance pool in 2000 and purchase initial reinsurance.

Reinsurance protection is provided by a panel of Reinsurers and Insurers.

TCIP institutional attributes

- A legal public entity
- Designed to allow fund accumulation and risk financing via reinsurance and/or capital markets
- Allows insurers to sell stand-alone earthquake insurance, developing local market capacity and capability
- Collect premiums from homeowners **based on construction types and hazard zones**
- Investment in public education to boost participation in the scheme and earthquake risk mitigation
- Governed by a Board of Directors, representing government, the insurance industry, earthquake risk academic, and the technical operator
- Management of the TCIP is awarded and reviewed in 5-yearly cycles, with operator agreements negotiated with the Treasury
- TCIP is currently administered by a State-owned reinsurer, Turk Reasurans, since 2020



Coverage: Turkey (TCIP)

- Perils: Earthquake and resultant fire or landslide following. There are proposals to extend coverage to all Nat Cat perils)
- Covered Buildings: **compulsory for registered residential buildings** within municipal boundaries **(rural villages exempt**)
- Coverage Limit: Approximately US$42,000 per policy
- Deductible: 2% of loss
- Annual Premium: USD 10s to 100s, depending on construction type, floor area and hazard zone
- Policy distribution: TCIP issues policy through participating insurance companies (37)
- Current market penetration ~58%

Coverage: New Zealand (EQC)

- Perils: earthquake, volcanic eruption, tsunami, landslide, hydrothermal activity, flood damage to insured land, and consequential fire
- Covered Buildings: residential buildings (**compulsory** with fire insurance)
- Coverage limit is NZD 300,000 of loss for residential buildings. The limit is approximately 1/3 of the national median value of a dwelling. Insurers provide cover above the EQC limits for building
- EQC covers residential land beneath a dwelling and any adjacent structures that enable occupancy of the dwelling
- Deductible: NZD500 applied on the settlement amount for building, and for Land is based on the number of dwellings in residential building multiplied by NZD500, capped at NZD5,000
- Annual Premium: up to NZD 480 plus 15% GST (a total of NZD 552), uniformly applied nationwide
- Policy distribution: no policy is issued (cover set in regulation)
- Insurers handle premiums and claims under common arrangements for collection, remittances and disputes resolution
- Current market penetration ~95%

EQC Insurance Scheme and Natural Disaster Fund

Governing objectives

Premium adequacy	Risk Transfer	Management of the Natural Disaster Fund (NDF)	Support provided by the Government Guarantee
Premiums collected reflect the long-term cost of the scheme, including its administration	Reinsurance arrangements are efficient and effective in managing the risk	Premium income and assets of the Fund are managed responsibly under relevant Government direction	Ensure mutual understanding of how the Guarantee operates

EQC Insurance Scheme and Natural Disaster Fund

Strategic management

	Sustainable funding	Risk Transfer	Management of the Natural Disaster Fund (NDF)	Support provided by the Crown Guarantee
Targets	Agreed collection rates tariff and cap (not purely "technical")	Realistic parameters are modelled to identify optimal use of reinsurance	Income allocation reflects Government direction (Statement of Performance Expectations)	Clear and efficient process
Principles	All levy income entitled should be collected	Provides efficient capital protection on terms that cover all perils and geographic areas	Ensure liquidity to meet losses Manage portfolio well and review investment settings	Timely support when required
Measures	Ratio of premium income and annual budgeting Probability of ruin	Targeted levels of protection are secured at a desired cost of capital	Targets are set out in consecutive Government directives	Annual consultations with monitoring agency

EQC Fund Management

- Investment strategy is approved by Minister of Finance through the Treasury
- Access to reinsurance or alternative risk transfer (e.g. catastrophe bonds) allows the fund size to be capped
- EQC has a tax exemption on investment income
- Investment limited to cash and short-term fixed interest
- Fund is re-accumulating following exhaustion (target of ~NZD200 million balance in 2023)
- Risk financing objectives are published in a Statement of Performance Expectations

TCIP Fund Management

Legislation	Directions	Investment Rule

General Communique on Public Treasurership

Working Rules and principles of TCIP Board

TCIP Annual Investment Policy

Instrument	Limit (%)	
	Min	Max
Fixed Income Securities (1)	0	100
Time Deposit (2)	0	100
Money Market	0	75
Asset-backed Bonds (3)	0	25

(1) Issued by Government and State-Owned Banks incl. local and foreign currencies

(2) Allowed for State Owned Banks incl. retail banks and participating banks

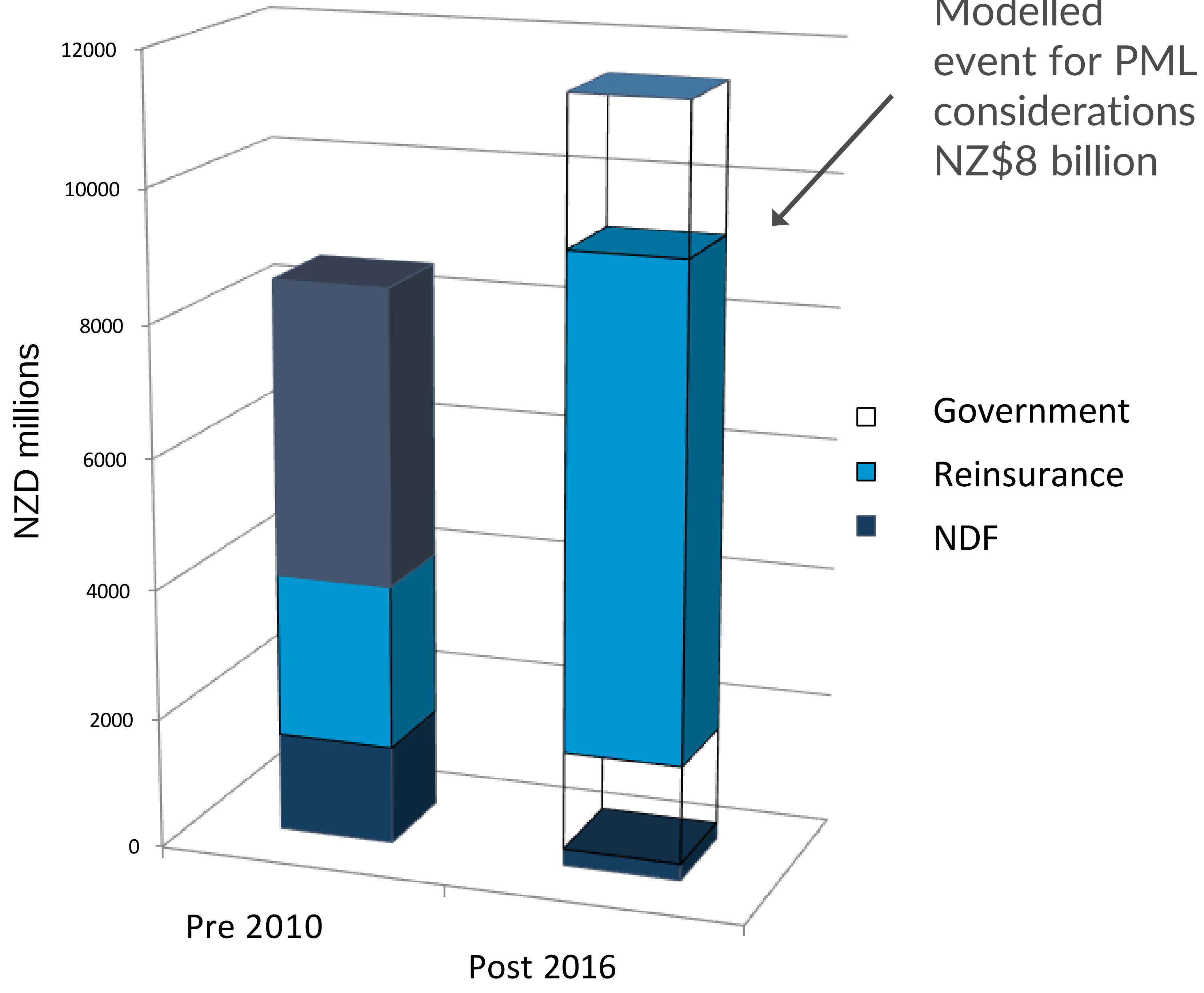
(3)) Issued by Government and State-Owned Banks incl. local and foreign currencies

Financial portfolio is managed by the Technical Operator's Fund Management department and asset management companies in line with principles of:

- distribution of risk
- protection of capital
- Liquidity

Risk Transfer

EQC fund exhausted between 2010 and 2022
Now recovering with increased reinsurance protection



New Zealand and Turkey have unique financing arrangements but share a common goal to ensure financial commitments are met following a natural disaster.

3B Euro	Layer 2	STATE 10%
2B Euro	Layer 1	
875M Euro	Private layer 2	
800M Euro	Private layer 1	
750 M Euro	TCIP Retention	
650 M Euro	Spread Loss	
350 M Euro	TCIP Retention	

Example of TCIP reinsurance structure 2017

Disbursements

- Insurance companies manage claims on behalf of EQC, through a national response model, supported by the insurer association (ICNZ).
- In Turkey, qualified loss adjusters perform these tasks, and banks administer payments in the areas damaged.
- In both countries, data sharing agreements support coordination during major events

in partnership with

Technical capacity and oversight

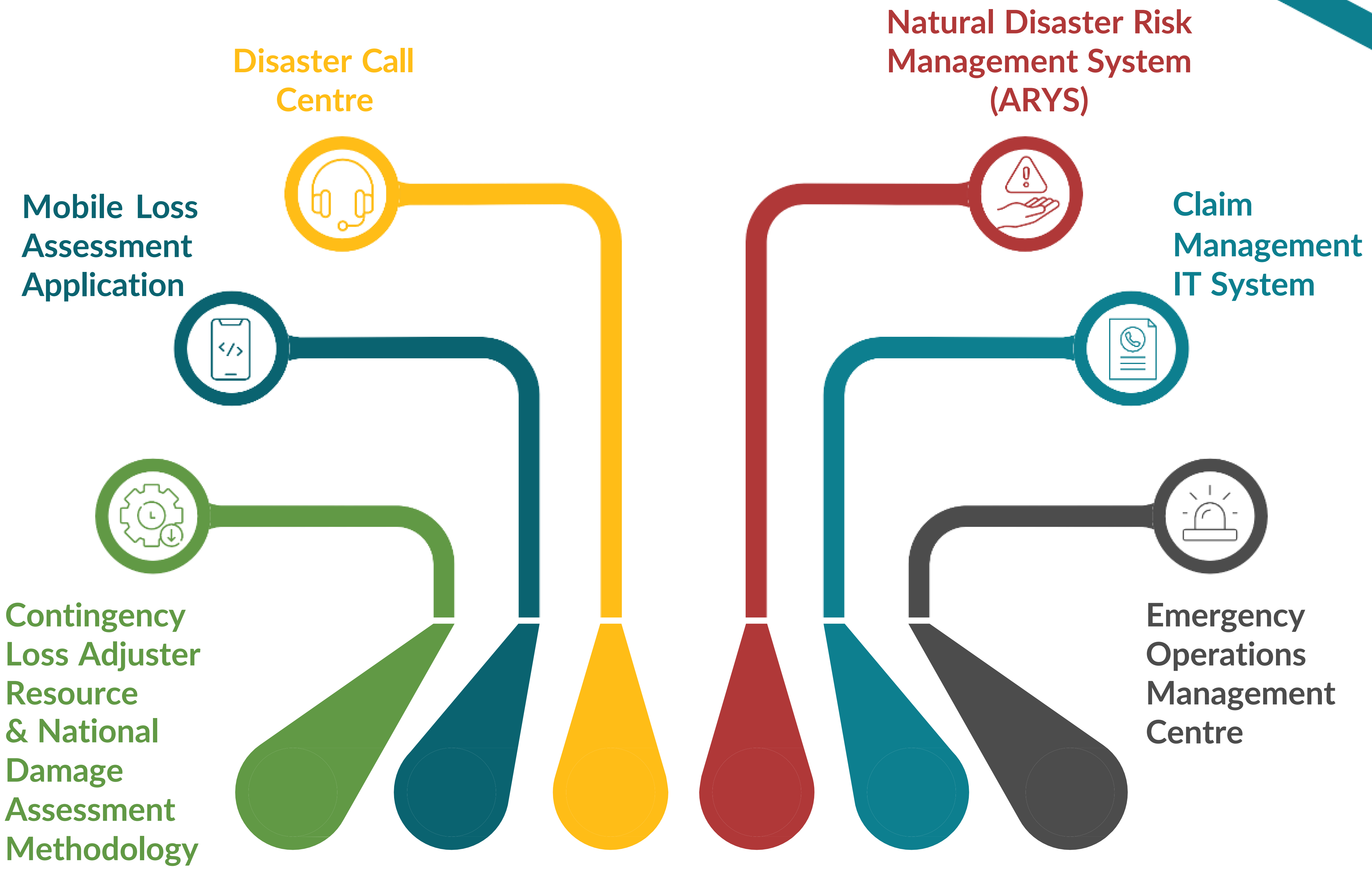
A sustainable insurance scheme requires risk modeling to determine premiums which accurately reflect the underlying risk

These activities are carried out routinely by EQC and the TCIP to help determine financial sustainability and their respective reinsurance structures:

- Disaster scenario loss analysis
- Risk modeling
- Service Level Agreement reviews
- Alternative risk financing option reviews
- Reinsurance placement strategy reviews

Technical capabilities and the capacity to respond to catastrophic events require partnerships, investment and regular training.

TCIP examples of technical capability



Data and Modelling

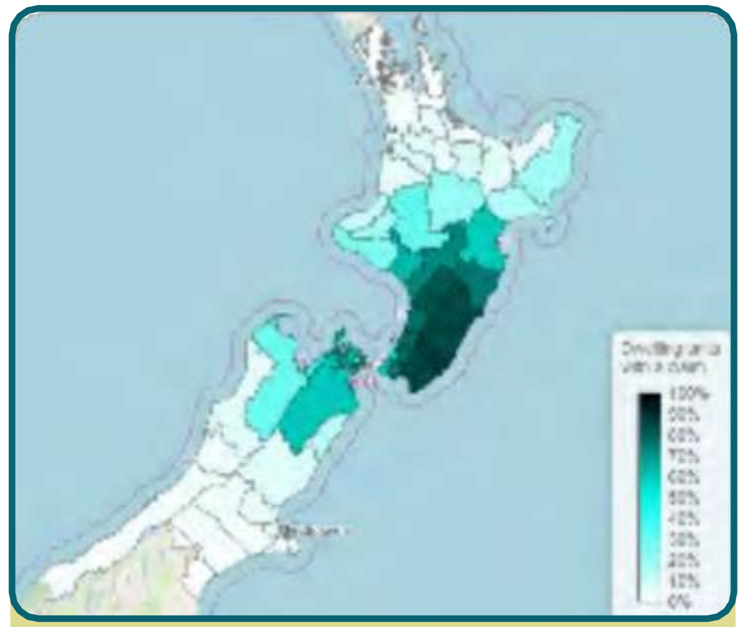
- Data and modelling are at the heart of EQC and TCIP operations
- Claims data and knowledge of hazards and building types means potential losses can be modelled and risks assessed
- Scenario testing allows for rapid scaling and direction of recovery efforts when impacts are reported
- Response arrangements aim to optimise the deployment of help to affected communities

Toka TU Ake EQC and NDRM policy records

Scientific details about national and regional hazards

Decades of funded research

Risk Modelling



Develop scenarios for planning and direct and scale the response in an actual event

New Zealand example shown

Common themes with local variation

The New Zealand and Turkey schemes have evolved over time

- First-loss co-insurance models
- Residential buildings only
- Defined perils
- Compulsory partnership with insurers maintains policy coverage and creates settlement pathways for serving affected communities
- Information and data sharing are core requirements for effective operations
- Financial limits for the respective schemes have been adjusted periodically
- Levels of protection coverage are high (NZ 95%) or growing (Turkey 58%)

Design questions for Indonesia include:

- What is the policy driver?
- What is to be covered (assets, incomes etc), which perils, and to what financial limits?
- In terms of pay-out, what is most valued, e.g., speed, accuracy, equity?
- What can be revealed or inferred about societal preferences, e.g., willingness to pay, ability to tolerate loss?

Summary of Benefits

Turkey (TCIP)

- Insurance coverage at reasonable prices for people with average income
- Loss assessment and payment of indemnities in case of an earthquake
- Long-term fund accumulation
- Sharing the financial burden of earthquake with insurance and reinsurance markets
- Improving public risk culture and insurance consciousness

New Zealand (EQC)

- Underpins a strong national insurance culture and has reduced unplanned spending on catastrophes
- The long-term reserve fund (NDF) has buffered the financial impact of disasters
- Cost effective risk sharing involves all major reinsurance markets
- Advanced technical capabilities and public benefits have accrued from EQC's strategic mandate and investments (e.g. GeoNet,public education, science research)

Acknowledgments

New Zealand Natural Hazards Commission

Turkish National Catastrophe Insurance Pool

Terima kasih semuanya

Thank you everyone

Global Shield Financing Facility