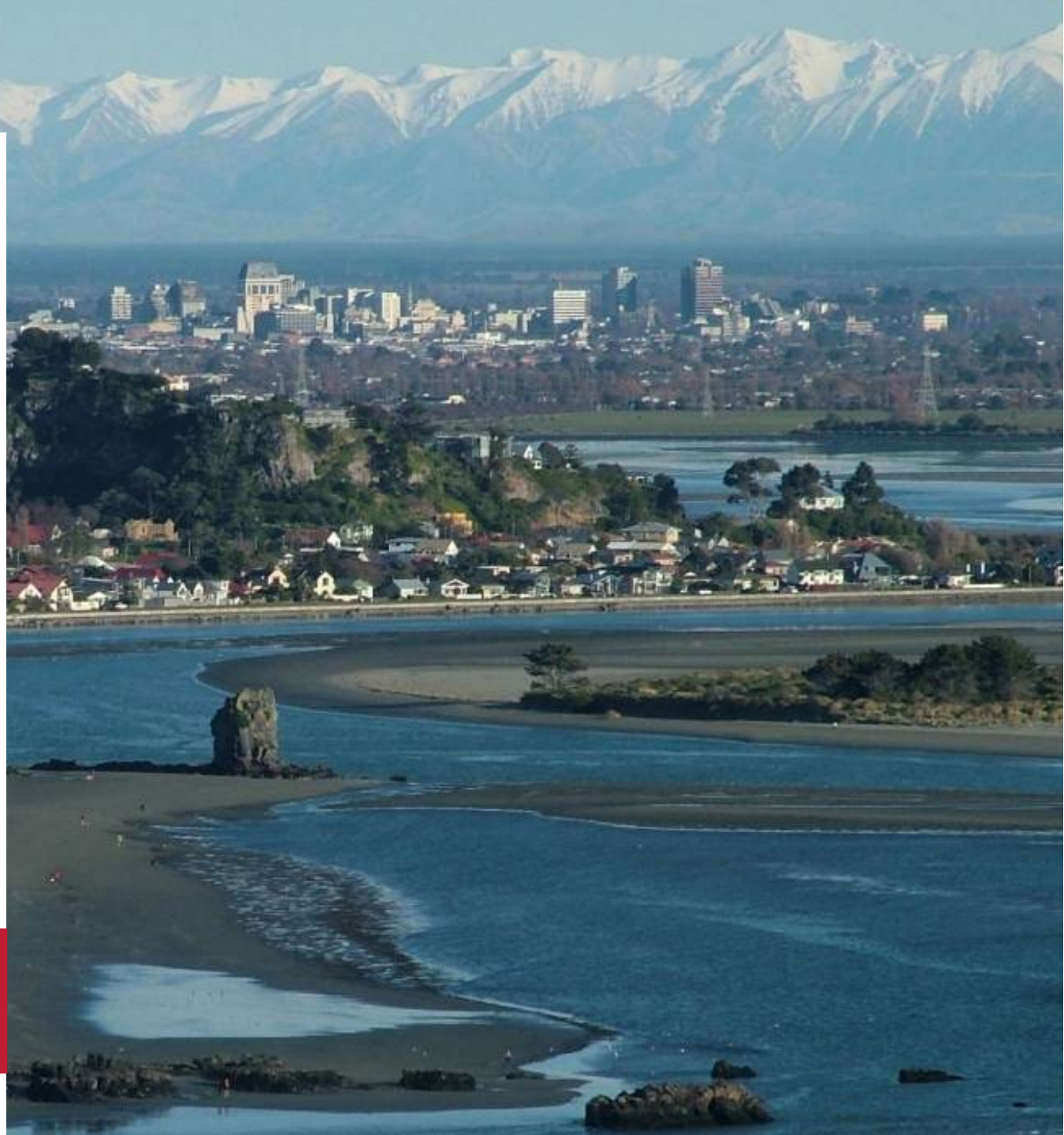


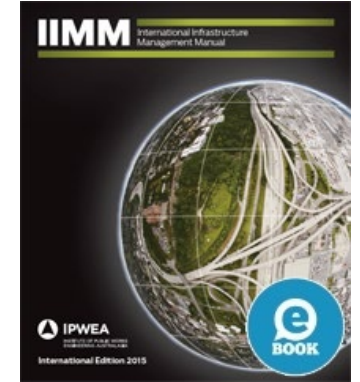
# Sea Change: Building Coastal Community Resilience in Aotearoa

Presenter: Dr Bapon Fakhaddin and Melanie Hutton



# Who is IPWEA NZ?

New Zealand's membership association for infrastructure asset management and public works.



**Sustainable communities  
enabled by public asset  
management excellence**

# Melanie Hutton

Head of Resilience – Community and Business, Auckland  
Emergency Management

**Tokonga Mate Ohotata o Tāmaki Makaurau**

Melanie has global experience in developing policies, strategies and delivering successful sustainability and community resilience building projects.

She has led work for not for profit organisations locally and internationally (Forest and Bird, Greenpeace, WWF International), local government in Australia and NZ and central government in Aotearoa.



New Zealand



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ENGINEERING AUSTRALASIA



# Bapon Fakhruddin

**Technical Director- DRR and climate resilience**  
**Tonkin + Taylor**

Dr Fakhruddin is an eminent hydro-meteorologist and disaster risk assessor with 19 years' global experience in water resources and climate resilience projects.

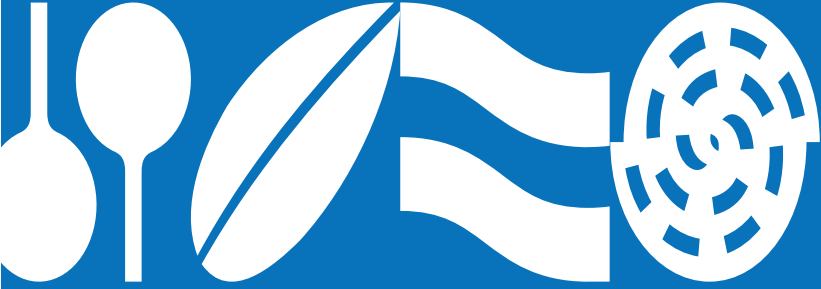
His key areas of expertise are hazards forecasting, climate and multi-hazard risk assessments and coastal community resilience.



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# Sea Change: Building Coastal Community Resilience in Aotearoa



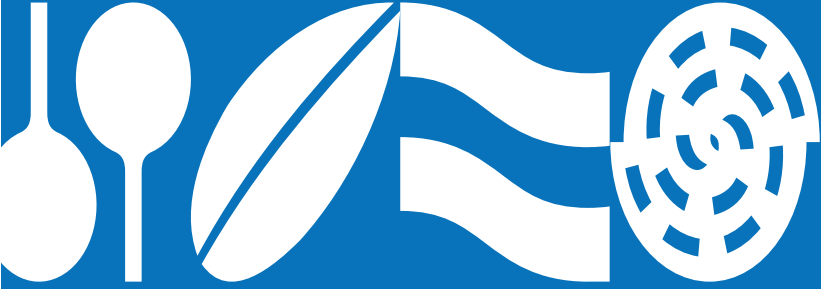
Transforming Tāmaki Makaurau  
communities who face  
coastal climate and disaster impacts

Melanie Hutton  
Head of Resilience – Community & Business  
[melanie.hutton@aucklandcouncil.govt.nz](mailto:melanie.hutton@aucklandcouncil.govt.nz)



**Auckland  
Emergency Management**  
Tokonga Mate Ohotata o Tāmaki Makaurau





***Tē tōia, tē haumatia,  
kia rite, kia mau***



***Nothing can be achieved without  
a plan, workforce and a way of  
doing things.***

***Be prepared to take action.***



**Auckland  
Emergency Management**

Tokonga Mate Ohofata o Tāmaki Makaurau





# What I'll talk about...

- Our guiding Strategies and Plans
  - reshaping our conversations
- Community (Disaster) Resilience
  - Vision
- Our Approaches
  - Tools to improve outcomes
- Reimagining, Enabling & Empowering
  - our experience across Tāmaki Makaurau
- Challenges in C21 and PC





# Strategies and Plans – From DRR to C(D)R

## 2015 CDEM Group Plan



- Be inclusive
- Recognise community capabilities and need
- Build and maintain partnerships\*
- Empower local action
- Use and strengthen social networks and assets

## 2019 National Disaster Resilience Strategy

### National Disaster Resilience Strategy

Rautaki ā-Motu  
Manawaroa Aitua

We all have a role in a disaster resilient nation  
Te whānanga kōwhiri kōwhiri i te ora o te iwi mātauranga āitua

- Working together to manage risk and build resilience
- 5 Objectives

## Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan



- A clear greenhouse gas emissions reduction targets\*
- Preparing Auckland for the impacts of climate change





# Community (Disaster) Resilience Vision

Strong, self-reliant and resilient whānau and connected communities who

- **understand** hazards,
- take action to **reduce** their local hazard risks,
- are **prepared** for residual risk and impacts,
- have strong, positive and cooperative **social connections**

so they are able and willing to support each other during an emergency.

“Communities develop resilience when people feel connected, have a sense of belonging and have a place to stand.”

Dame Cindy Kiro



# The How – Our Approaches

**Collective  
Impact  
Approach**

**Dynamic  
Adaptive  
Pathway  
Planning**

**Behaviour  
Change  
Interventions**

**Human  
Centred  
Design  
Thinking**

**Not 4, but  
8 R's!**

**International  
Association  
for Public  
Participation**



# Strengthening Coastal Communities





# Disaster Resilience in Coastal Communities

- **Te Henga/Bethells Beach and Karekare Beach**
  - Highly socially connected communities
  - Dedicated emergency response/ resilience group and other networked community groups
    - Proactive re tsunami alert system
    - Cognitive fluency (keep it simple) – plan and actions
    - Step aside
  - Multiple local community engagement platforms
  - August 2021 Storm event
    - Self organising
    - Outreach to multiple partner agencies on key issues they can't address
    - Reassess community planning after event (design iteration)

# Disaster resilience in coastal communities

- **Piha Beach**

- Resilience Planning approaches tried
  - Norms (do what others have done)
  - Messenger effect (step back and let others deliver, if there is not division)
  - The curse of knowledge (I don't understand why don't you understand)
- Membership (political, agency, cross council, community)
  - Authority – follow orders (Uniform)
- Multiple engagement methods
  - Have your say online processes
  - Meeting, clinics with multiple perspectives

# Disaster resilience in coastal communities

- **Great Barrier Island**

- Highly socially connected and resilient community
- Backbone organisation: Emergency Management Committee
  - Authority
  - Step aside

- **Waiheke Island**

- Backbone organisation: Emergency Management Committee
  - Status quo bias (what done in the past)
  - Norms (what other Local Boards are doing across Auckland rohe)
- Resilience Planning
  - Norms (do what others on Island have done)
  - Reciprocity (print resources, goodies bags, Neighbours Day funding)



# Disaster resilience in coastal communities

- **Rakino Island**

- Backbone organisation: Rakino Residents Association
  - Authority – AEM and FENZ
- Resilience Planning approach underway
  - Status quo bias (what done in the past for fire control)
  - Norms (do what other islands have done)
  - Messenger affect (who delivers it in community)

# Disaster resilience in coastal communities

- **Coastal East Rodney**

- Dedicated emergency response/ resilience group and other networked community groups
  - Cognitive fluency (keep it simple) – plan and actions
  - Step aside
- Dedicated backbone organisation to date: AEM
- Resilience Planning approaches
  - Status quo bias
  - Norms (do what others have done)
  - Reciprocity (print resources, goodies bags, Neighbours Day funding)

# Disaster resilience in coastal communities

- **Whangaparaoa**

- Dedicated emergency response/ resilience group and other networked community groups
  - Cognitive fluency (keep it simple) – plan and actions

- Integrated into Shoreline Adaptation Plan

- **Devonport Takapuna**

- Resilience Planning approaches
  - Status quo bias
- Collective Impact Backbone organisation ANCAD with Local Board funding
  - Reciprocity (print resources, scenario and Kotahitanga workshops)





# Rising to the Challenges – C21 and PC

- On line distractions
  - Creative, innovative, visual, interactive
- Engagement on line versus face to face
  - Evolving!
- Community capacity
  - Recognise and support, know when to step aside



*“What ever the problem, community is the answer”* Meg Wheatley

Social connector, community development and engagement innovator roles lead to successful technical outcomes for our vulnerable coastal communities





**Excellent social engagement = Excellent kai**  
**Now to our next speaker: Bapon Fakhruddin**





# Sea Change

## Building Coastal Community Resilience in Aotearoa

Integrated Approach at  
National Scale

Bapon Fakhruddin, PhD

 Tonkin+Taylor







# Coastal Community Resilience

- Coastal communities are highly vulnerable and exposed to various hazards
- Coastal Community Resilience- the ability of the communities alongside the coast to be able to deal with climate change and risks from natural and biological hazards
- Population and changing urban landscape can have mixed effects on citizens' wellbeing, environment and economy, and give rise to sustainability challenges.

# How we create a Resilient Nation

*“turning the resilience theory into practical action has, until recently anyway, been difficult to achieve”*

- **“you can’t manage what you can’t measure”**
- We need a tools/guidebook integrating all frameworks and plans to measure resilience. Such as four capitals of Living Standard Framework, six sectors of National Disaster Resilience Strategy, six resilience areas of EQC Resilience Strategy for Natural Hazards Risk Reduction; and guiding principles of Mātauranga Māori and Modelling Interface
- Resilience in terms of – natural, biological, technological, man made hazards
- Measures community resilience through indicators

## National Disaster Resilience Strategy

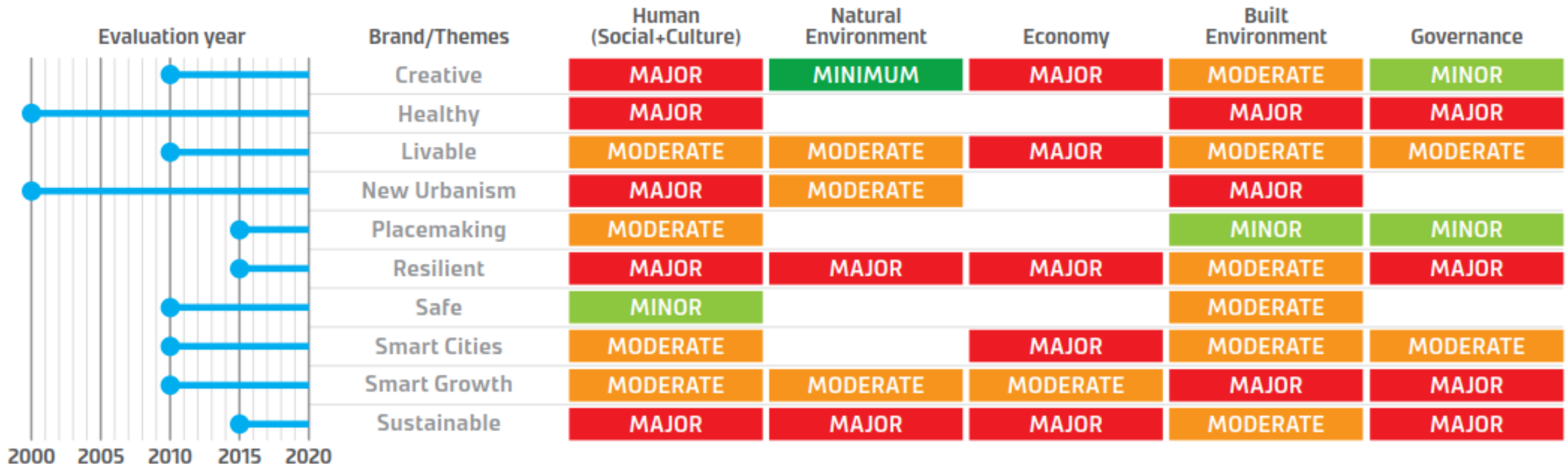
Rautaki ā-Motu  
Manawaroa Aituā

We all have a role in a disaster resilient nation

He wāhanga tō tātau katoa i roto i te iwi manawaroa aituā



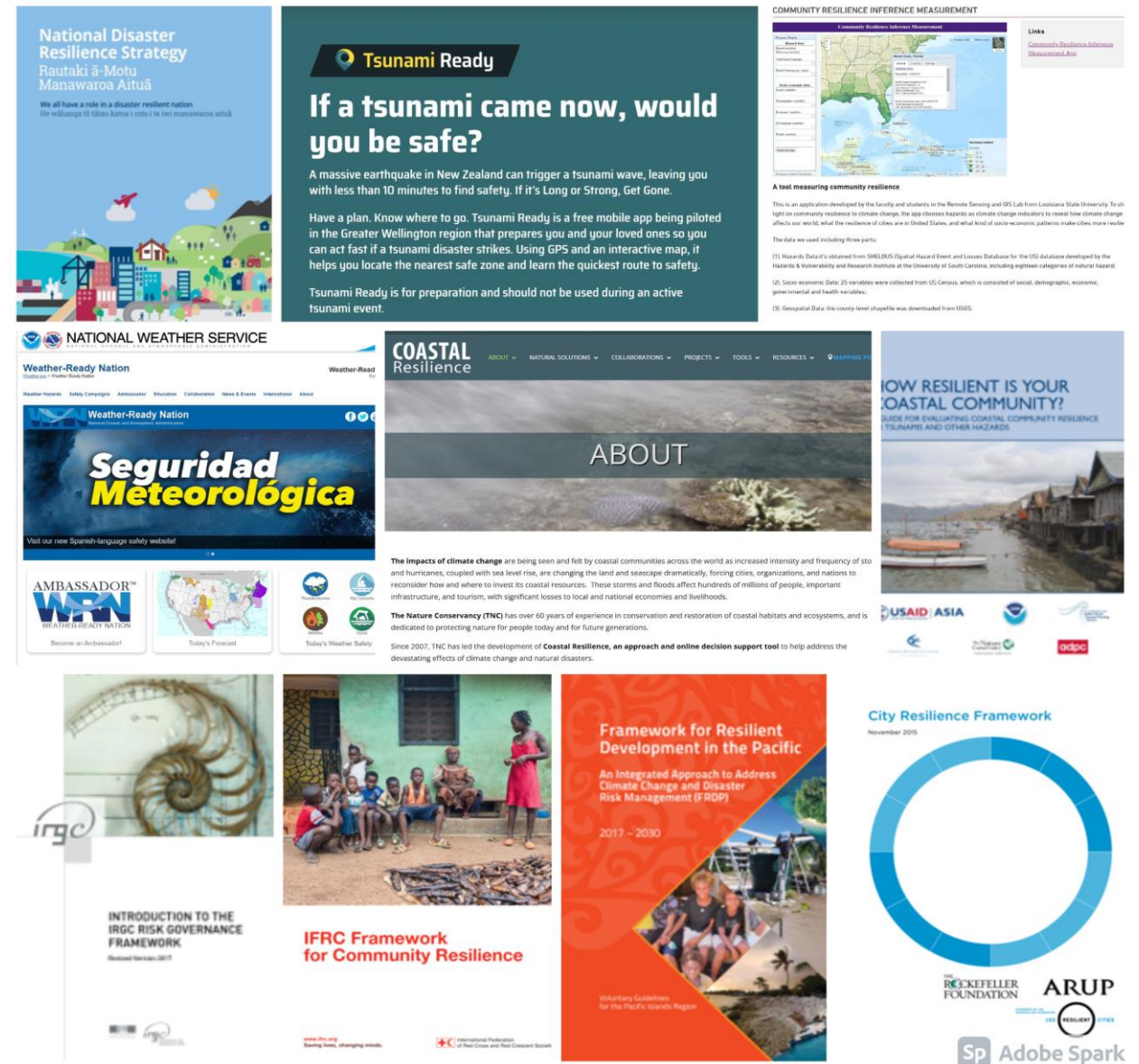
# Evaluation of Resilience Cities

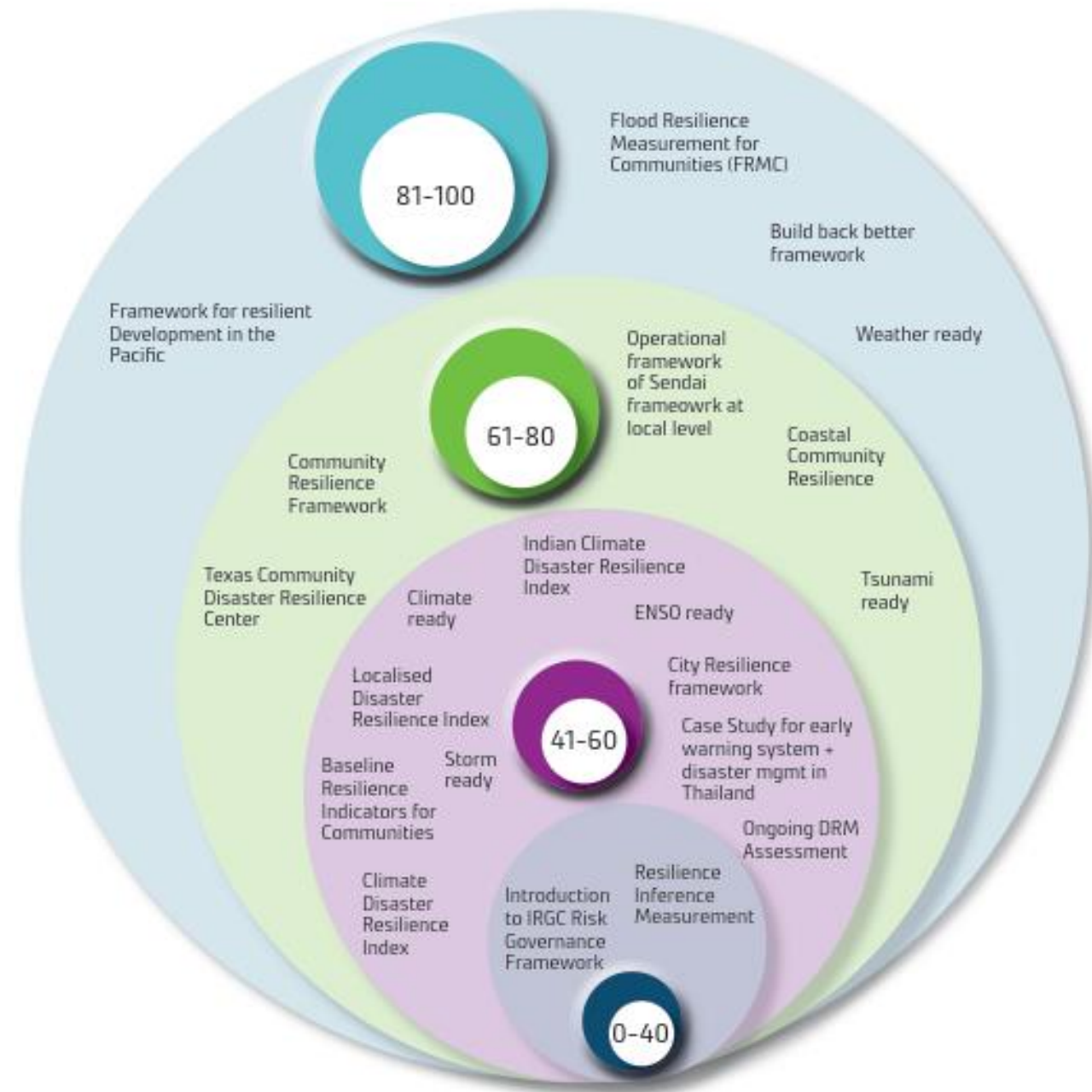




# Existing frameworks, approaches, and guidelines

- There are numerous frameworks, plans and works of literature with various benchmarks and indicators available across the globe
- Majority of them failed to cover the key aspects comprehensively
- Lack of a standard





## Benchmark indicators meet for resilience

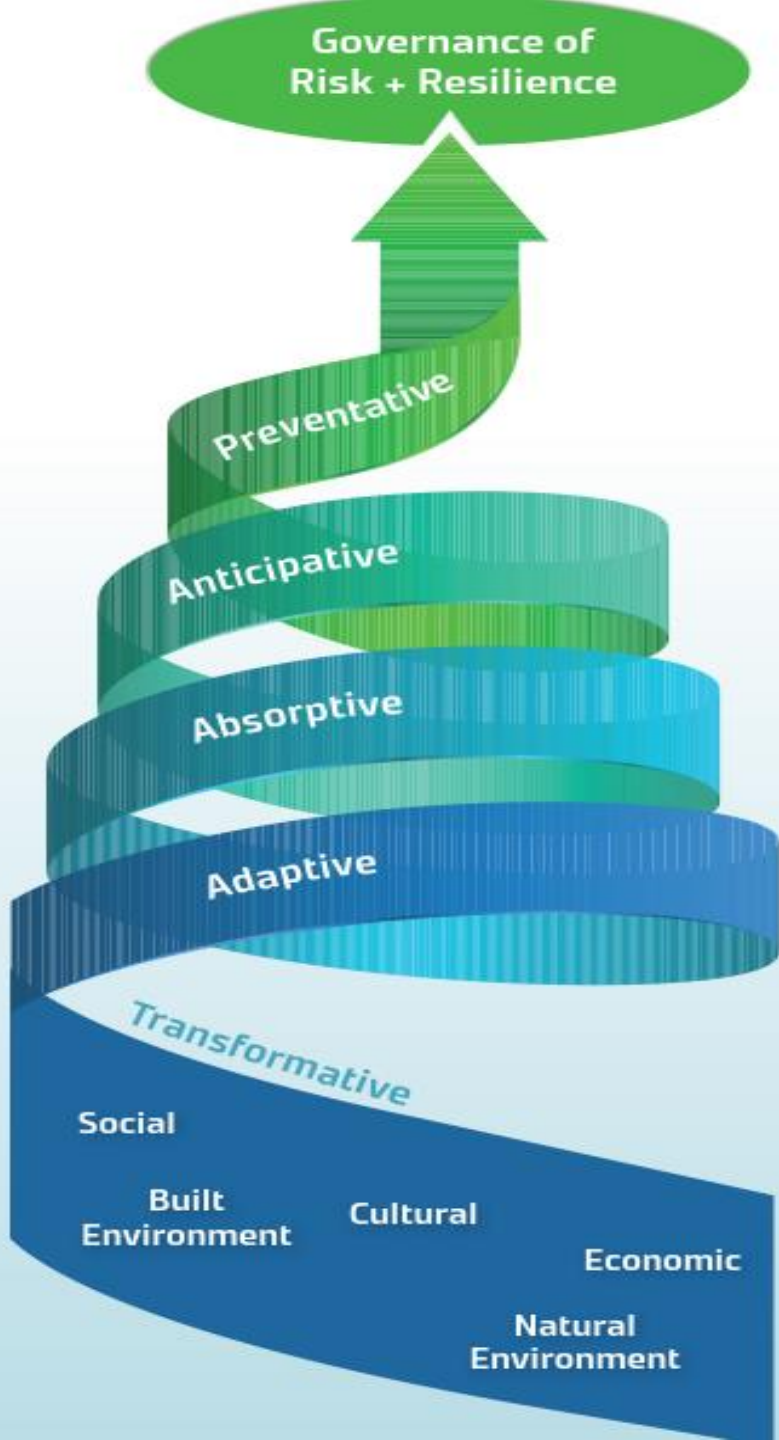
- The baseline (benchmark indicators) of this approach is taken from a guide developed by US Indian Ocean Tsunami Warning Program (2007) – (115 benchmark indicators across institutional arrangement, policy and legislation, community, economy, coastal resource management, land use and infrastructure, climate change and risk knowledge, emergency response, early warning and evacuation, disaster recovery and reconstruction, monitor and evaluation)
- 21 frameworks, plans, guidelines, approaches, and works were reviewed
- Review indicated that there are several essential points that should be included to improve the existing baseline

# Coastal Community Resilience Guide

- Coastal Community Resilience guide is an integrated approach for coastal community resilience which supports the development of coastal community resilience frameworks
- A detailed list of generalised indicators that are flexible and straightforward are presented under five capitals of Resilience
- An example of such tools – Flood Resilience Alliance IFRC/Red Cross





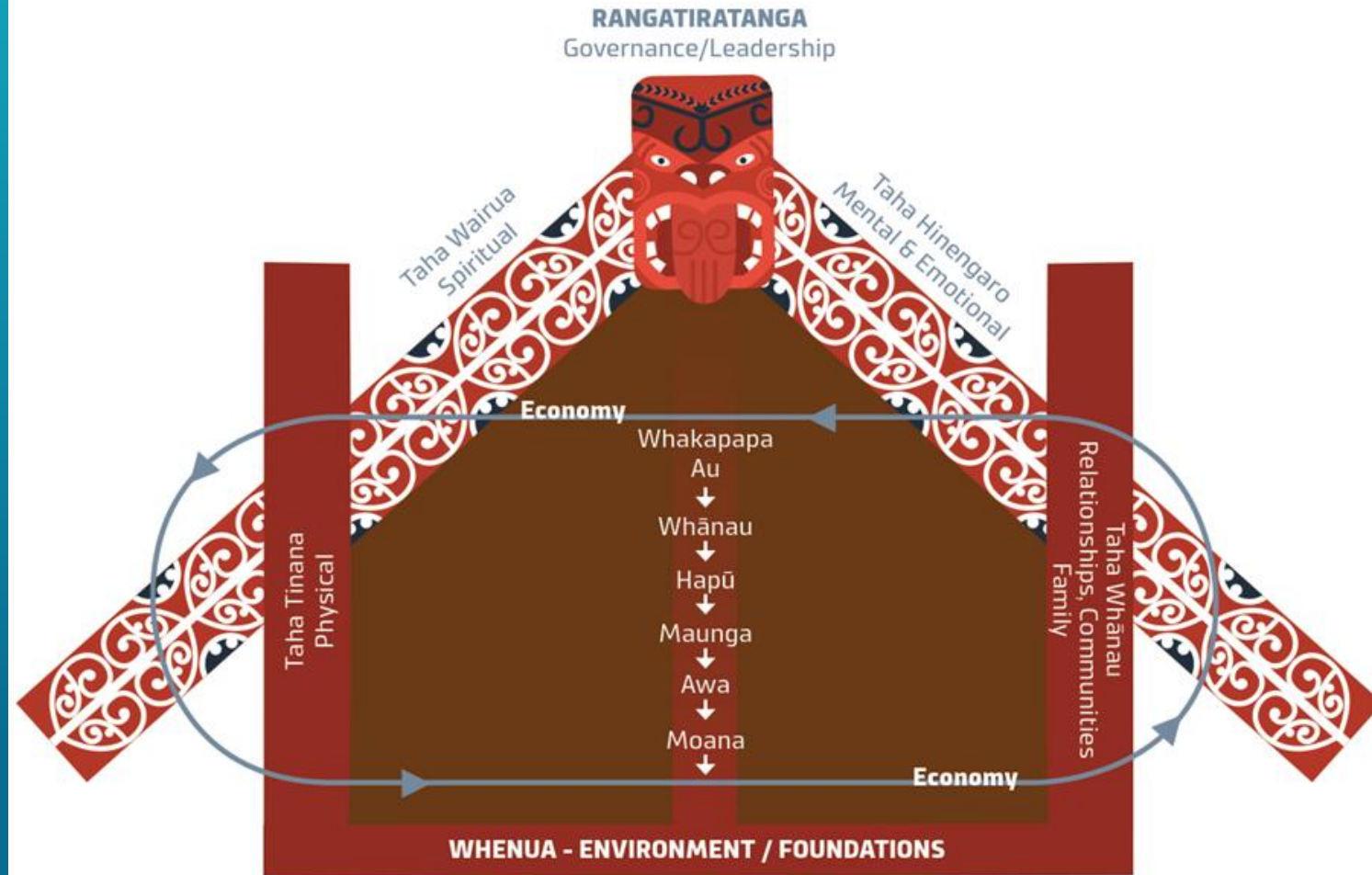


## Lessons learned

- Resilience element often investigates five capitals (i.e., social, built environment, cultural, economic, and natural environment)
- The process (i.e., preventive, anticipative, absorptive, adaptive, and transformative) of resilience building is mostly ignored
- In the process and capitals of resilience building are looked together

Resilience needs to look at more holistically, integrated and cohesive linking DRR, CCA and development. As we learned from Whakapapa- ‘everything is interconnected’!

The Coastal Community Resilience Guide allows the key ingredients of resilience to be effectively and efficiently achieved for our increasingly vulnerable communities.







# Upcoming events

## FUTURE-FIT AOTEAROA

CONFERENCE | AUCKLAND | 2-4.02.2022

UNLOCKING OUR POTENTIAL



water NEW ZEALAND  
IPWEA INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA

### Water Asset Management Forum

Sustainable water through smart asset management

17 - 18 NOV | WELLINGTON

**1** NOV AM 101 - Introduction to Asset Management - Digital Badge  
Nov 1 - 30, (NZST)

**1** NOV AM 202 - Understanding Requirements Asset Mgmt - Digital Badge  
Nov 1 - 30, (NZST)

**1** NOV AM 203 - Lifecycle Planning - Digital Badge  
Nov 1 - 30, (NZST)

Visit [IPWEA.ORG](http://IPWEA.ORG) for all events



**Thanks for watching!**

**Check out our upcoming events at [IPWEA.org](https://www.ipwea.org)**



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