

# How can we Build Resilient Infrastructure in the Blue Pacific

Presentation to the Australian Conference of Economists  
Session: Infrastructure

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12 July 2021

# What is Resilience?

- The term 'Resilience' comes from the ecological sciences.
- However, there has been large increase in the use of the term in recent years in different disciplines.
- There are many different perceptions of what is 'resilience' and how it can be applied.
- The relevant part for this presentation is about a 'system' adapting, rebounding and transforming.
  - There are static and dynamic aspects that are relevant for policy making.
- There is a linkage to vulnerability but it is a separate concept.
- Resilient is not necessarily "green" but there is overlap.



# Economic Infrastructure and Resilience.

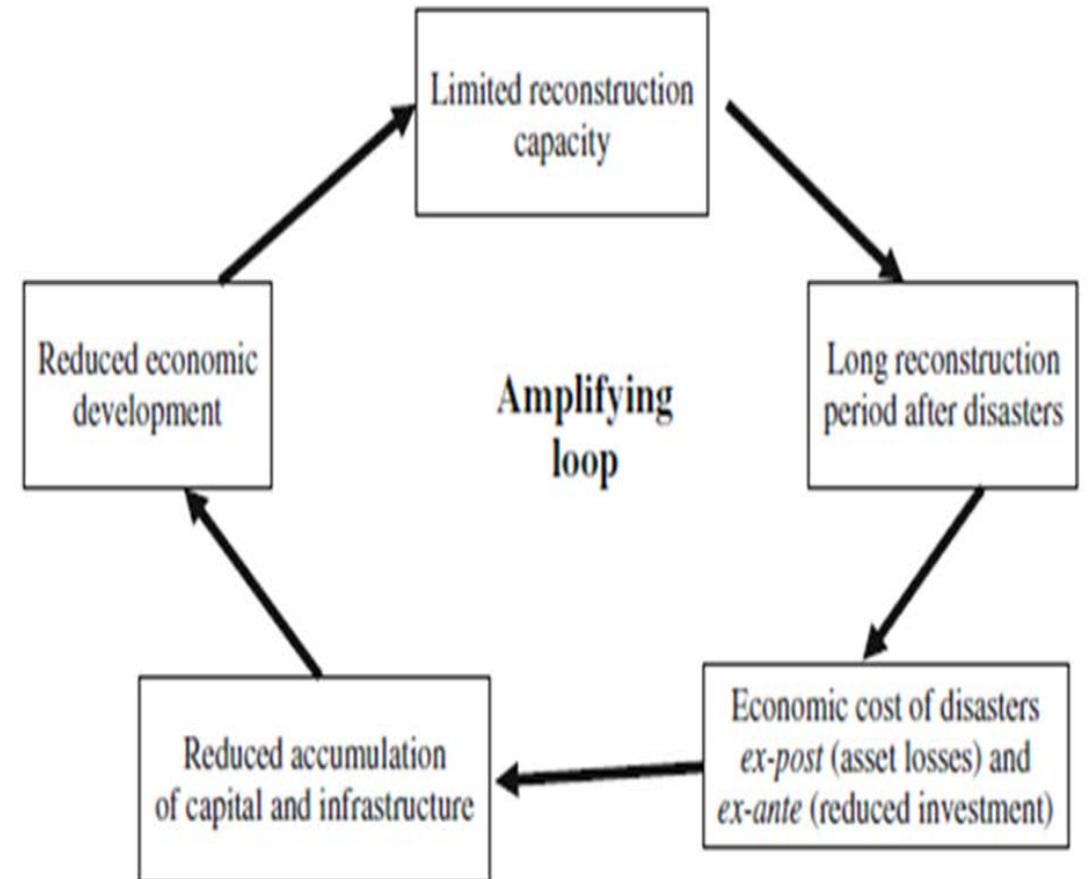
- Infrastructure provides critical social and economic services required towards meeting the developmental needs of Pacific peoples and their economies.
  - Many partners have plans for supporting infrastructure in the Pacific – AIFFP and SIIP.
- Given that infrastructure investments have an economic life expectancy of 30 years or more, infrastructure is sensitive to both climatic conditions prevailing during its construction and to the climate variations over decades of use and these aspects need to be planned for in the design phase, construction, materials used and incorporated into the maintenance and operation of the infrastructure.
  - Pacific faces ongoing and increasing climate and disaster risk.
  - Governance challenge of build, deteriorate and rebuild in the Pacific.
- Sustainable growth necessitates infrastructure that matches the needs of remote Pacific islands countries – robust, low-carbon and able to adjust over time (such as to match climate change forecasts) but they face many challenges on data, evidence and analysis.

# The issue and problem

- Resilient infrastructure can be defined as infrastructure that is capable of:
  - Absorbing the effects of some disaster events (or being able to be repaired quickly).
  - Adapting to changing circumstances as uncertainties are resolved, such as, incorporating flexibility to be modified as settings change (being able to bounce forward after an event).
  - Important to be designed and maintained to withstand disruption so it can continue to operate in the face of shocks and stressors.
- An ADB report (Meeting Asia's Infrastructure Needs 2017) highlights that Pacific Member Countries' (PMCs) infrastructure investment needs are estimated at around US\$42 billion from 2015-2030 – that is – an annual average investment of US\$2.8 billion or roughly around 8.2 percent of the PDMCs' GDP.
- This report also outlines that infrastructure investment needs for the PMCs increases to US\$46 billion from 2015-2030, when accounting for the impact of climate change – equivalent to around US\$3.1 billion investment annually (on average) or 9.1 percent of PMCs' GDP.

# Why Built it and Invest in it?

- Resilience is not solely in the domains of climate change, disaster risk or sustainability.
- It is general enough to enable a wider discussion about the factors that contribute to a projects success and failure.
- It is partly about continuous improvement in planning, financing, implementation and M&E.
  - Planning, financing and climate policies have to be linked.
- There is no 'gold standard' of resilience that locks in a specific approach to policy, project or programme.
- The general nature of the concept means it is all things to all parties. However, ignoring it means you are not managing risk.



# The path to resilience.

- Resilience outcomes result from trade-offs and combinations between three different dynamics depending on the (i) intensity of shock, (ii) costs of impact, and (iii) costs of response.

But,

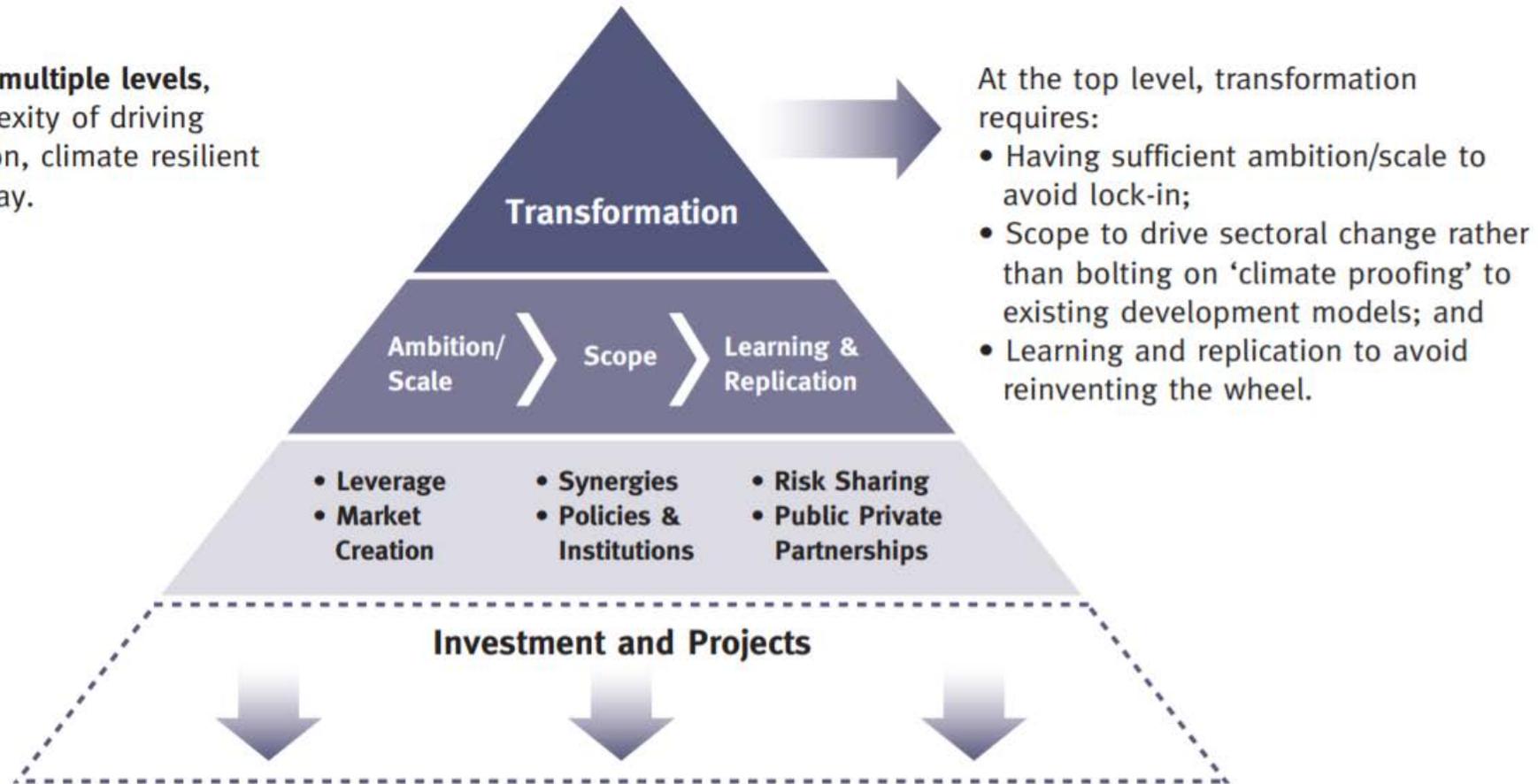
- Institutions (formal and informal) take time to develop and become embedded in the way systems approach problems, policy, implementation and M&E.
- Specific projects can be resilient but often there is no specific ongoing sustainable ethos in the approach to it. It needs to be programmatic in approach with data and frameworks for analysis.
- Strengthening governance, planning and finance are part of the missing parts of the resilience story in the Pacific. For example, enforcing building standards.

It should include all systems including individuals, communities, businesses, nations and regions. It is not exclusive to one group.

- No one owns resilience but we all have a share in enabling it.

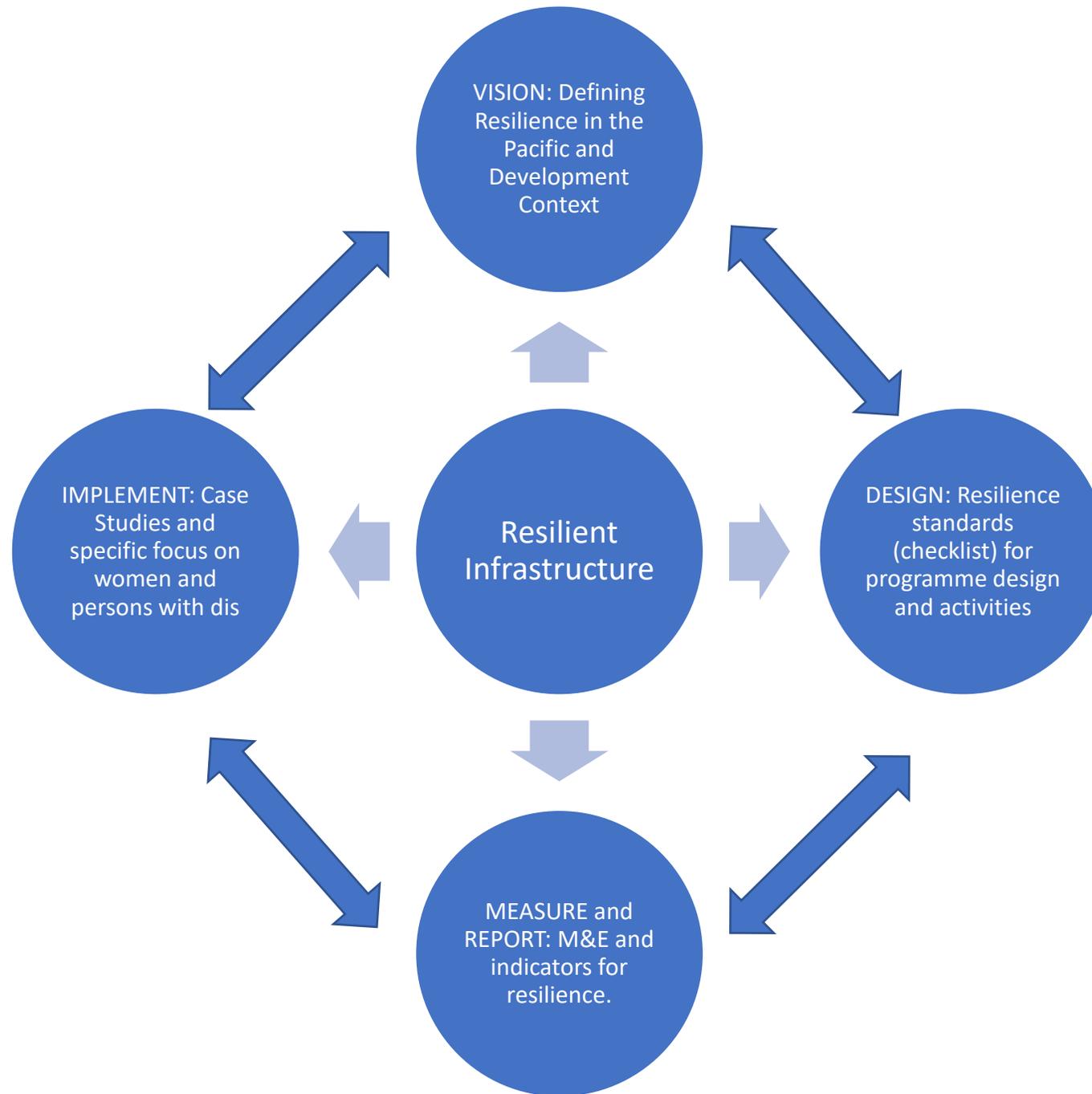
# Conceptual framework of transformational change

Transformation has **multiple levels**, reflecting the complexity of driving towards a low carbon, climate resilient development pathway.



Source: E3G 2014. *Designing smart green incentives schemes* – Adapted from framework developed by E3G in 2009

# Enabling Change



# Resilience in Light of COVID-19

- Supply chains transmit both opportunities and risks. COVID shows that climate risks will cross borders and sectors.
- Crisis and shocks enable the conditions for transformational change.
  - How do we enable and facilitate systems to grow and change? Value in standards, targets, adaptive programming and monitoring and reporting.
  - How do we make low/zero carbon the new normal for long-term sustainability? Risk management, regulation (enabling the Paris Agreement GST and NDC reviews), finance, and incentives/sanctions on carbon intensive products.
- Opportunity to recast the approach to resilience, sustainability and development. We can consider:
  - Nature based solutions (coastal mangroves, seagrass and water courses).
  - Focus on empowering marginalised groups (inclusion).
  - Increase the use of information technologies (in agriculture and fisheries).
  - Making finance access simplified.
  - Low cost resilient infrastructure solutions (enabling growth).
- WRI (2019) sees an investment of US\$1.7 Trillion will yield US\$7.1 in benefits.
  - Resilience can give a better environment, increased productivity and reduce mortality.

# Final Comments

- Infrastructure investments usually involve large and irreversible investments with long asset lives, which makes consideration of resilience particularly relevant. Practical measures such as asset registers are useful.
- There is much work to be done in linking climate change, disaster risk reduction and sustainable development. Resilience is the vehicle to bring them together. It could support the efforts under the FRDP/PRP and the PRF within the Blue Pacific to identify, assess and manage risk.

However,

- There is some concern in the literature that ‘resilience’ is being seen as a solution for all problems and issues in the development space.
- Resilience has little to say about poverty, gender or sustainability.
- It is important to continue to have a holistic approach to development planning, implementation and assessment.
- Resilient development is not a substitute for low-carbon development pathways.

# Thank You

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