



Pacific Region Infrastructure Facility Community of Practice

*Regional perspectives on
the role of infrastructure in
building back better and
supporting disaster
recovery*



Agenda

1. Introduction to today's Panel
2. Disasters in the Pacific
3. Common principles used in building back better
4. Tools and products available from PRIF
5. Panel discussion – prepared remarks and Q&A



Introducing today's panel



Tim Stats
TA Officer, PRIF

Tim is an architect and project manager with 15 years of experience. The majority of this time has been working in international development specializing in the design and delivery of resilient infrastructure.



Leveni Aho
Implementation Specialist,
Pacific Resilience Program

Leveni is an architect with over 40 years experience including extensive disaster recovery and reconstruction experience. He was the Ministry of Infrastructure's CEO and the head of the Tonga National Disaster Office for almost 15 years and has supervised housing, government, commercial and church building projects.



Judith Giblin
Ocean and Coastal Risk Analyst,
SPC

Judith is an Early Career Ocean Professional in the Geoscience, Energy and Maritime Division at the Pacific Community, providing technical expertise to strengthen ocean and coastal risk prediction services, and address coastal risk management issues.



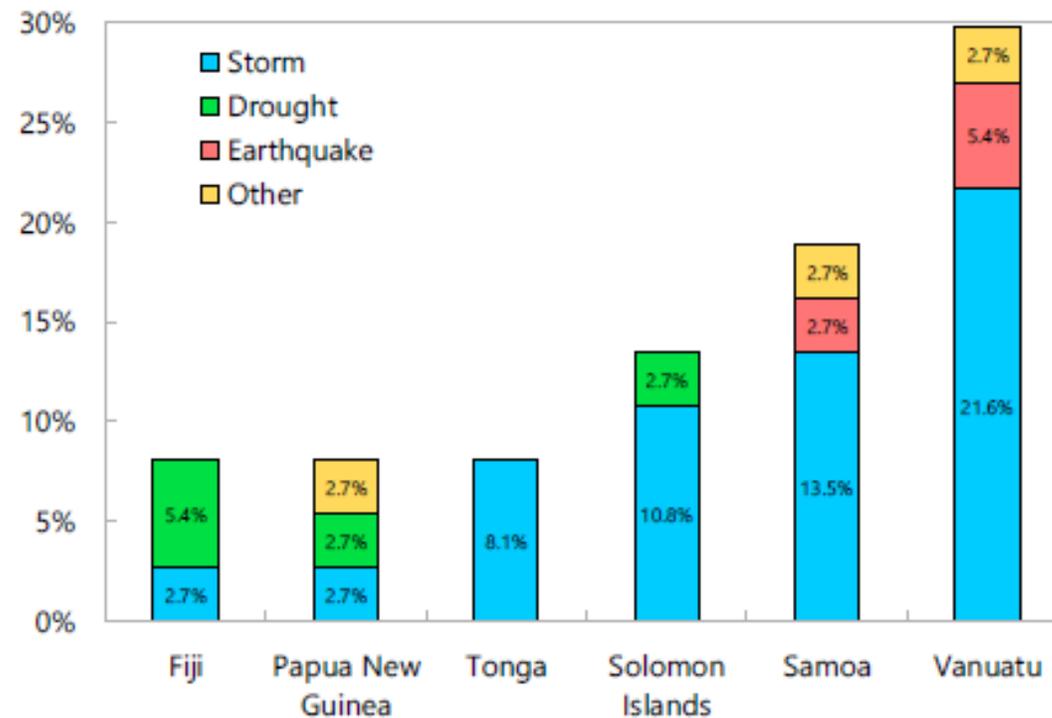
Rhys Gwilliam
Architect and International
Building Consultant

Rhys is a New Zealand architect and project manager with over 40 years of experience in international development. Since 1989 Rhys has lived and worked in various Pacific Island countries specializing in the design and delivery of social infrastructure.



Disasters in the Pacific

- Since 2000, the region has been hit by between four and 14 natural disasters **per year**
- High probability of an annual occurrence of a **severe** natural disaster:
 - 29.7% Vanuatu
 - 18.9% Samoa
 - 13.5% Solomon Islands
 - 8.1% Tonga and Fiji



Note: "Others" includes volcanic activity, epidemic, landslide, mass movement, and wildfire.



Hunga Tonga–Hunga Ha’apai Snapshot

- Tsunami wave affected many islands:
 - Destroyed islands of Mango, Fonoifua and Ataata - people have all been relocated to Tongatapu
 - Damages to infrastructure and housing widespread, including wharves, also tourist operations on Tongatapu Island’s west-facing coast
- 5-50mm ash across the Ha’apai, Tongatapu & ‘Eua island groups
- Telephone and internet lines were cut
- Approx. 85,000 people affected, 84% of total population.
- Global Rapid post-disaster Damage Estimation (GRADE) report:
 - Economic damage approx. US\$90.4 million
 - Equivalent to **18.5% of GDP**
 - Costs to ‘build back better’ will be much higher
 - Potential hazards remain, compounded by climate change impacts
- COVID-19 outbreak (current status = orange) saw some recovery efforts suspended



Common principles in building back better

1. Mainstreaming resilience building in national policies and standards

“TC Harold was the [first significant storm to test the more resilient standards used in the reconstruction after 2016’s Tropical Cyclone Winston](#). Of the 181 schools and 25 public buildings that had been completed to date under the “Build Back Better” program, none were damaged. This delivered a twofold gain for Fiji – protecting the Fijian people during a crisis and the government’s budget from the catastrophic costs of rebuilding.” (WB, 2020)

2. Encourage inclusive process and ensure adaptive social safeguards are in place

“A perspective from Vanuatu emphasized how women’s voices were still not heard. If they were made aware of their rights, policy makers could engage them to use their specialized knowledge to take collective decisions on issues affecting them, thereby Building Back Better.” (GFDRR, 2019)

3. Enhance local participation to build back better

“Build Back Better,” suggests that successful recovery of communities following disasters needs to amalgamate the rehabilitation and enhancement of the built environment along with the psychological, social, and economic climates in a holistic manner to improve overall community resilience.” (University of Auckland, 2014)



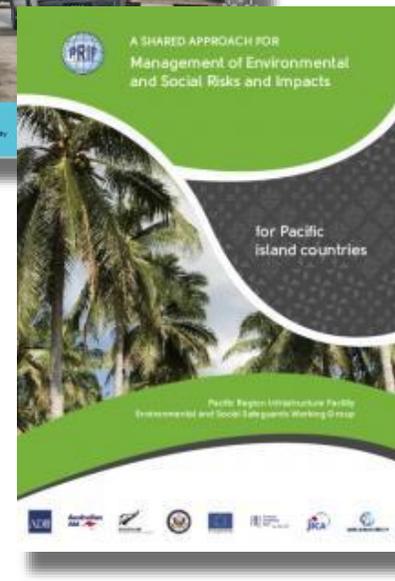
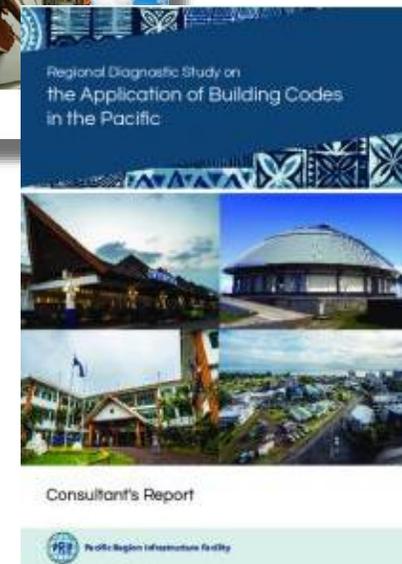
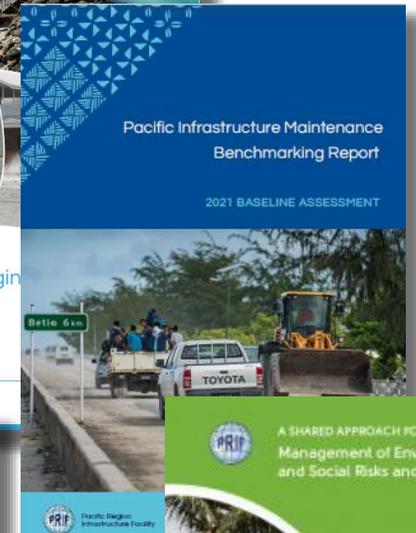
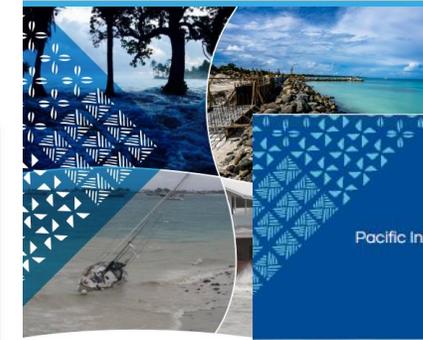
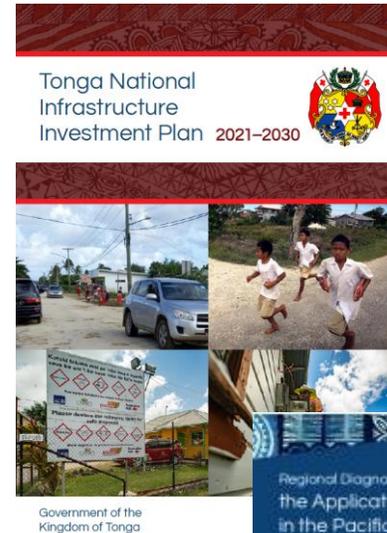
Tools and products available from PRIF

Through PRIF's work in the Pacific we've developed a number of tools and products relevant to building back better.

The following products may be helpful in building back better using these common principles:

- National Infrastructure Investment Plans
- Building Codes
- Sea Level Rise
- Infrastructure Maintenance Benchmarking Report
- Shared approach
- Local content

For more detail visit theprif.org



National Infrastructure Investment Plans (NIIPs)

Overview

5 recently completed NIIPs:

- Cook Islands, Palau, Solomon Islands, Tonga and Tuvalu
- Supports the prioritization of infrastructure projects across sectors
- Multi Criteria Analysis that can be easily adjusted
- Includes new infra, also upgrades and maintenance

Tonga NIIP3:

- Approved by Cabinet in 2021
- 28 government priority projects
- Includes discussion of cost recovery



Applications

NIIPs support prioritization of infrastructure projects across sectors.

The Multi Criteria Analysis used to rank projects can be easily adjusted to revisit investment priorities in light of disaster recovery, using a transparent framework.

Principles supported

1. Mainstreaming resilience building in national policies and standards
2. Encourage inclusive process and ensure adaptive social safeguards are in place
3. Enhance local participation to build back better

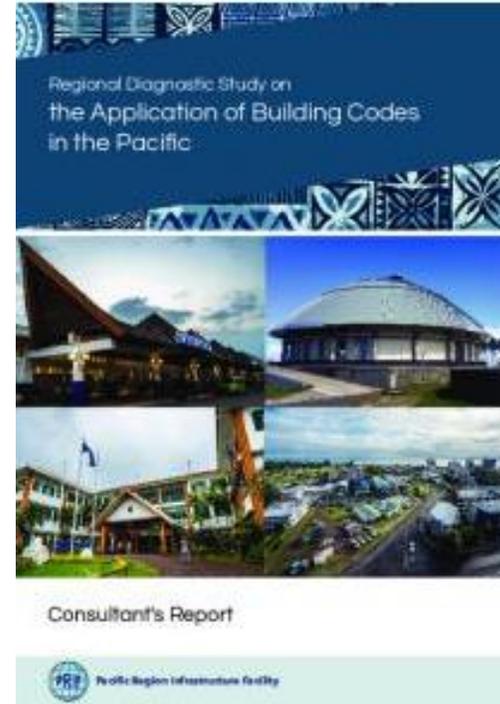


Opportunity to incorporate criteria, such as local participation in rankings.

Building Codes Diagnostic and new TA

Overview

- Effective long-term management of infrastructure is based on robust controls on the quality of construction and where infrastructure should, or should not, be developed.
- A diagnostic of NBCs is available on PRIF's website, with detailed case studies for Fiji, Solomons and Vanuatu.
- Follow on TA currently being undertaken by PRIF seeks to add higher degree of coordination between initiatives across the region.
- The scope includes a stocktake on design criteria in use across the region, to inform national efforts



Applications

Study highlights larger regional challenges in applying national building codes.

Building back better is an opportunity to improve practices including:

- understanding and compliance
- capacity of authorities to apply and enforce
- sustainable practices needed to review and improve

Principles supported

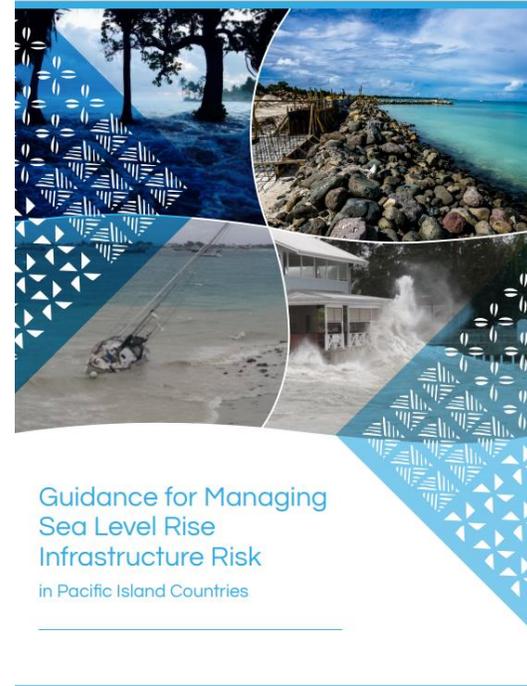
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Sea Level Rise

Overview

- Type and location of infrastructure needs to be carefully considered with regards to impacts of climate change. Throughout PICs there is limited or inconsistent guidance on controls that provide the opportunity to accept unintended risk.
- PRIF Document provides transitional guidance, based on a balanced risk profile built around the IPCC (2021) sea level rise projections, designed to support or be integrated into the longer-term land use plans or alternatively PIC codes and standards.



Applications

Provides national estimates of Sea Level Rise and framework for managing risk in siting and design of key infrastructure relevant to building back better.

There are some clear examples where the consideration of siting of key infrastructure has demonstrated benefits e.g. ADB supported relocation of Lifuka hospital (Island of Ha'apai, Tonga)

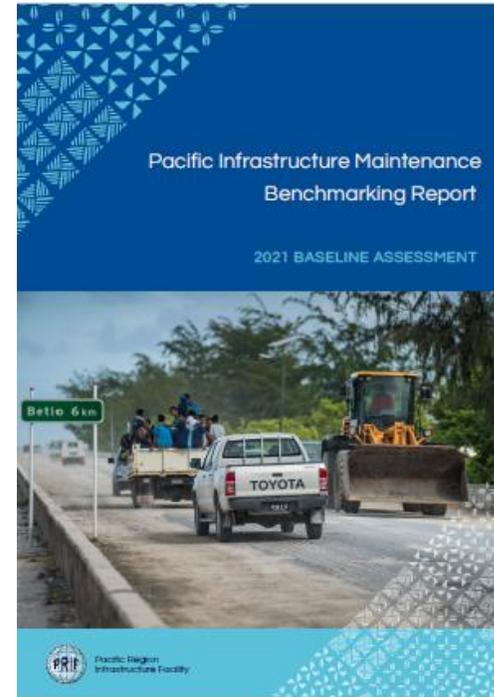
Principles supported

- | | |
|---|---|
| 1. Mainstreaming resilience building in national policies and standards | ✓ |
| 2. Encourage inclusive process and ensure adaptive social safeguards are in place | |
| 3. Enhance local participation to build back better | |

Infrastructure Maintenance Benchmarking Report

Overview

- Provides insights into the maintenance environment, financial performance & levels of maturity of Pacific Institutions assessed against the requirements of good infrastructure maintenance management.
- Includes recommendations for development partners, governments, & utilities on supporting & strengthening maintenance practices across the Pacific region.



Applications

Report highlights importance of understanding costs & committing funding for O&M when building back better – lifetime O&M can be significantly more than the capital cost of constructing infrastructure.

Lack of routine maintenance leads to fast deterioration & increased vulnerability to damages from even medium scale weather events.

Principles supported

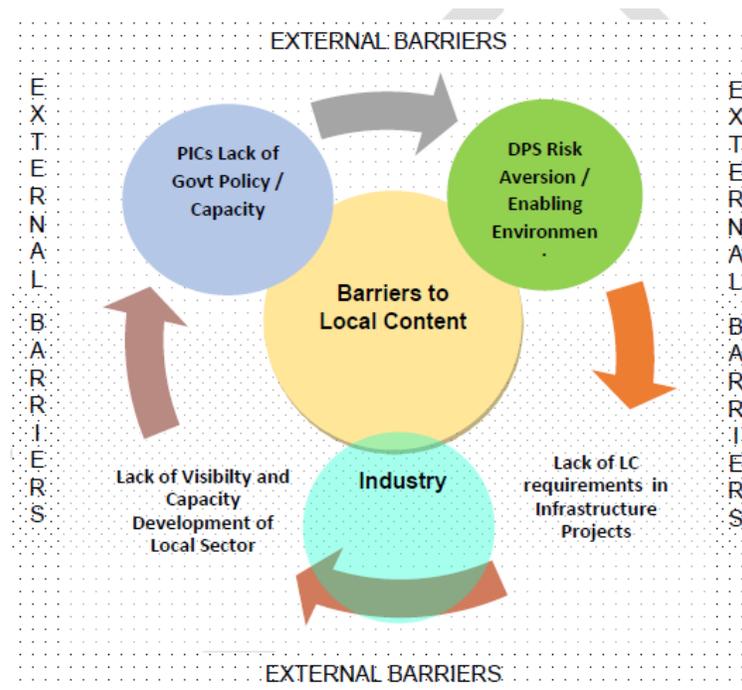
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Local Content

Overview

- Identifies opportunities for improving procurement practices to facilitate LC in infrastructure delivery in the PICs; and
- Develop a greater understanding of the social and economic costs and benefits of LC content in the delivery of infrastructure in PICS.
- Case studies from Solomons and Tonga, and highlights specific projects and sectors where there is scope for local content based on type of project and local capacity.



Applications

Local participation in building back better will be critical in creating employment opportunities and supporting broader economic recovery from the combined impacts of COVID-19 and natural disasters.

The Local Content study identifies practical recommendations for Governments, development partners and the private sector.

Principles supported

- | | |
|---|---|
| 1. Mainstreaming resilience building in national policies and standards | |
| 2. Encourage inclusive process and ensure adaptive social safeguards are in place | ✓ |
| 3. Enhance local participation to build back better | ✓ |



Discussion: Regional perspectives on building back better and supporting disaster recovery

Summary of PRIF tools and products relevant to building back better

PRIF products	Application in building back better	Common principles for building back better		
		1. Mainstreaming resilience building in national policies and standards	2. Encourage inclusive process and ensure adaptive social safeguards are in place	3. Enhance local participation to build back better
NIIPs	Review and update with disaster recovery priorities, and include criteria for local content	✓		✓
Building Codes	Opportunity to improve practices, and incorporate regional lessons into NBCs	✓		
Sea Level Rise	National estimates of Sea Level Rise and framework for managing risk in siting and design of key infrastructure	✓		
Shared Approach	Standardized systems, improved development effectiveness, and better understanding of development partner processes.		✓	
Local Content	Creating employment opportunities and supporting broader economic recovery		✓	✓

Key takeaways for discussion

- How else can PRIF products support practitioners in applying the principles of building back better?
- Reflecting on your experience – what are some of the other challenges and opportunities for practitioners when building back better?
- What infrastructure knowledge was helpful in disaster recovery? What are the important gaps in guidance for practitioners?