Financing Options and Issues
Session 6: Access to Financing Options and Instruments

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Ten FICs belong to the 30 countries most vulnerable to natural disasters

- TC Winston – Fiji (2016)
  - Affected 62% of the population
  - Causing US$900 million in damage and loss

- TC Pam - Vanuatu (2015)
  - Damage and loss of US$450 million, equivalent to 64% of Vanuatu’s gross domestic product (GDP)

- TC Ian - Tonga (2014)
  - Damage and loss of US$50 million, equivalent to 11% of GDP

Source: PCRAFI (2014)
Financial protection is a key component of DRM

- Pillar 1: Risk Identification
  - Risk assessment and risk communication

- Pillar 2: Risk Reduction
  - Structural and non-structural measures; infrastructure, land-use planning, regulation

- Pillar 3: Preparedness
  - Early warning systems; support of emergency measures; contingency planning

- Pillar 4: Financial Protection
  - Assessing and reducing contingent liabilities; budget appropriation and execution; ex-ante and ex-post financing instruments

- Pillar 5: Resilient Recovery
  - Resilient recovery and reconstruction policies; ex-ante design of institutional structures
Disaster Risk Financing and Insurance Program

DRFIP development objective to increase financial resilience of the countries through minimizing the cost and optimizing the timing of meeting post-disaster funding. To achieve this objective, DRFIP provides the countries with Analytical & Advisory Services, Financial Services and Convening Services on Disaster Risk Finance.
Timeline of Post-Disaster Financing Needs
Three-tiered risk layering strategy for governments

Instruments to be structured to ensure timely, comprehensive, cost-effective coverage

- **Sovereign Risk Transfer**
  Risk transfer for assets such as indemnity property insurance and risk transfer for *budget management* like parametric insurance and cat swaps.

- **Contingency Credits**
  Financial instruments that provide access to liquidity immediately after an exogenous shock.

- **Budget Reserves/Reallocations**
  Reserve funds specifically designated for financing disaster losses or diverted from other government programs.
1st Layer: Budget Reserves/Reallocations
Three-tiered risk layering strategy

VANUATU

**CONTINGENCY BUDGET**
- For Low-risk layer (Localized Flood, Landslides)
- Contingency Budget: VT$135m (US$1.4m)
- Disaster Provision Funds: VT25m (US$0.26m)

**BUDET REALLOCATION**
- Transfers (virements) within ministries only from operational budget (not personnel costs)
- App. 34% of Vanuatu’s total budget could be reallocated; VT 516.5m (US$5.4m) in 2013

**SUPPLEMENTARY**
- Following state of emergency or financial emergency
- App. VT95m (US$1m) released following TC Vania in 2011

Disaster Risk Financing & Insurance Program
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2nd Layer: Contingency Credits

Three-tiered risk layering strategy

COOK ISLANDS

CONTINGENCY CREDIT

- A NZ$13.95m (app. US$10m) policy-based loan from the Asian Development Bank (ADB) approved in 2016
- It will rapidly make available financing in the event of a disaster.
- Program supports implementation of the government’s National Sustainable Development Plan
3rd Layer: Sovereign Risk Transfer
Three-tiered risk layering strategy

PACIFIC CATASTROPHE RISK INSURANCE FACILITY

SOVEREIGN RISK POOLING

- Parametric catastrophe insurance pool
- Insurance captive owned by the PCRAFI Foundation
- Coverage: tropical cyclones, earthquakes (including tsunamis)
- Members: Vanuatu, Marshall Islands, Cook Islands, Tonga, Samoa
- Payouts since 2013: US$3.1m
- Linked with risk reduction and preparedness investments
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><strong>Ex-Post Instruments</strong></td>
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<tr>
<td>Crisis Response Window</td>
<td>Enables rapid financing for post disaster recovery and reconstruction in the aftermath of a natural disaster</td>
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<tr>
<td>Trust Funds</td>
<td>Established after an even to help finance particular activities (e.g. reconstruction)</td>
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<tr>
<td><strong>Ex-Ante Instruments</strong></td>
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<tr>
<td>Contingent Credit – Development Policy Financing with Catastrophe Deferred Draw Down Option (CAT-DDO)</td>
<td>Allows borrower to secure immediate access to liquidity (as budget support) post disaster (natural events and health-related events). Available for IBRD countries. Will be available for IDA countries from July 2017.</td>
</tr>
<tr>
<td>Contingency Emergency Response Component (CERC)</td>
<td>Allows a country rapid access to a portion of its undisbursed IDA balances to address immediate post-crisis financing needs to respond to natural disasters.</td>
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</table>
CAT DDO

✓ Builds on DRM policy dialogue
  • Strengthen national disaster management plans

✓ Provides rapid response financing
  • Approved in advance; disburses quickly once a disaster strikes & triggers are met

✓ Complements other rapid response financing instruments
  • Crisis Response Window (CRW)
  • Parametric insurance (e.g., PCRAFI)

✓ Offers flexible funding options
  • IBRD countries: Performance based allocation (100%)
  • IDA: Performance based allocation (50%); undisbursed balances; Scale up Facility
Reaching the affected population

Scaling up social protection programs can speed up the recovery phase

Foundation of scalable social protection

1. **Existing program** that has sufficient footprint, design flexibility and comprehensive delivery system

2. **Information streams** to determine responses and inform decision-making

3. **Pre-agreed** source of finance

4. **Institutional** coordination & capacity

<table>
<thead>
<tr>
<th>Percentage of PBS Households in Fiji that had recovered from various shocks 3 months after TC Winston vs. non-beneficiary households</th>
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</thead>
<tbody>
<tr>
<td>Serious sickness, injury, or disability</td>
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<tr>
<td>Conflict/Violence/Insecurity</td>
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<tr>
<td>Loss of food stocks</td>
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<tr>
<td>Damage to roof of dwelling</td>
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<tr>
<td>Damage to village/neighborhood infrastructure</td>
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<tr>
<td>Damage to walls of dwelling</td>
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<tr>
<td>Damage to agricultural land</td>
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<tr>
<td>Loss of livestock</td>
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<tr>
<td>Loss of crops/harvest</td>
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<tr>
<td>Total loss of dwelling</td>
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<tr>
<td>Loss of employment or inability to work</td>
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</tbody>
</table>

Source: Fiji Bureau of Statistics/ World Bank TC Winston Impact Evaluation
Key Decision during FEMM 2015

Ministers **agreed to establish** the PCRAFI Facility to provide disaster and climate insurance and to give the PICs with greater regional ownership over climate risk financing and the design of future disaster and climatic risk solutions.

*(2015 Forum Economic Ministers Action Plan).*
PCRAFI Facility

- Established June 2016
- Capitalized
- Insurance Manager appointed
- Issued first insurance policies Nov 1, 2016
- Recruitment of CEO and Board of Directors underway
Sovereign Catastrophe Risk Pools

Individual country risk

Individual country risk

Pooled risk
Small island countries can obtain better value protection

- Uncertainty Loading
- Cost of Capital (reserves and cost of risk transfer)
- Operating Costs
- Annual Expected Loss

Technical Insurance Premium
- **Before** risk pooling
- **Weak** risk information

Technical Insurance Premium
- **After** risk pooling
- **Improved** risk information

1. Lower reinsurance costs due to better structured and diversified portfolio
2. Joint reserves to retain the first aggregate loss

Economics of scale in operating costs (e.g., fixed costs)

Underlying risk is unchanged
PCRAFI Payouts

2013: M8.0 Earthquake
Santa Cruz, Solomon Islands
• No Payout

2014: TC Ian
• Tonga
• Payout of US$1.27m

2015: TC Pam
• Vanuatu
• Payout of US$1.9m
The mandate of the PCRAFI TA Program is to:

- **Strengthen the institutional capacity** of the PCRAFI Facility, national and regional level organizations as well as the Ministries of Finance in order to improve financial resilience of the PICs against natural disasters and their post disaster financial response capacity.

- **Facilitating peer exchange** across member countries and other small state islands on disaster risk financing and insurance.
Strengthening public financial management in PCRAFI member countries

PCRAFI has heavily invested in capacity building on the public financial management of natural disasters and will continue to do so. PICs have made significant progress in implementing disaster risk financing solutions.

Areas to further strengthen post disaster public financial management:

- **Enhance Contingency Planning**
  - including post disaster mobilization and reporting.

- **Reinforce Legal Environment**
  - to support the development of risk financing and insurance solutions

- **Enable Risk information and risk analytics**
  - for evidence based decision making

- **Strengthen countries’ Dedicated mechanisms**
  - Developing experience and expertise to effectively allocate, disburse, and monitor recovery and reconstruction funds

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Disaster Risk Financing & Insurance Program

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WB advisory services on disaster risk finance and insurance

- FICs are offered an increasing number of financial instruments
- How to evaluate them? How to combine them?
- World Bank provides advisory services to help countries design cost-effective strategies for financial protection against climate and disaster risk
- Illustrative example

Rapid response financing needs
- Small disaster: US$10M
- Medium disaster: US$20M
- Large disaster: US$50M

Financial instruments to secure risk capital
- Contingent credit (opportunity cost of capital)
- Insurance (premium)

Minimizing the minimum cost (no disaster): US$50M contingent credit
Minimizing the maximum cost (large disaster): US$50M insurance coverage
## Decision Making Tool

### Section 1: Insurance Strategy Selection

**Inputs**
- Select: Total Insurance Premium
  - 350,000
- Select: Allocation of Premium to Earthquake / Tsunami
  - 34.0%
- Allocation of Premium to Tropical Cyclone
  - 66.0%
- Minimum Payout given an INSURED loss occurs
  - 200,000

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Earthquake / Tsunami</th>
<th>Tropical Cyclone</th>
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<tbody>
<tr>
<td><strong>A</strong></td>
<td>EQTS</td>
<td>TC</td>
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<td>187,000</td>
<td>363,000</td>
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<td>24.82%</td>
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<td>12,020,000</td>
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<td>2,190,000</td>
<td>4,210,000</td>
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<td><strong>B</strong></td>
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<td>35,630,000</td>
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<tr>
<td></td>
<td>4,570,000</td>
<td>7,840,000</td>
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<td>10%</td>
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**Outputs**
- Insurance Premium
- Ceding %
- Attachment point (years) (Select: for Strategy D)
- Exhaustion point (years)
- Attachment point (USD)
- Exhaustion point (USD)
- Coverage limit / Maximum payout possible
- Annual probability that a claim payment occurs
- Annual probability that a claim payment occurs from at least one element of cover

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Screenshot of the Excel simulation tool
Vanuatu uses a combination of ex-ante and ex-post financial tools to facilitate initial response, and these take significantly different lengths of time to mobilize and execute. The ex-ante instruments provide access to limited amounts of cash, and the ex-post tools can take several weeks to mobilize. Some procedures, such as the waiving of normal tendering procedures, are not embedded within the financial legislature, an omission that could significantly delay future response efforts.

**EX-ANTE INSTRUMENTS / POLICIES**

**DISASTER RISK INSURANCE**
- For high-risk layer (Earthquake, Tropical Cyclone)
- Total Catastrophe Risk Insurance Coverage: VT950M (US$ 9.9m)
- Received US$1.9m payout following TC Pam (2015) within 10 days of event, one of the first injections of cash to Gov.

**CONTINGENCY BUDGET, NATIONAL RESERVES, ANNUAL BUDGET ALLOCATION**
- For Low-risk layer (Localized Flood, Landslides)
- Contingency Budget: VT$135m (US$1.4m)
- Disaster Provision Funds: VT25m (US$0.26m)

**EXTERNAL DEBT**
- Total Public Debt increased from 19.4% of GDP in 2010 to 21.6% of GDP in 2012
- Within total public debt, external borrowing was equivalent to 14% of GDP in 2012

**EX-POST INSTRUMENTS / POLICIES**

**BUDET REALLOCATION**
- Transfers (virements) within ministries must be authorized by MoF, can only be reallocated from operational budget, not personnel emoluments
- App. 34% of Vanuatu's total budget could be reallocated, amounting to VT 516.5m (US$5.4m) in 2013

**SUPPLEMENTARY**
- Following state of emergency or financial emergency
- Supplementary funding of app. VT95m (US$1m) released following TC Vania in 2011

**DONOR FUNDING FOR RELIEF AND RECONSTRUCTION**
- Government received VT18.7m (US$195,000) in donations following TC Vania, equivalent to app. 13% of government funds

Sources:
1 DRFI Note: Vanuatu

*CAVEAT: overview not extensive*
Key Messages

- PICs are being offered an increasing number of financial instruments for rapid response post disaster.

- Rapid response financing instruments are complementary not substitutes and should be structured to ensure comprehensive cost-effective coverage.

- Distribution mechanisms i.e. disaster linked scalable social protection should be identified to help ensure funds can reach targeted beneficiaries efficiently.

- Contingency plans enhance the ability of rapid response instruments to reach targeted beneficiaries and lead to quicker recovery.

- The private sector plays an essential role in developing additional financial tools for disaster risk finance.

- Capacity building to support decision making on rapid response financing instruments remains key.
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