

# Pacific Catastrophe Risk Pool Initiative Concept Presentation

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Small States Forum  
Washington DC, October 21, 2007



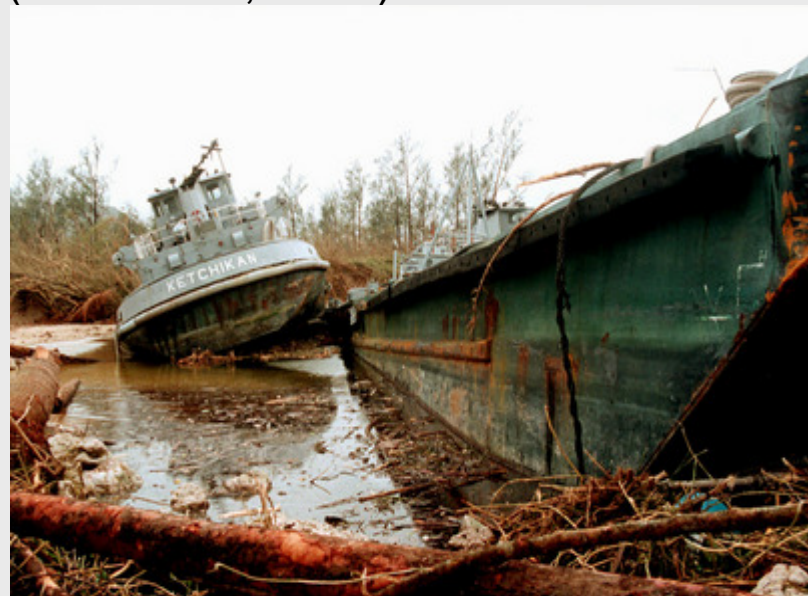
World Bank Group

# In the aftermath of a disaster

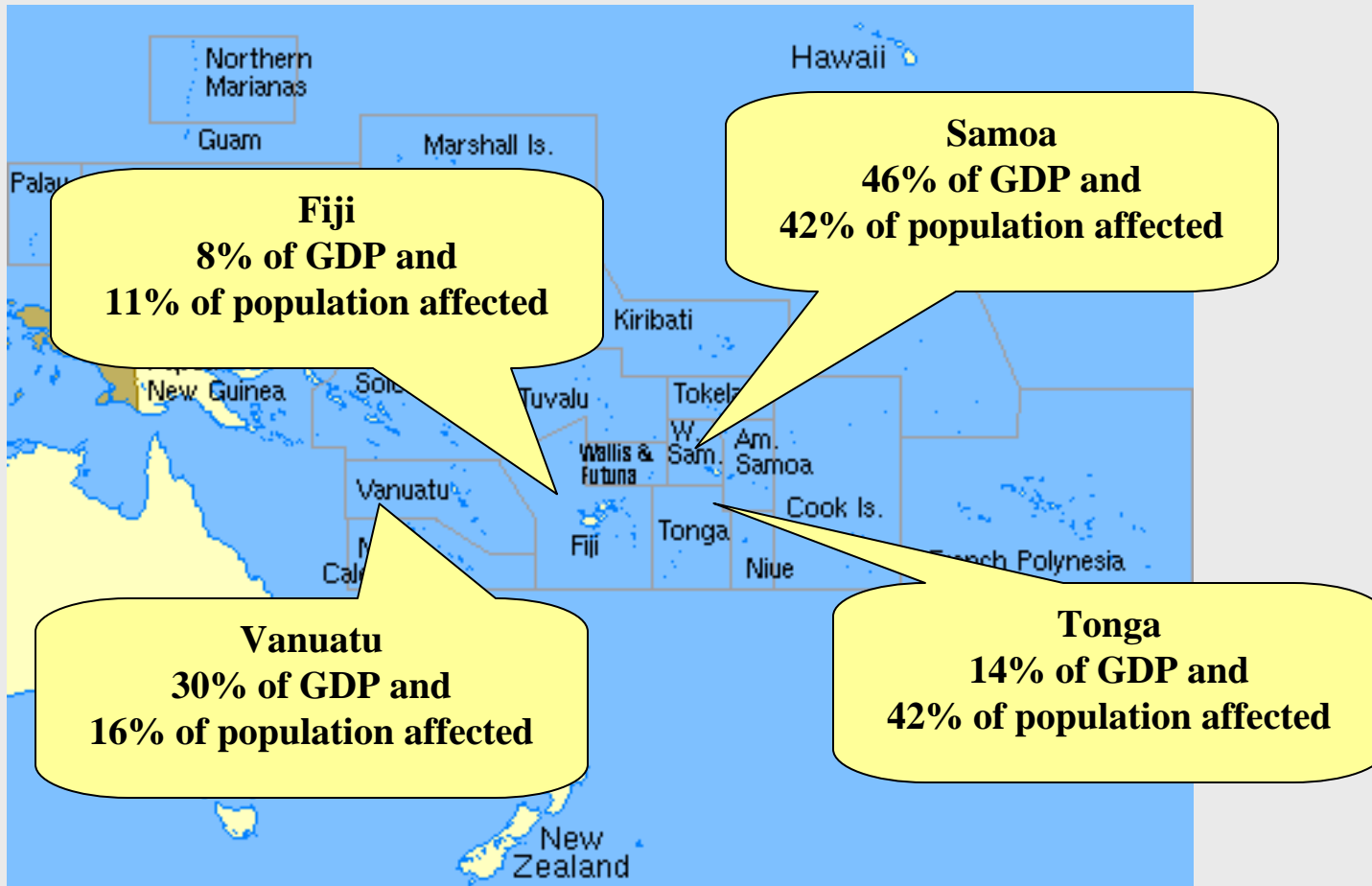
Earthquake in Solomon Islands  
(April 2007)



Typhoon Paka in Guam  
(December, 1997)



# Pacific Islands are highly vulnerable to disasters



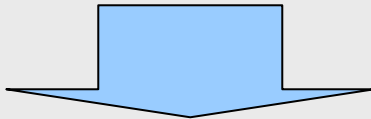
# Prevention pays off...to a certain extent

| <b>Climate Proofing Investment</b> | <b>Costs of Climate Proofing as % of Initial Costs</b> | <b>Costs of Reconstruction as % of Initial Costs</b> |
|------------------------------------|--|--|
| <b>Road (Kosrae)</b>               | <b>27%</b>   |  |
| <b>Buildings (Tonga)</b>           | <b>&gt;10%</b>   |  |
| <b>Deepwater Port (Dominica)</b>   | <b>12%</b>   | <b>41%</b>   |
| <b>Law School (Jamaica)</b>        | <b>2%</b>  | <b>4%</b>  |
| <b>Bridge (St. Lucia)</b>          | <b>11%</b>   | <b>17%</b>   |
| <b>Hotel (St. Thomas)</b>          | <b>0.1%</b>  | <b>19%</b>   |



# Limited Economic resilience of Pacific Island Countries

- High exposure to adverse natural events



- Limited capacity to spread risk
  - geographically due to their small size
  - over time due to high debt levels
- Limited capacity to establish national reserves
- Limited access to int'l insurance/reinsurance
- High dependence on post-disaster donor support



# Some Lessons Learned from the CCRIF

- Plays a catalytic role in the development of an efficient partnership among countries, donors, and private markets in the financing of catastrophic risks;
- Allows participating countries to purchase catastrophe insurance at very competitive prices (40% less than individual premium);
  - Cost-effective combination of collective reserves and reinsurance
- Covers only specific perils (earthquakes and hurricanes) with low frequency (at least once in 10-15 years)
  - Should be part of a comprehensive country-specific catastrophe risk financing strategy, including the coverage of lower risk layers and perils that are not insured by the CCRIF (such as floods)
- Creates new business opportunities for the private reinsurance industry
  - Offers a structured and diversified portfolio to the reinsurance market which, in return, provides very competitive reinsurance capacity



# Challenges

- Technical challenges
  - Data collection (perils and assets)
  - Catastrophic risk modeling
  - Simple instrument tailored to specific needs
- Operational challenges
  - Governance structure
  - Management structure
  - Legal structure
- Financial challenges
  - Competitive pricing through a cost-effective combination of collective reserves and reinsurance
  - Pricing reflecting country-specific risk profile
  - Sustainable risk financing strategy
- Institutional challenges
  - One off donor intervention
  - Peer pressure among participating countries
  - Local ownership
  - Interest for all the parties (clients/donors/reinsurance industry)



# Pacific Catastrophe Risk Pool (PCRP): Objectives

- A pooling mechanism that will allow Pacific island states to access liquidity at short notice in case of a catastrophe
- Lowest possible cost: Combine the benefit of pooled reserves from participating countries with the financial capacity of the international capital/reinsurance markets
- No cross-subsidization: premium calculated based on individual country risk exposure



# PCRFP: A Catastrophic Risk Financing Vehicle

- A risk financing vehicle owned by the members of the pool and international donors, acting as the primary insurer
- Pooling of risk among the Pacific Island states to create a diversified portfolio and benefit from economies of scale
- Collective reserves provided by member countries and donors to help retain first losses
- Reinsurance purchased to cover excessive losses
- Parametric triggers (e.g., hurricane category, wind speed, etc.) used to make payments to reduce transaction costs and to allow for immediate payout



# Parametric Insurance

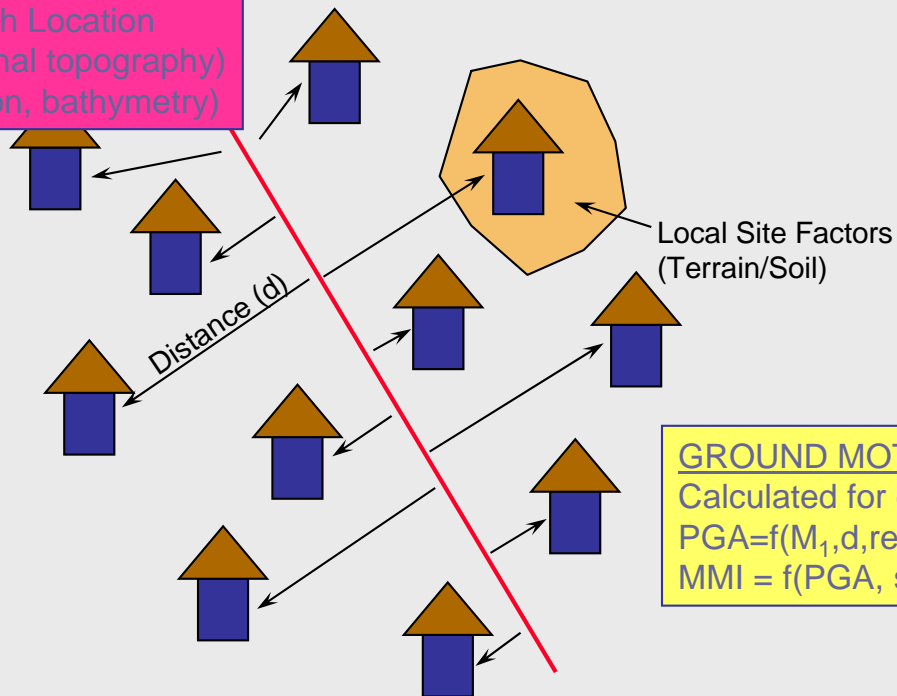
- Payouts triggered by a parametric index (e.g., hurricane category, wind speed, etc.)

## WIND SPEED & SURGE

Calculated for each Location

$$V_w = f(P_c, d, \text{regional topography})$$

$$S = f(V_w, \text{elevation, bathymetry})$$



## GROUND MOTION

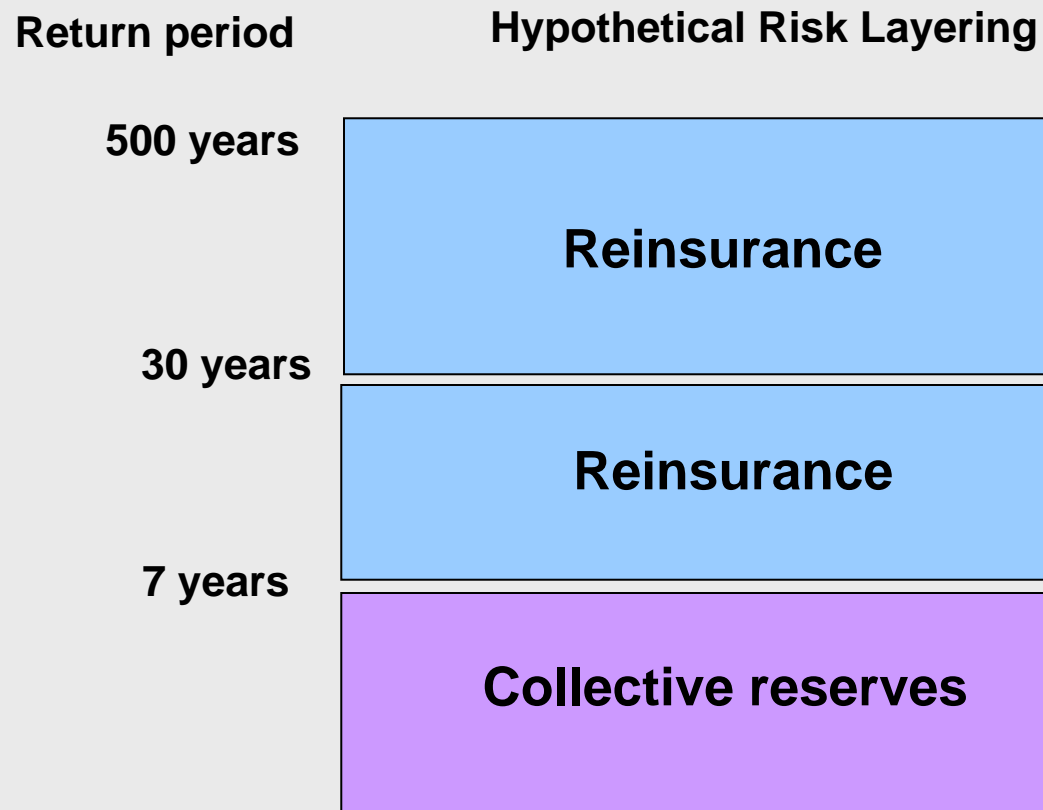
Calculated for each Location

$$PGA = f(M_1, d, \text{regional geology})$$

$$MMI = f(PGA, \text{soil})$$



# Financial Capacity of the PCRCP



# Proposed Action Plan and Timeframe

- **Dec. 2007–April 2008: Feasibility study**
  - Data review
  - Catastrophic risk modeling review
  - Preliminary individual/regional catastrophic risk profiles
  - Preliminary catastrophic risk financing analysis
  - Institutional operating options for the PCRFP
- **May 2008 – Workshop**
  - Presentation and discussion of the findings and options
  - Agreements on next steps



# What is needed to move forward

- General agreement to carry out feasibility study
- Identification of 3-4 countries that would be interested in championing the feasibility study
- General agreement to the proposed timetable

