

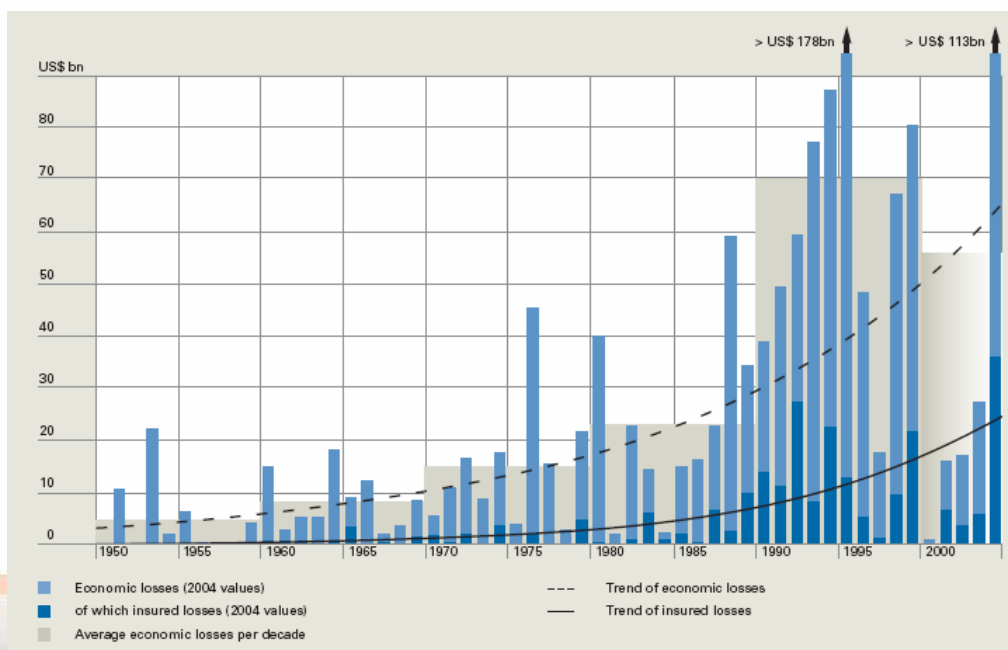
Ex Ante Risk Financing: Example of World Bank Initiatives

Francis Ghesquiere

Munich Re Foundation Symposium

16-17 November 2005

Economic losses and insured losses Absolute values and long-term trends



A Comprehensive Risk Management Framework

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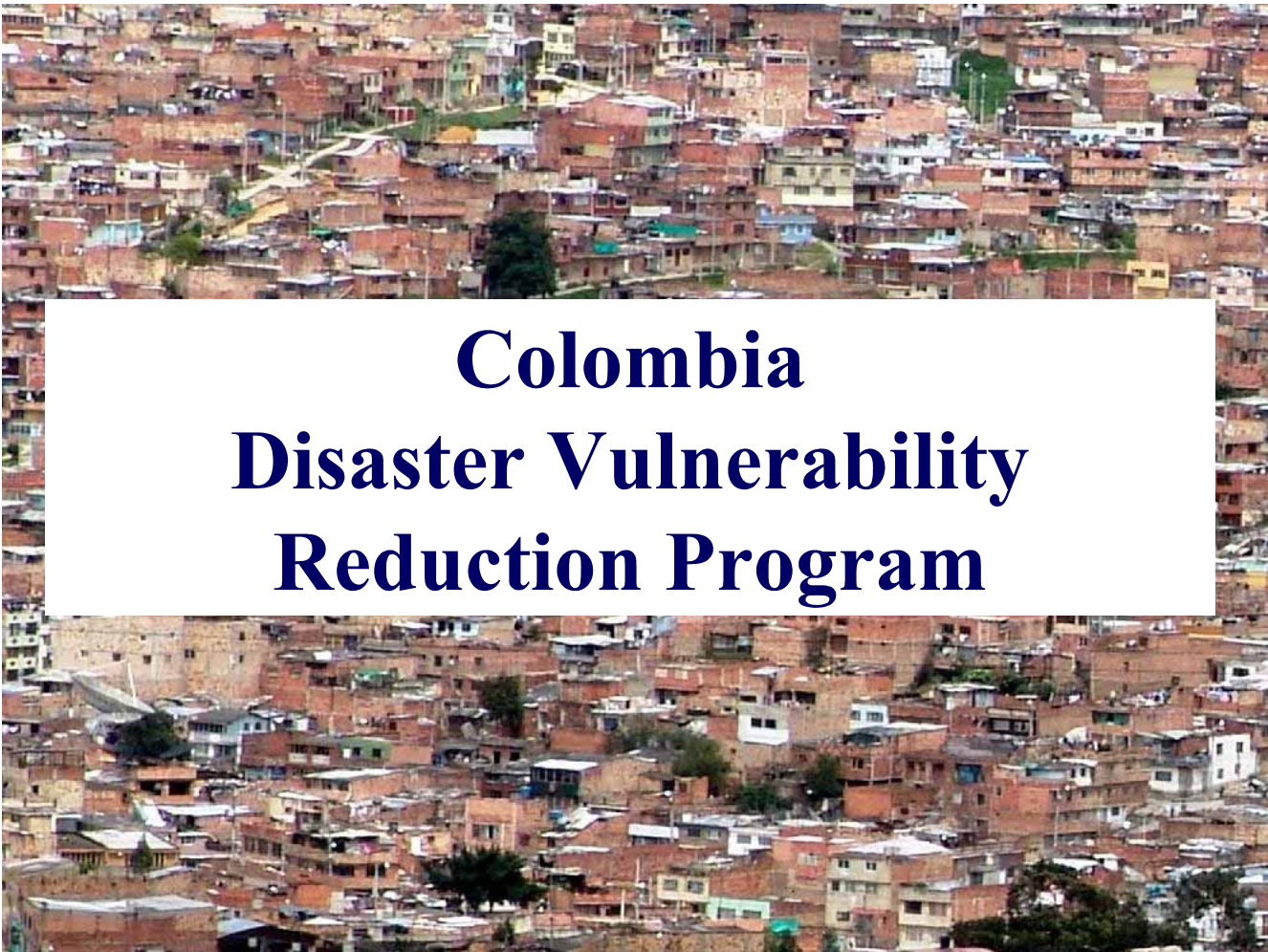
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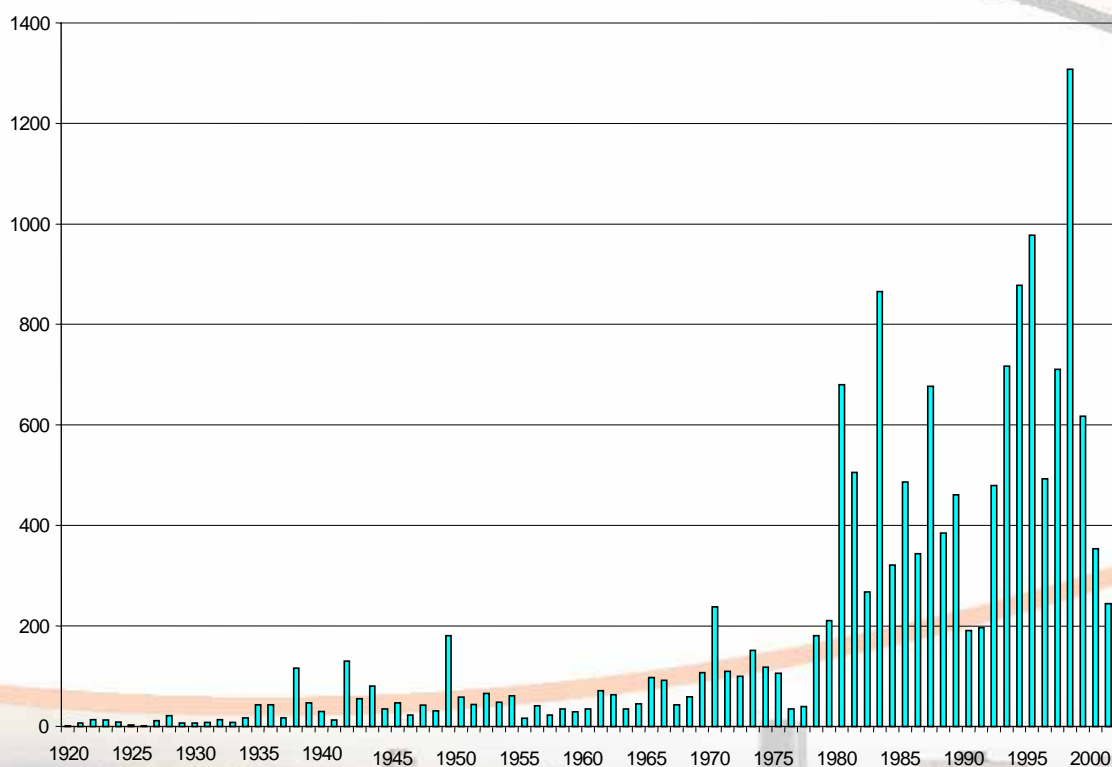
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Colombia Disaster Vulnerability Reduction Program

Disasters Reported per Year in Colombia, According to Database of Desinventar

Number of Disasters Reported



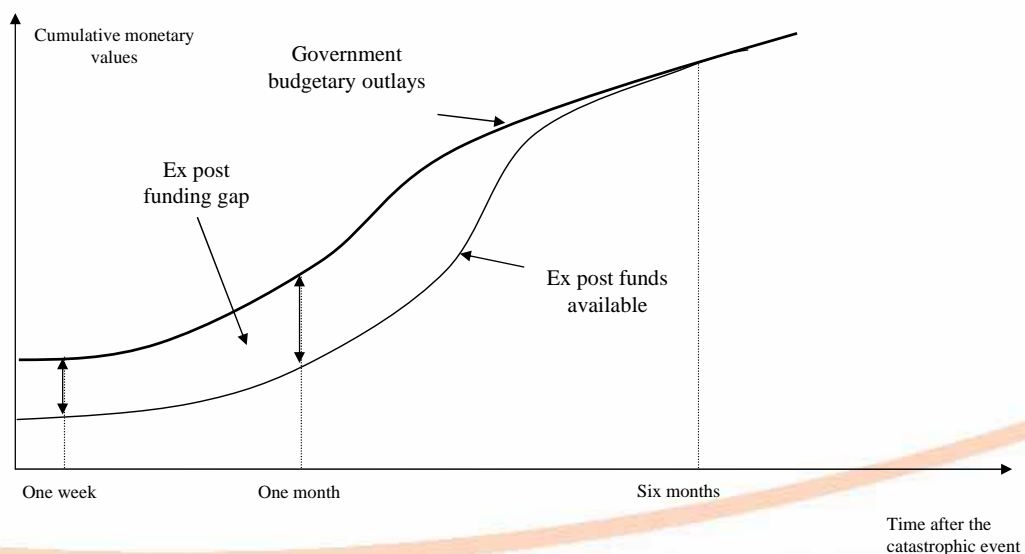
Probable Maximum Loss from Adverse Natural Events (Earthquake/Floods/Landslides, US\$ million)

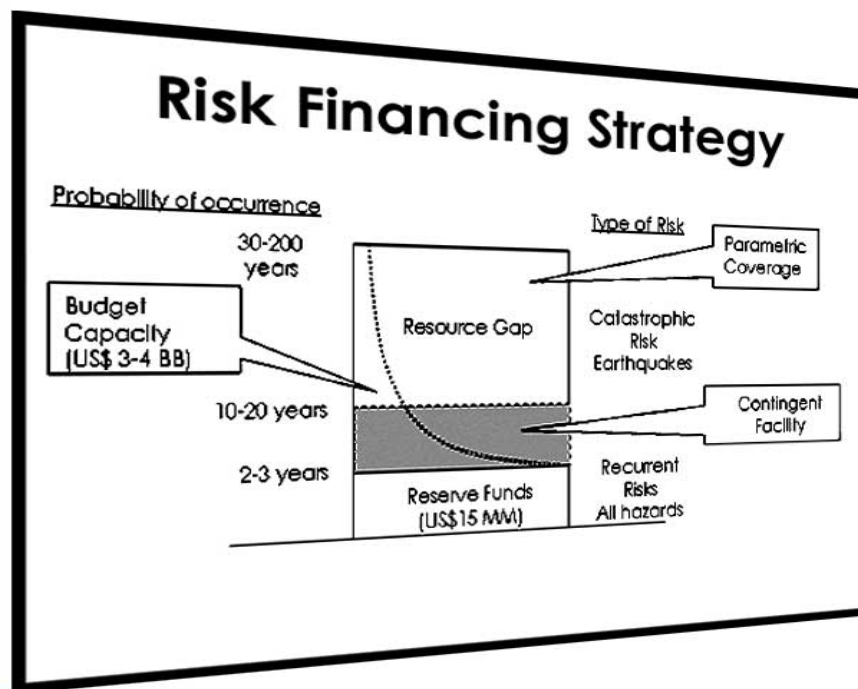
	L_{100}	L_{500}	L_{1000}	AAL
Total	6,333.3	11,028.6	13,099.1	55.7
Government	1,470.1	2,501.6	2,950.3	132.6
Strata 1 – 2	329.8	731.7	942.4	17.3
Total as % of GDP	6.46%	11.25%	13.37%	0.37%
Gvt. as % of National Budget	11.03%	18.75%	22.13%	1.03%
Str. 1&2 as % of Nat. Budget	2.5%	5.51%	7.06%	0.14%

Identifying Ex Post Funding Gap

	3 weeks	6 months	1 year
<i>Government's post disaster commitment</i>			
<ol style="list-style-type: none"> 1. Lifeline infrastructure replacement 2. Provision of safety nets 3. High return and sustainable mitigation investment 4. Other infrastructure 			
<i>Ex post sources of funds</i>			
<i>Aid</i>			
<i>Central funds transfer</i>			
<i>Budget reallocation</i>			
<i>Tax surcharge</i>			
<i>Domestic credit</i>			
<i>Development Banks</i>			
<i>Other external Credit</i>			
<i>Ex post funding gap</i>			

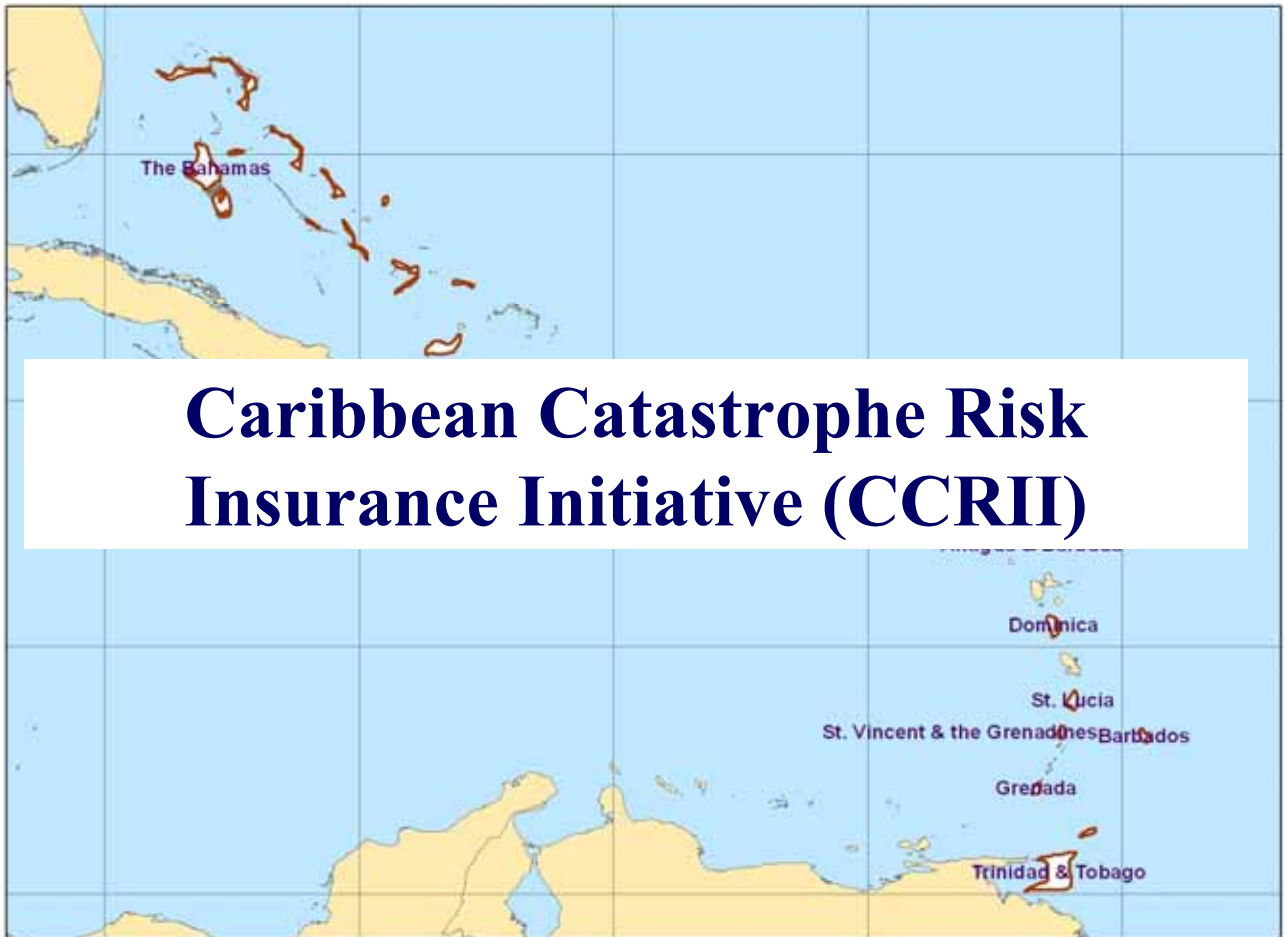
Funding Gap Following a Disaster





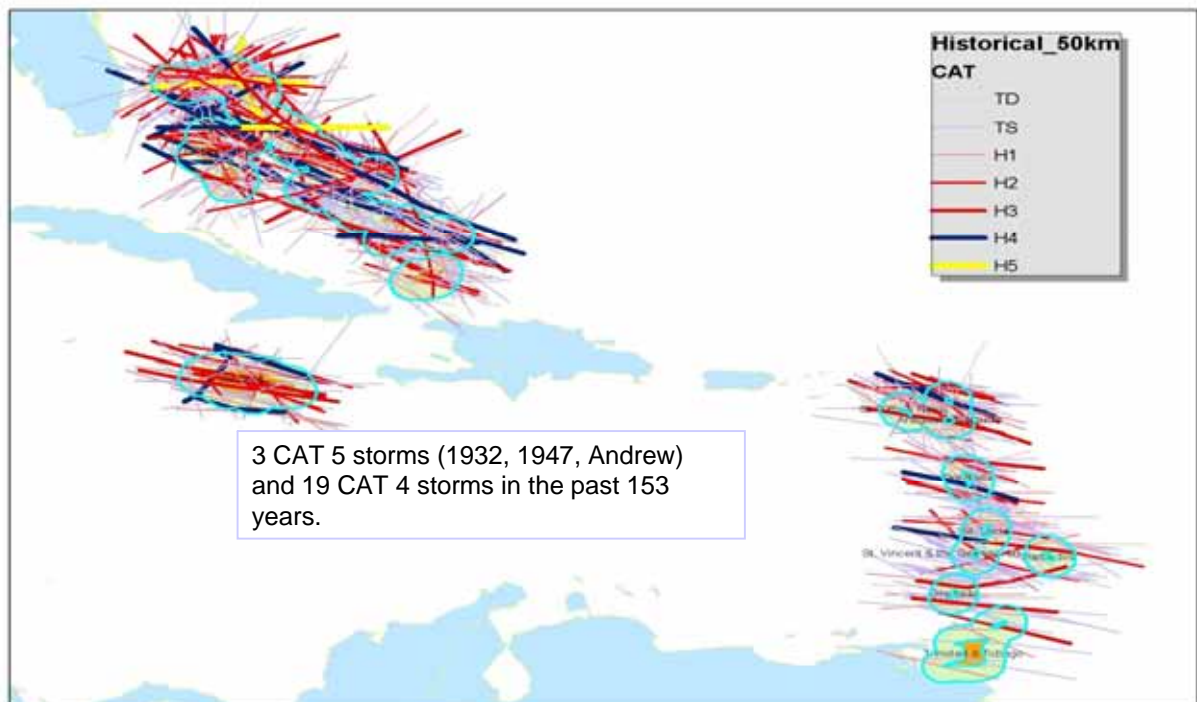
Disaster Risk Financing

- Optimizing coverage of Public Assets
- Promoting insurance of Private Assets
- Designing an optimal financial strategy for residual risks
 - Reserves
 - Contingent loan
 - Additional (Parametric) coverage



Caribbean Catastrophe Risk Insurance Initiative (CCRRI)

Stormy Weather



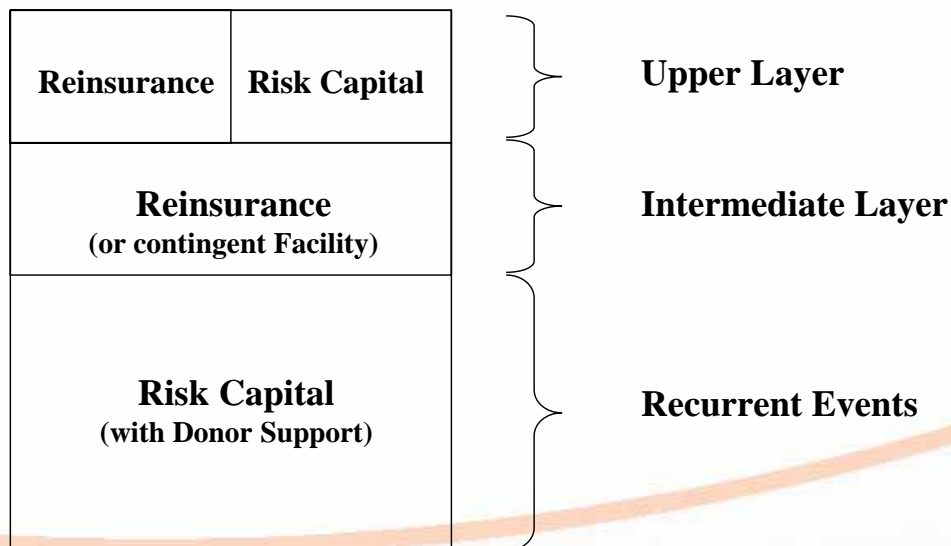
Particularities of CARICOM States

- High exposure to a variety of adverse natural events
- Limited resilience to disasters because of small size and limited borrowing capacity
- Dependence on donor support for post-disaster needs
- Limited access to insurance

Catastrophe Risk Insurance Facility

- Payouts triggered by parametric index (e.g., hurricane category, wind speed, etc.)
- Insurance premium related to individual risk exposure (avoid cross subsidization)
- Long term financial sustainability
 - Annual premium paid by participating countries
 - Small losses covered by a reserve pool (risk capital provided by donor countries)
 - Reinsurance of excessive losses on the international market

Risk Layering Capital Structure

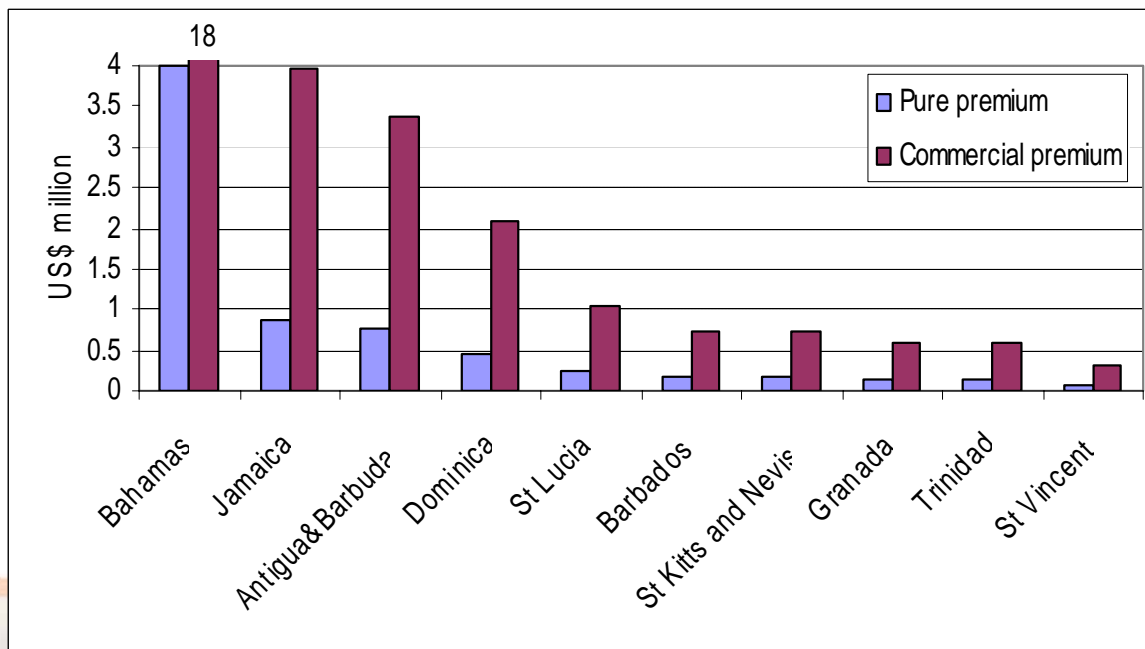


Reducing Premium Cost

- *Commercial Premium* =
 - + *Expected Loss (Pure Premium)*
 - + *Reserve & Cat Load (Cost of Capital, Δ of risk)*
 - + *Administrative Cost*
 - + *Return on Equity*

Pure vs. Commercial Premiums

50 km buffer and US\$ 50 m coverage



For illustrative purpose only

Conclusions

- Risk Management should be an integral part of development planning
 - Comprehensive long-term approach
 - Residual risk includes indirect losses
 - Time dimension of financing needs
- Need for Public/Private partnerships

$$\text{Premium} = \text{EL} + \text{Reserve \& Cat Load} + \text{Admin Cost} + \text{ROE}$$