

# Insurance as a Risk Reduction Tool: Role of Parametric and Traditional Insurance

**Sandra Bailey**  
Group Managing Director

Caribbean Emergency Legislation Project (CELP)  
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# The Caribbean context

- Caribbean countries are highly vulnerable to natural disasters, which have caused them average losses amounting to 2% of GDP since 1970.
- Only 3% of potential loss is currently insured in developing countries vs 45% in developed countries.
- Immediate access to liquidity is critical for governments and individuals post disaster.
- Smaller nations with high debt burdens can no longer afford to self-finance disaster risk.

Vulnerability

Low Coverage

Liquidity

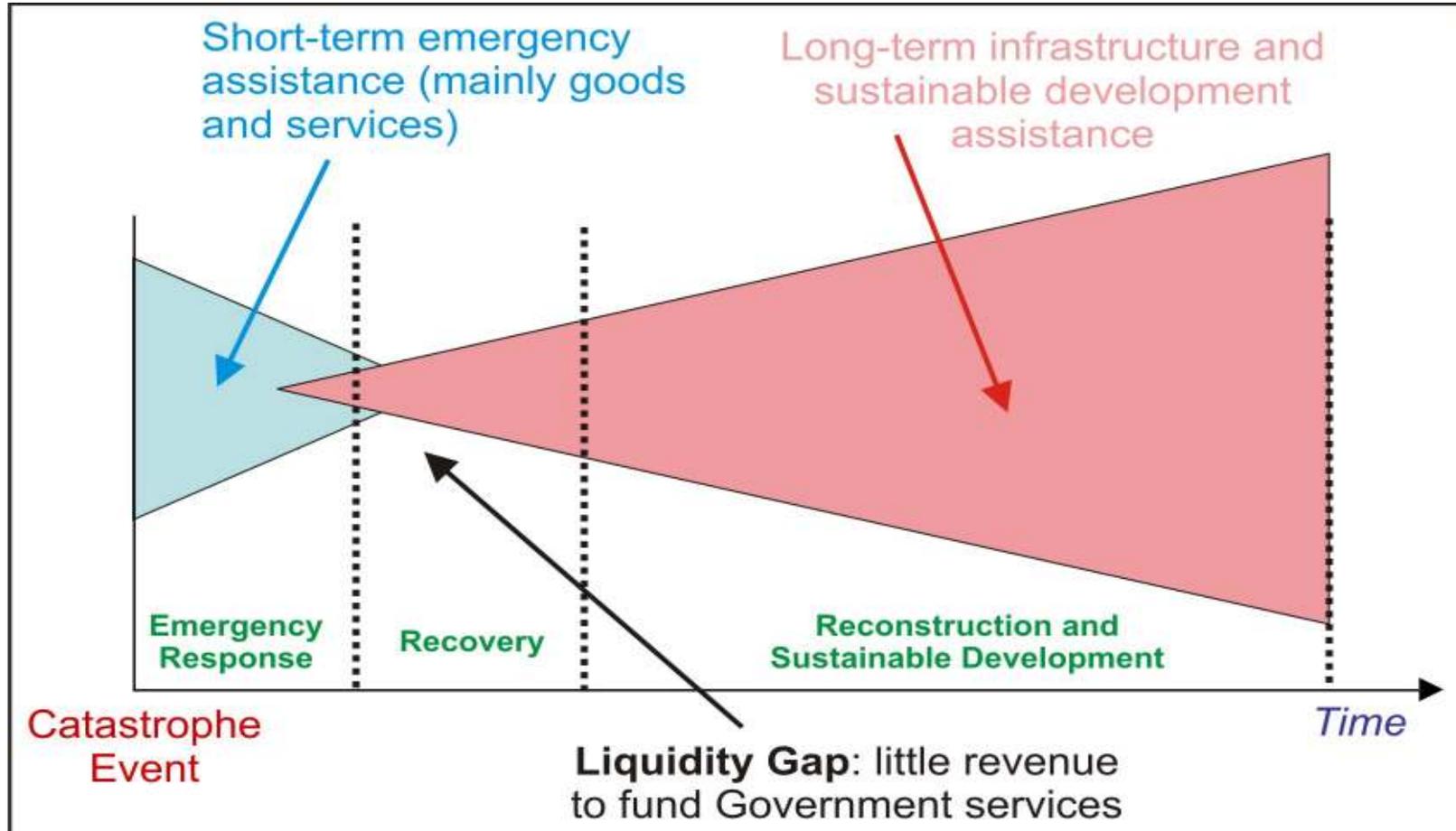
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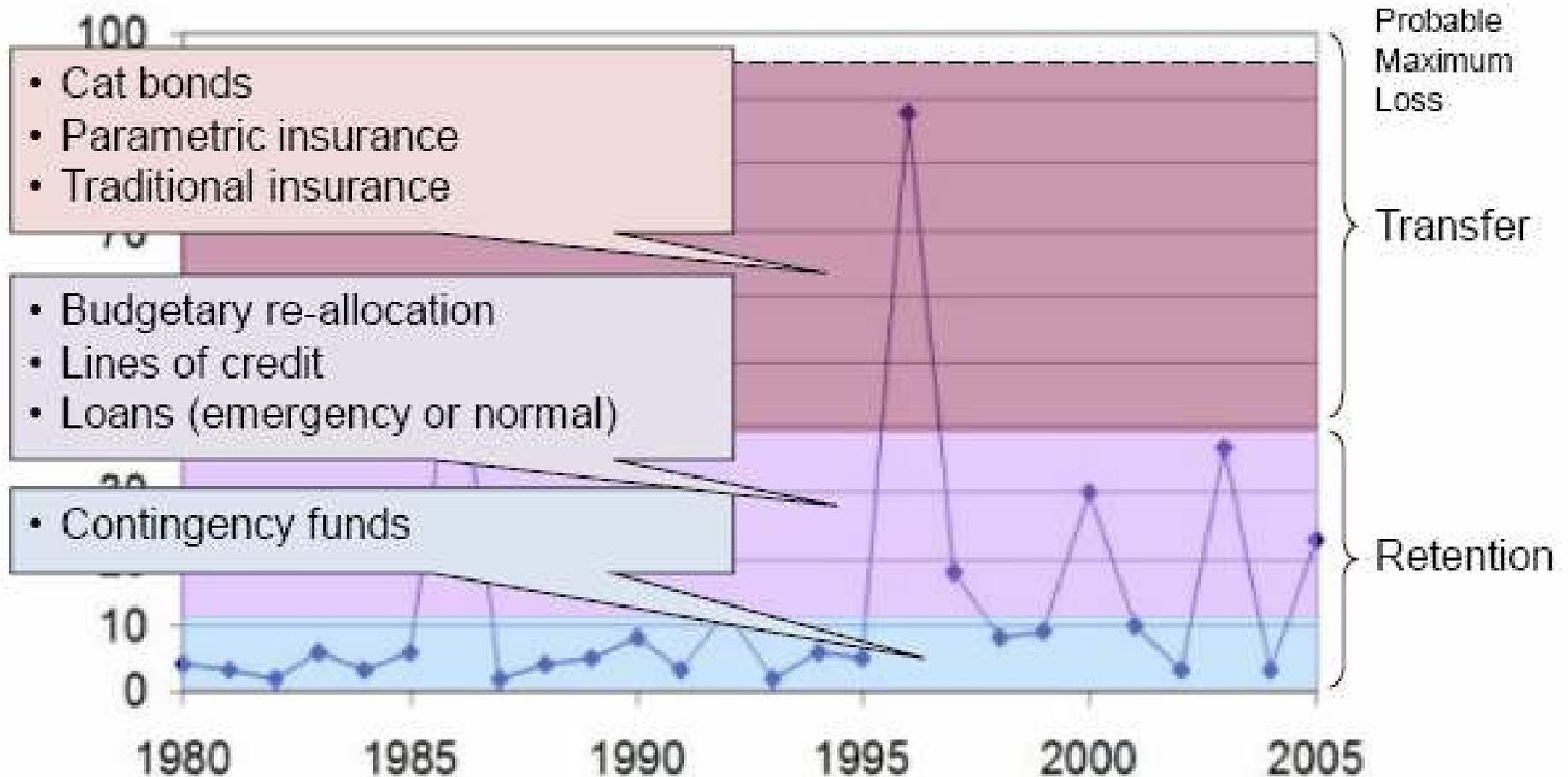


- Identify all forms of risk of loss.
- Eliminate when feasible.
- Minimize where possible.
- Share when practical.
- Transfer when unacceptable:
  - 1. Traditional Insurance;
  - 2. Alternative Risk Transfer.



# Sovereign Liquidity Gap





- Risk Management and Risk Transfer (inclusive of insurance) are therefore complementary tools essential in reducing risks.
- In the Caribbean INSURANCE plays an important role in risk reduction on a MACRO and MICRO scale.
- Focus on two important types of insurance:
  - Traditional Insurance;
  - Parametric Insurance.
- BOTH traditional and parametric insurance indemnify the insured against a loss.



- Parametric insurance policies use a measurement of the level of a hazard to estimate, via a cat model, the likely loss.
- Traditional policies use the actual loss.
- Both have common financial elements in the policy (deductible, limit) which are used to move from the loss amount to the payout amount.
- Parametric policies can be designed to be insurance (from a legal and accounting perspective) or a financial instrument.



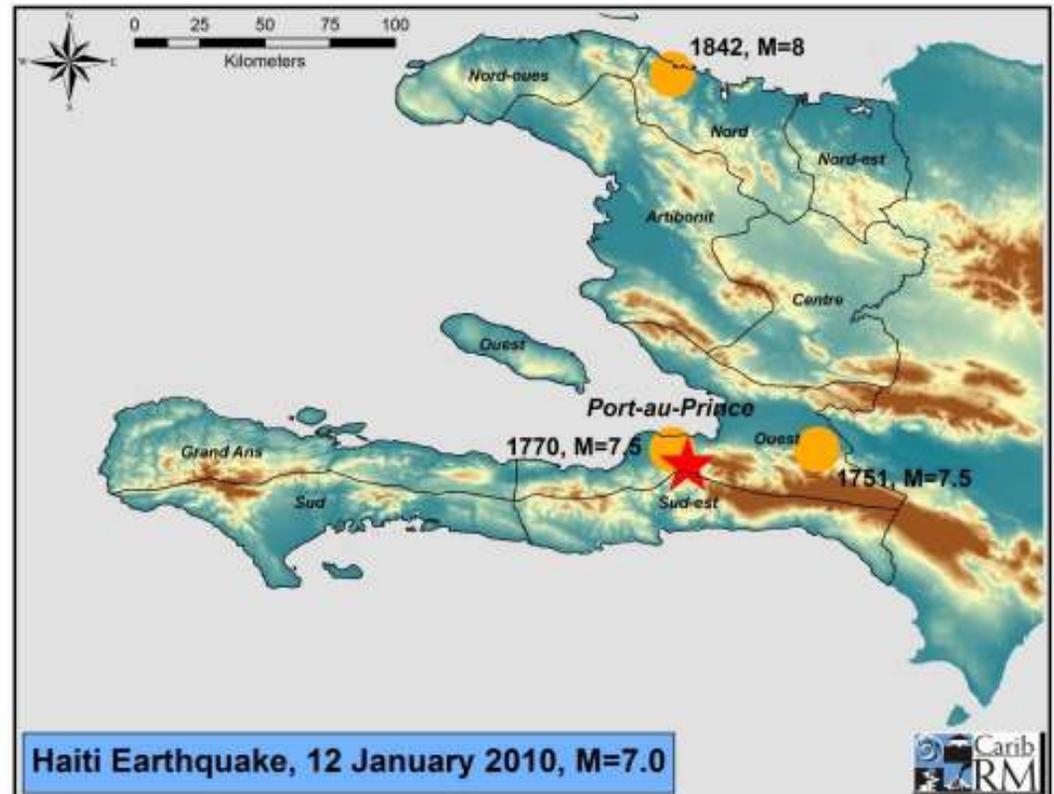
# Case Studies

Parametric  
Insurance  
CCRIF: Haiti



Traditional  
Insurance  
Hurricane Ivan:  
Grenada

- Magnitude 7.0 earthquake.
- Shallow (13 km) depth.
- 25km SW of Port au Prince.
- Catastrophic damage:
  - huge loss of life;
  - national infrastructure devastated (13 of 15 ministry bldgs destroyed.)
- Immediate and long term economic impacts massive.



## CCRIF: Haiti Result

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- Triggered full policy limit with CCRIF.
- Haiti received US \$7,753,579 within 14 days.
- 20 times their premium for earthquake coverage of US\$385,500.
- CCRIF payout the first set of funds to be received by the Haitian Government inclusive of all pledges made.
- Fund will be used to pay salaries.

# Regional Role of CCRIF

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- Assist in the recovery and reconstruction process through provision of liquidity.
- Can facilitate the implementation of risk management measures that reduce risk and heighten resilience.
- Promote risk assessment and risk management tools at all levels (*e.g.* Real Time Forecasting System.)
- Parametric instrument can be used in the design of suitable index-based or hybrid products at sub-national level either directly or via community-based partners.
- *E.g.* CCRIF involved in creation of a captive for CARILEC to cover its members' T&D exposures and looking into provision of coverage to growers' associations in agriculture sector:
  - Providing access to coverage where previously unavailable.

# Use of Parametric Instruments

## Advantages

- Payout is quick because the parameters of the hazard are known immediately after the event.
- The loss amount is calculated entirely objectively using a formulae defined in the insurance policy.
- The technical risk on an insurance contract is better defined because there are fewer uncertain variables. This provides greater opportunity for risk transfer to capital markets.

## Disadvantages

- Basis Risk:
  - The difference between the loss calculated from the model and the actual physical loss on the ground;
  - Because cat models contain significant uncertainties, basis risk can be high in parametric contracts.
- Basis risk is lower the more unlikely an event is:
  - Therefore parametric contracts are best suited to covering rare/large catastrophe events.
- Parametric insurance can be difficult to explain and understand which can lead to challenges.

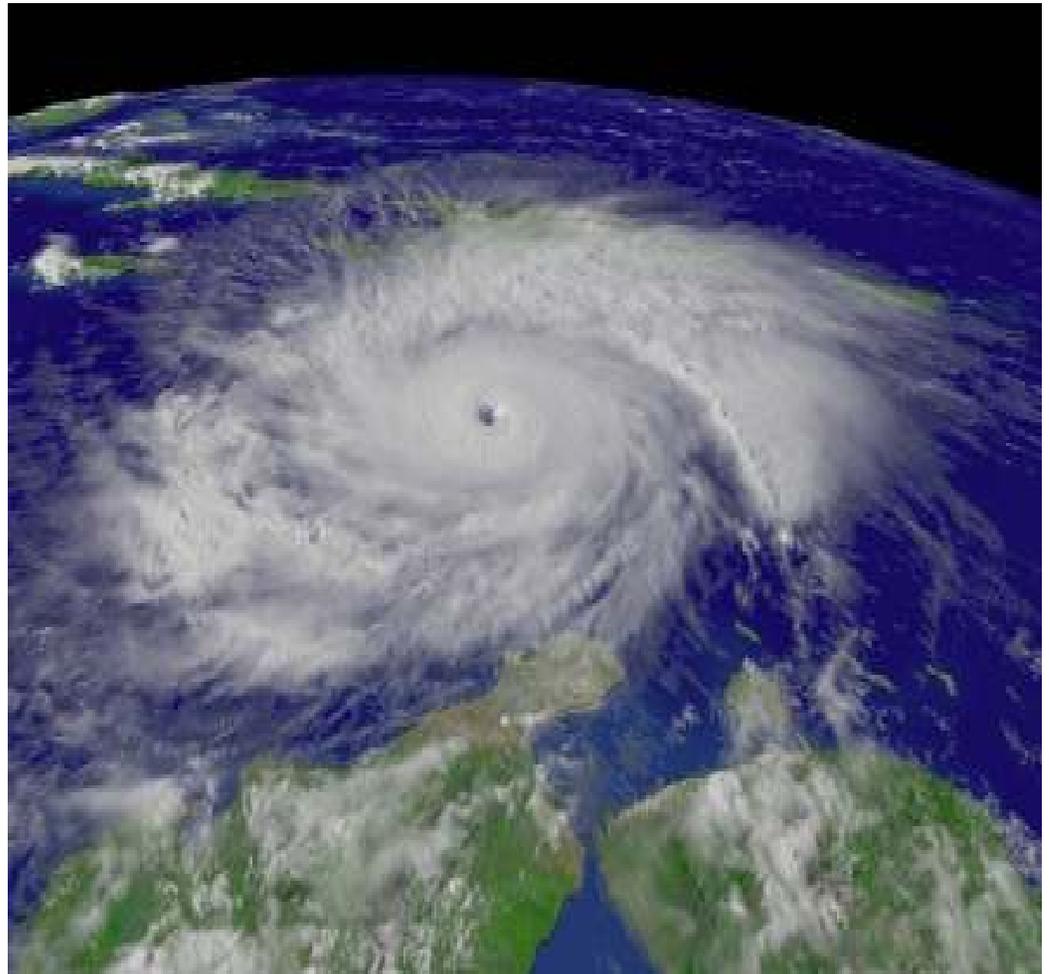
# Risk Transfer in the Agricultural Sector: Case of Blue Mountain Coffee

- The GOJ through the World Bank commissioned a study on risk transfer in the agricultural sector and specifically for blue mountain coffee.
- Pilot launched in February to provide parametric insurance for coffee farmers in Jamaica's Blue Mountain region
- CGM Gallagher undertaking the hazard modelling element
- First time index insurance has been piloted in the region specific to agriculture
- Opportunity for governments to engage in CCRIF type coverage for the agriculture sector to provide income compensation for farmers
- Boost to agricultural risk management and beneficial for general disaster risk reduction



# Traditional Insurance – Hurricane Ivan

- Hurricane Ivan, ~200% GDP impact on two countries (Grenada and Cayman Islands.)
- We have used Grenada as the case study for this presentation.



# Ivan Impacts

- Ivan had sustained wind speeds of around 115-120 mph (Cat 3) when it hit Grenada on 7 September 2004.
- Losses estimated at 200% GDP in Grenada (US\$1B.)



# Insurance Response

- By July 2005 insurance companies in Grenada reported that they had settled 5,042 of 5,184 claims that were made as a direct result of Hurricane Ivan.
- Total payouts at that time were estimated at EC\$416M or US\$154M.



## HURRICANE IVAN - THE JAMAICAN EXPERIENCE

- Countrywide damage of US\$360m, 17 people dead and 18,000 homeless
- Gross Insured Losses of US\$85m (net of deductibles)
- % of aggregates ranging between .64% and 2%
- Over 7,000 claims were settled by insurers



# Use of Traditional Insurance

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## Advantages

- The loss amount can be accurately calculated based on replacement costs of damaged property and business records of revenues prior to the event (there is little or no basis risk.)

## Disadvantages

- Large sums of money have to be set aside by insurers/reinsurers to pay for potential large losses thus increasing the cost of capital.
- The claims settlement process is costly and relatively lengthy as properties need to be inspected and settlements negotiated and agreed based on repair estimates and other supporting information.



# Insurance as a Risk Reduction Tool

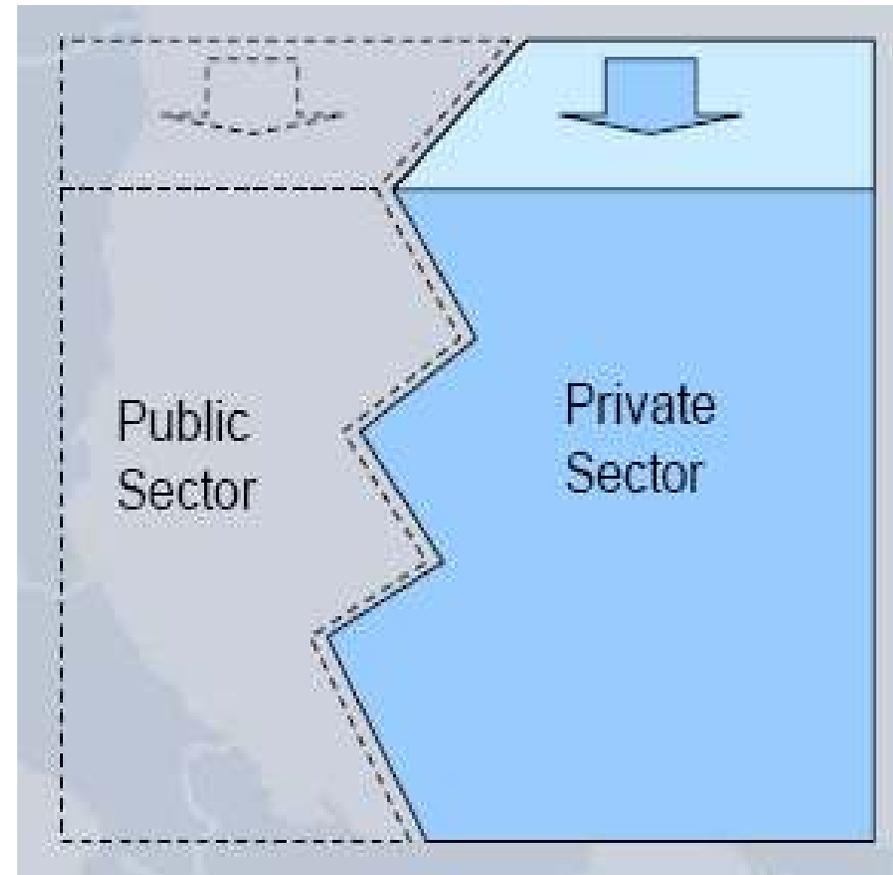
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- Parametric and traditional insurance are both natural companions to risk reduction within an overall risk management framework.
- Risk reduction is vital and should be continuous.
- Risk transfer (insurance) is cost efficient to handle risks that are too expensive to reduce/mitigate.



## Going Forward: Reducing the Financial Exposure of the State: Public and Private Shared Responsibility

- Promotion of private insurance (agriculture, mortgage insurance, housing, etc) and linking this with improvement in risk management measures.
- Assign responsibility to improve predictability and transparency.
- Regulation and control of the insurance/reinsurance sector.
- Creation/support to reserve funds to support catastrophe insurance (pool.)





CGM Gallagher

GROUP

Brokers to the Caribbean

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Thank You

