Introduction to Disaster Risk Financing and CCRIF Parametric Insurance

Introduction to Disaster Risk Financing

WEEK 2

Prepared by: CCRIF SPC

Recapping Hazard, Exposure, Vulnerability and Impact

1. Using the analogy of the 3 little pigs and the big bad wolf and the associated imagery discuss the concept of hazard, exposure and vulnerability.
2. Illustrate what each character/scene represents within the context of risk and its associated elements.
3. What are the impacts from an economic and social perspective of the named event?
4. List 3 DRM measures that could be undertaken to reduce vulnerabilities to the named hazard mentioned in the exercise.
5. How does location of communities and settlements impact vulnerability?

Comprehensive Disaster Risk Management (CDRM)

Risk Identification	• Hazard mapping, risk modelling
Risk Reduction	• Spatial and sectoral planning, sector-specific standards • Risk mitigation works, infrastructural retrofitting, ecosystems management • Education and creating a culture of prevention
Financial Protection	• Budget planning, risk transfer, risk financing instruments (e.g. insurance, contingent credit, cat bonds etc.), budget appropriation
Preparedness	• Alerts and early earning systems, response planning, training, equipment, logistics simulations, response systems management
Recovery and Redevelopment	• Institutional planning, strengthening; recovery, planning, reconstruction policies; rehabilitation plans

Disaster Preparedness *= Disaster risk mitigation + ecosystem management + risk transfer and risk financing + social protection strategies (including addressing psychological impact of disasters)*

Introduction to Disaster Risk Financing

Disaster Risk Financing and Financing DRR

Same or different?

- The number of disasters is increasing
- The cost of disasters is increasing
- Disaster mortality is concentrated in developing countries
- Growth in development assistance in DRR has been moderate

- The increasing frequency and severity of climate extremes has forced governments to consider new ways of meeting the financial consequences of natural disasters, and there is a growing interest **in implementing sovereign Disaster Risk Financing and Insurance (DRFI) programmes** in an attempt by governments to be financially prepared for when disasters occur.

- This has resulted in tremendous growth in the number and type of financial and budgetary instruments available, ranging from disaster reserve funds and lines of contingent credit to insurance instruments

Disaster Risk Finance Across the Globe

- https://www.youtube.com/watch?v=VtvQaJx71E0

Disaster Risk Financing Strategies – aka Financial Protection Strategies

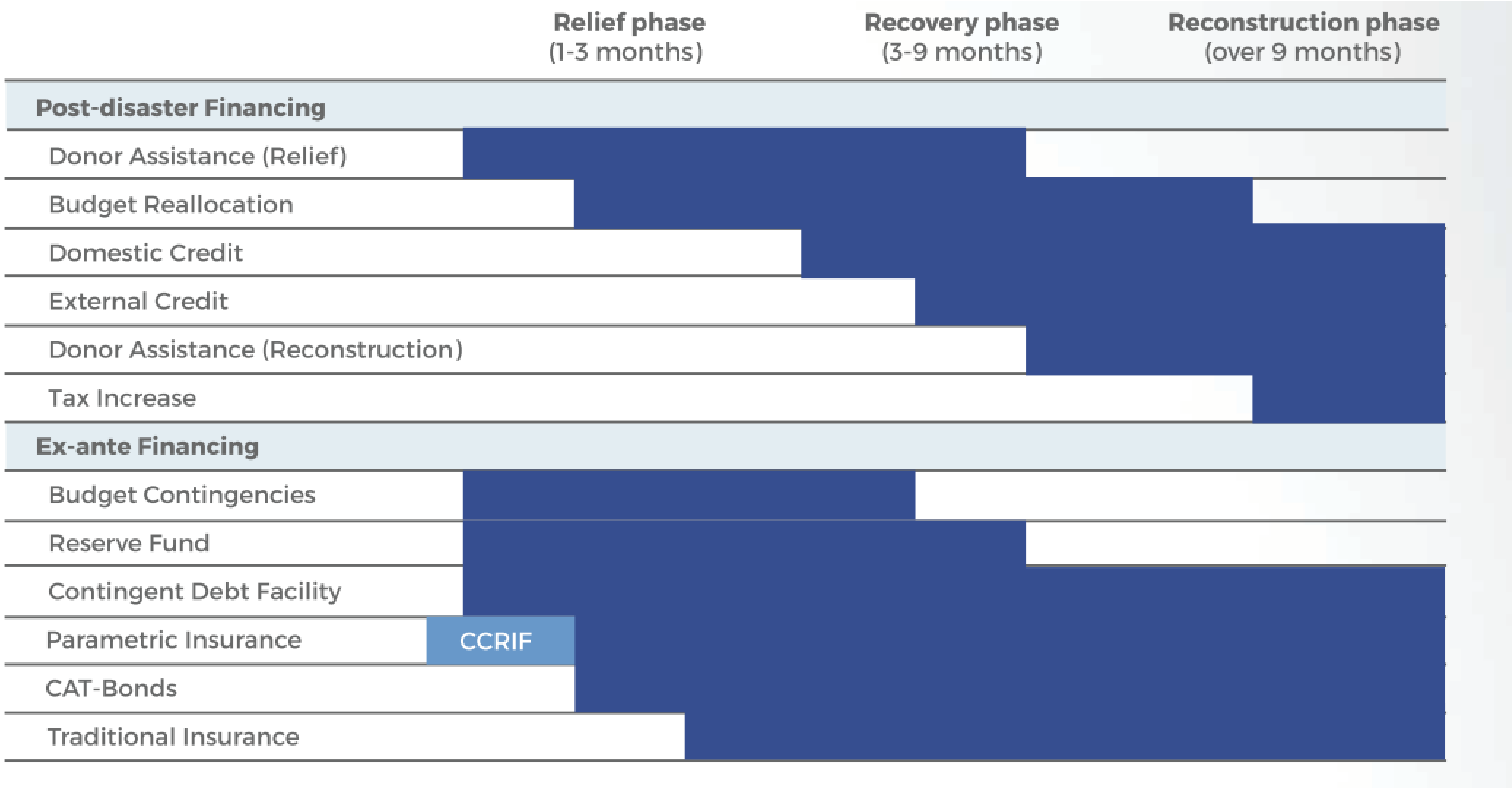
- It is often argued that financial protection strategies treat the symptoms but not the cause of disasters
- Good strategies can help governments cope with the financial impact of calamities but do little to shelter populations and assets from the destruction of cyclones and earthquakes. Financial protection is only one component of a comprehensive disaster risk management strategy.
- Financial protection will help governments mobilize resources in the immediate aftermath of a disaster, while buffering the long-term fiscal impact of disasters.
- Clearly, well-designed disaster risk financing strategies can create financial incentives for governments and/or households to further mitigate their risks.
- When a Ministry of Finance is sensitized to a country's exposure it can help mobilize resources beyond disaster response in support of risk mitigation.

Disaster Risk Financing

- Disaster Risk Financing (DRF) is a growing discipline that addresses the fiscal impacts and economic losses caused by natural hazards (e.g. cyclones, droughts, earthquakes, floods) and supports countries to increase their financial resilience to natural disasters.
- The objective of disaster risk financing is to help minimize the cost and optimize the timing of meeting post-disaster funding needs without compromising development goals, fiscal stability, or wellbeing.
- DRF promotes comprehensive financial protection strategies to ensure that governments, homeowners, small and medium-sized enterprises, agricultural producers, and the most vulnerable populations can meet post-disaster funding needs as they arrive.

Examples of Disaster Risk Financing Instruments

Managing this risk requires a multifaceted approach



Reasons for Government Employing DRF

Three reasons governments should pursue ex-ante financing strategies

Governments are typically responsible for large portfolios of public infrastructure assets subject to risk

To guarantee capital for emergency relief and assistance to affected households, businesses and communities. If governments lack the necessary infusion of post-disaster capital to rebuild critical infrastructure, restore homes and provide humanitarian assistance, indirect costs can greatly surpass the direct losses of a disaster

Developing countries have a higher propensity for post-disaster resource deficits. Governments of developing countries typically must divert from their budgets or from already disbursed development loans to finance post-disaster expenses, also relying on new loans and donations from the international community

Disasters have a much more disruptive impact on the economy of less advanced economies. Although they still catch the attention of the general public, major disasters rarely impact the economy (and budgets) of advanced economies

Assessing a Government's Financial Exposure – A Critical Component of DRF

- Assessing a government's financial exposure is different from a macro-economic analysis of the impact of disasters
- A macro-economic analysis aims to identify and to quantify the economic impact of natural disasters in terms of direct and indirect losses borne by an economy.
- A fiscal analysis aims to assess the impact of potential disaster events on the government finances, both in terms of additional expenditures and foregone fiscal revenues borne by the government.
- The analysis of financial exposure is a subset of the overall macro-economic analysis.

- **Countries that engage in pre-event planning are less likely to need large quantities of debt relief when disasters strike.**

- **Debt relief usually is in the form of loans and rarely grants. This type of post disaster assistance typically adds to the debt stock of countries.**

A Look at Countries and Regions Employing DRF

- The pioneers have included Mexico with both a national strategy for financing the reconstruction of disaster-affected public assets, FONDEN, and a scheme specifically targeted at protecting smallholder farmers from yield losses due to drought, CADENA.
- Smaller countries have collaborated in regional risk pooling through such institutions as CCRIF SPC (the first multi-country risk pool), the African Risk Capacity for East and West Africa, and the Pacific Catastrophe Risk Insurance Pilot – the latter two being adapted off the CCRIF model
- Pools such as CCRIF enable governments to make regular payments in good years in return for financial protection in bad years, making financial resources more readily available when natural catastrophes occur and at a lower long-term cost.
- The programmes typically combine access to funding through different instruments according to the magnitude of the shock and the country capacity: accumulated reserves and precautionary savings, contingent credit, risk transfer through index-based insurance and re-insurance, post-disaster budget reallocations, and post-disaster borrowing.
- **How to optimally layer these sources of financial liquidity is critical**

An introduction to some DRF Tools

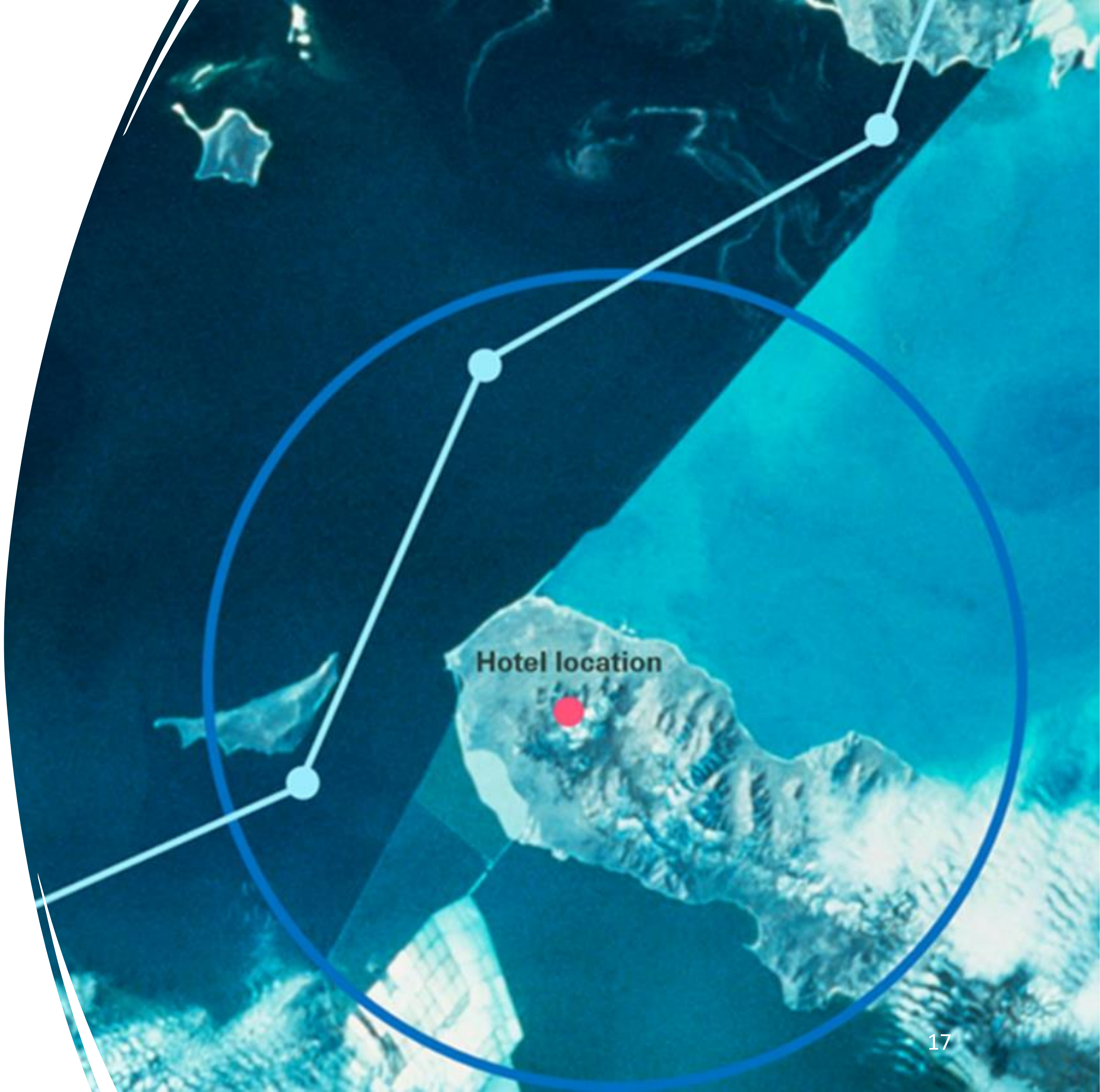
- Parametric Insurance
- Catastrophe (Cat) Bonds
- Contingent Lines of Credit
- Dedicated Reserve Funds
- Microinsurance

Parametric Insurance

- Covers the probability of a predefined event happening (e.g., a major hurricane or earthquake), instead of indemnifying actual loss incurred and pays out according to a predefined scheme.
- Insures a policyholder against the occurrence of a specific event by paying a set amount based on the magnitude of the event, as opposed to the magnitude of the losses in a traditional indemnity policy.
- Makes a payment upon the occurrence of a triggering event and is detached from a specific underlying physical asset or piece of infrastructure.
- Make payments based on the intensity of an event (for example, hurricane wind speed, earthquake intensity, volume of rainfall) and the amount of loss calculated in a pre-agreed catastrophe model caused by these events.

“Cat-in-a-box” parametric insurance

- The insured is a hotel
- Based on the value of the exposure (hotel assets)
- The policy is structured to pay out 25%, 50% or 100% of a predefined limit of USD 5M for a Category 3, 4 or 5 Cyclone respectively, happening in a 50 km radius around the point of interest – in this case, the insured's hotel.



How CCRIF Parametric Insurance Policies Work

Parametric insurance disburses funds based on the occurrence of a pre-defined level of hazard and impact	Policy triggered on the basis of exceeding a pre-established trigger event loss
	Estimated based on wind speed and storm surge (tropical cyclones) or ground shaking (earthquakes) or volume of rainfall (excess rainfall)
	Hazard levels applied to pre-defined government exposure to produce a loss estimate
	Payout amounts increase with the level of modelled loss, up to a pre-defined coverage limit

CCRIF makes payouts within 14 days after an event.

Characteristics of Parametric Insurance

- Generally less expensive than an equivalent indemnity insurance product
- Payouts can be calculated and made very quickly because loss adjusters do not have to be relied on to estimate damage after a catastrophe event, which can take months or years
- Governments do not have to provide detailed asset values and other information prior to the insurance programme commencing
- Calculation of payouts is totally objective
- The risk, which drives policy pricing, is uniformly defined
- Subject to basis risk which means that events can occur which produce modelled losses that are different from losses on the ground

Differences Between Parametric and Indemnity (Traditional) Insurance

	Parametric Insurance	Indemnity Insurance
Lower Premiums	• Lower transaction and administrative costs	• Includes claim assessing costs
Faster Payouts	• Payments based on a pre-defined hazard level	• Need loss adjustment process • This requires additional time
Objective and Transparent	• Direct access to information for policyholders • Objective payout calculation	• Opinions on loss level depend on the adjuster • Conditions, exclusions and limitations often add uncertainty and delay
Uniformly Defined Risk	• All risk is defined with the same parameters	• Risk is valued under different assumptions depending on company parameters

Differences Between Parametric and Indemnity Insurance

	Parametric Insurance	Indemnity Insurance
Moral Hazard Reduction	• Cost of insurance is related to event probabilities and payouts are not related to external efforts	• Policyholders may engage in riskier actions
Simple Process to Obtain Coverage	• Governments do not have to provide detailed asset values and locations	
Simplified Claims	• Reversed claims process	• Often claims processing takes a long time to be completed

Reinsurance News

Vortex Insurance parametric cover triggered at PGA TOUR Champions Event

19th July 2023 - Author: Kane Wells

The DICK'S Sporting Goods Open received rain from June 23-25, triggering their rain insurance policy with Vortex Weather Insurance, which resulted in the tournament operator, Broome County Community Charities, receiving payouts that helped with lost revenue.

Earlier this month, it was announced that for the second consecutive year, Vortex Weather Insurance would provide a rain insurance policy for the DICK'S Sporting Goods Open, a PGA TOUR Champions Event at En-Joie Golf Course in Endicott, New York.

The DICK'S Sporting Goods Open is operated by Broome County Community Charities, Inc. (BCCC) and has donated over $19.6 million to charity.

The insured rain events resulted in BCCC receiving payouts that helped with lost revenue.

"Because of the policy, the organizers went into the weekend with peace of mind. And when the policy was triggered, their instincts were proven right."

John Karedes, Executive Director of DICK'S Sporting Goods Open, commented, "We were fortunate enough to work with Vortex again to help protect our 2023 Tournament week. Turns out, it rained twice over the weekend and our policy was triggered.

"We received a check in less than two weeks. So even though the tournament wasn't as well attended as we hoped because of the rain, we were able to contribute fundraising dollars as planned."

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22ND JULY 2024 - AUTHOR: STEVE EVANS

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Following the onslaught of hurricane Beryl, the Government of Grenada has now received its US $44 million payout from the CCRIF SPC after its parametric insurance was triggered, but in addition the islands utilities have received a further $11.5 million from separate parametric insurance arrangements.

The CCRIF SPC, formerly known as the Caribbean Catastrophe Risk Insurance Facility, has sprung into action to make triggering determinations and payouts very rapidly after major hurricane Beryl impacted the Caribbean.

We had already reported that Grenada was set to receive a payout of approximately US $44 million from the CCRIF SPC after hurricane Beryl triggered its parametric tropical cyclone, fisheries, and excess rainfall policies.