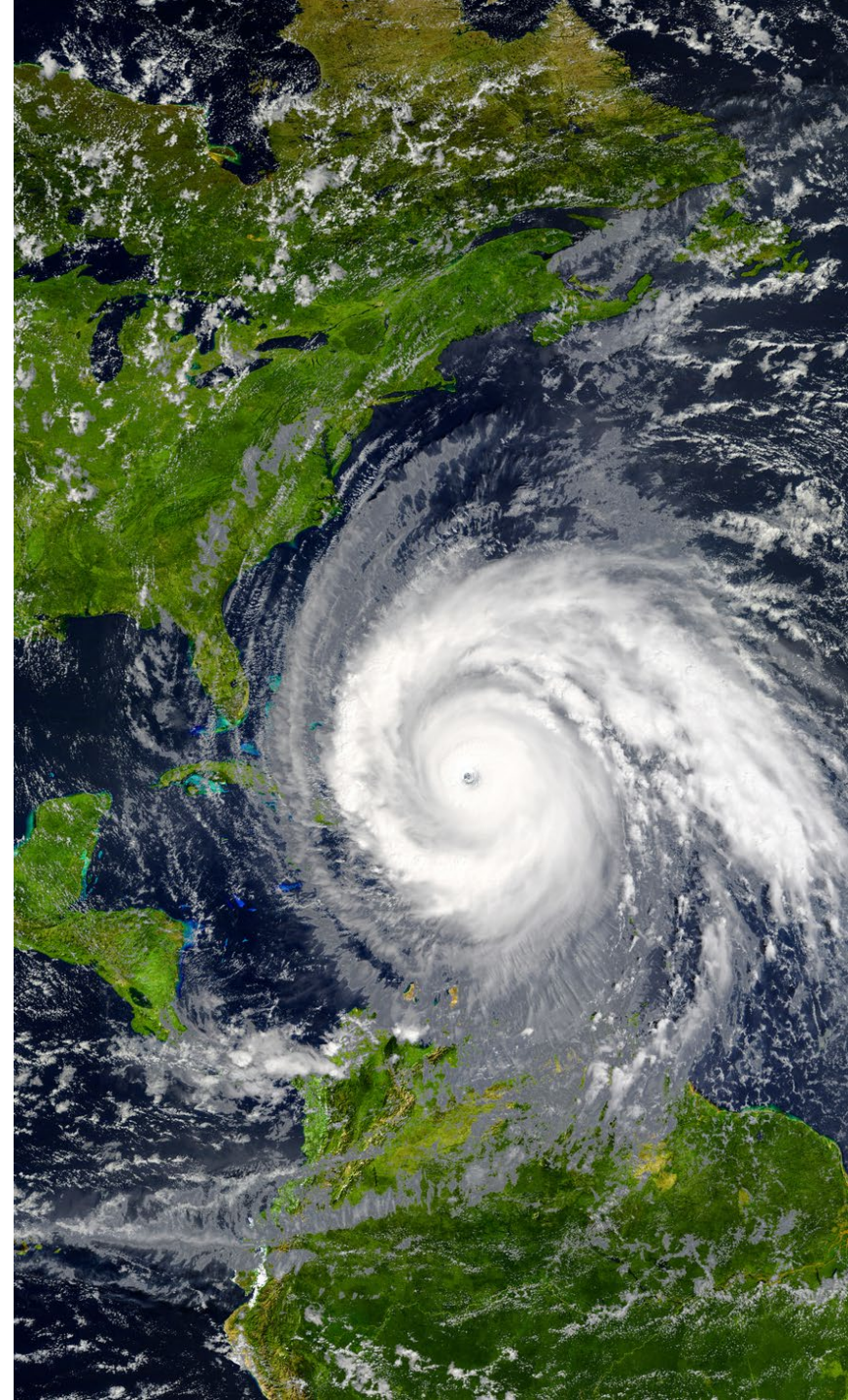


**Building Caribbean Resilience to Natural Disasters
through CCRIF Risk Modelling Innovation**
Isaac Anthony, Chief Executive Officer, CCRIF SPC

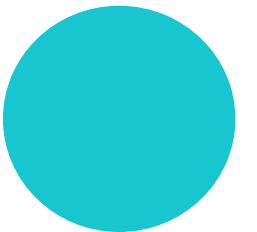
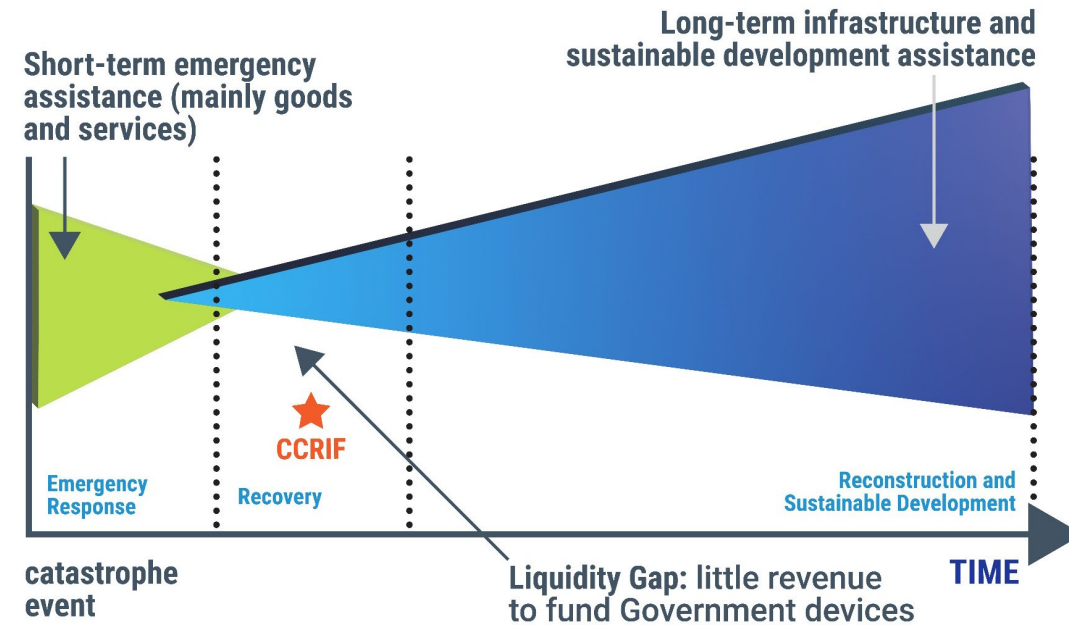
CCRIF SPC - The Caribbean and Central America's Development Insurance Company

- Prompted by Hurricane Ivan and request for assistance by Caribbean governments made to the World Bank
- The world's first multi-country risk pool providing parametric insurance – established in 2007
- Originally designed to limit the financial impact of catastrophic hurricanes and earthquakes
- Currently provides coverage for tropical cyclones, earthquakes, and excess rainfall and for the fisheries, electric utilities and water utilities sectors.
- Provides short-term funding to support relief in the immediate aftermath of a natural disaster



CCRIF:

- Is the world's first multi-country, multi-peril risk pool based on parametric insurance
- Is a development insurance company
- Offers products not readily available in traditional insurance markets
- Provides parametric insurance - a key component in a country's disaster risk financing strategy and is designed to pre-finance short-term liquidity, reduce budget volatility and allow countries to respond to their most pressing needs post disaster
- Provides quick liquidity – key value proposition
- Was restructured in 2014 into a segregated portfolio company (SPC) to facilitate offering new products (for example the excess rainfall product) and expansion into new geographic regions, and became CCRIF SPC



Parametric Insurance

The selection of a parametric insurance instrument as a basis for CCRIF policies was largely driven by the fact that parametric insurance is generally less expensive than an equivalent traditional indemnity insurance product as it does not require a loss assessment procedure after a disaster, allowing for claims to be settled quickly and in the case of CCRIF, payments are made within 14 days of the event. This is an important feature considering the urgent need for liquidity by governments after a catastrophe to support the most vulnerable in the population, communities and infrastructure.

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
- makes 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

Benefits of Parametric Insurance

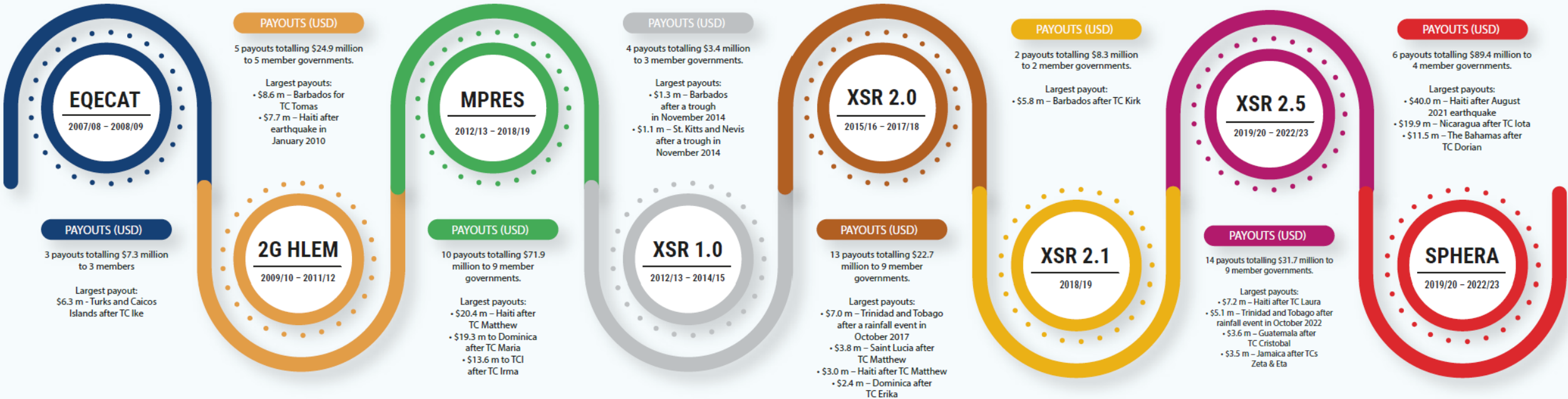
- Parametric insurance is generally less expensive than an equivalent indemnity insurance product.
- Parametric insurance can provide coverage in areas where indemnity insurance is not available.
- Calculation of payouts is totally objective.
- Parametric insurance enables payouts to be made very quickly after a hazard event. CCRIF makes payouts within 14 days after an event.
- CCRIF's parametric insurance represents a cost-effective way to pre-finance short-term liquidity to begin recovery efforts for a government after a catastrophic event, thereby filling the gap between immediate response aid and long-term redevelopment.
- CCRIF can make payouts of up to US\$150 million per peril for each country.

Key Achievements



- CCRIF's membership stands at 26: 19 Caribbean Governments, 4 Central American Governments and 3 Caribbean electric utility companies.
- We have 6 products and are about to introduce products for other perils such as drought and other economic sectors such as agriculture as well as a microinsurance product for livelihood protection.
- CCRIF became a segregated portfolio company in 2014 allowing us to provide coverage to other geographic regions outside the Caribbean, and private sector companies and to offer new products.
- In the last 3 policy years, we provided over US\$1 billion in coverage to our members to financially protect their economies. This year, members have purchased 10% more coverage than last year.
- Members are consistently increasing their coverage, demonstrating that they recognize the importance of investing in CCRIF coverage against natural hazards.
- CCRIF started developing its own models since 2015 and have continued to improve these models that underpin our policies – to more accurately reflect actual losses from an event, thus reducing basis risk.
- Since inception in 2007, we have made 64 payouts totalling US\$268 million to 17 of our members, benefitting as many as 3.5 million persons in the Caribbean and Central America.

The Evolution of CCRIF's Parametric Insurance Models: The Journey from EQECAT to SPHERA and Beyond

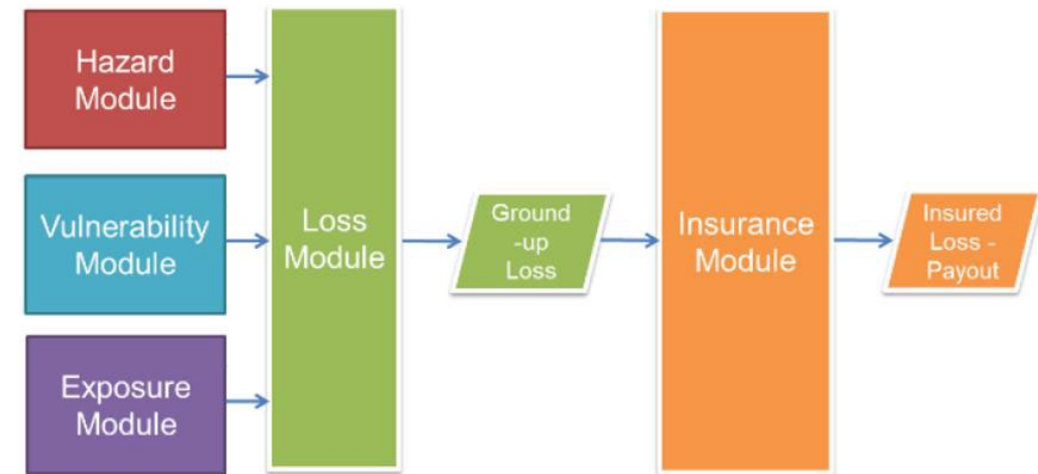
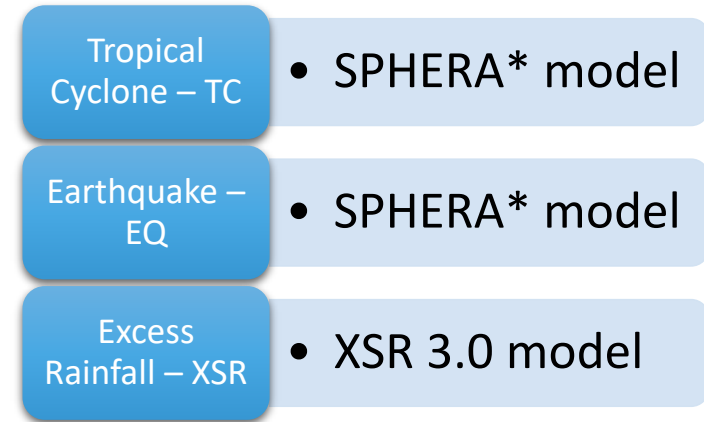


Moving Forward - 2023/24 and Beyond



CCRIF's Base Parametric Insurance Models... Key to Developing Products for New Sectors

- CCRIF is using its base products such as tropical cyclone and excess rainfall to create products for sectors that either had no insurance or limited insurance or for groups that needed insurance.
- For example – the TC Model was used to underpin a product for the electric utilities sector and specifically for overhead transmission and distribution (T&D) lines.
- The TC and XSR models were used for the development of a product for the fisheries sector, not only for the big boat owners but for vulnerable fisherfolk, including fishermen, market vendors, many of whom are women, and other vulnerable groups along the fisheries value chain).
- The TC and XSR models were used to develop a product for water utilities.
- We do this for sectors by making changes to the exposure module of the CCRIF model shown at right. A model for a specific sector would require data for the exposure module specific to that sector.
- We are currently working on a drought model which would become another base model, enabling us to develop a multi-peril product for the agriculture sector that covers tropical cyclones, excess rainfall and drought.



*System for Probabilistic Hazard Evaluation and Risk Assessment



An Example of how CCRIF Uses its Base Models to Develop Sector-Related Products

A parametric insurance product providing quick payouts for the fisheries sector

Supports the livelihoods of fishers and others in the fisheries industry

Designed to support governments' efforts to rapidly put money into the hands of those impacted by extreme weather (rainfall and tropical cyclones), providing them with **immediate** economic relief.

Includes a mechanism for disseminating payout to beneficiaries in the fisheries sector

Promotes a culture of building back better to enhance coastal community resilience after an extreme weather event

Insurance policy and payouts are based on full transparency and accountability



CCRIF Payouts and Use of Payouts

Since 2007, CCRIF SPC has made 64 payouts to 17 member governments totalling US\$268 million

- Single largest payout: Haiti – US\$40 million for August 14, 2021 earthquake
- Members receiving the largest number of payouts: Trinidad and Tobago and Barbados – 8 in total
- Member receiving the largest value in payouts: Haiti – US\$78 million



Parametric Insurance as a Strategy for Loss and Damage

- Climate change is changing the magnitude and frequency of extreme weather events, generating new threats, which the Caribbean and Central America region has limited experience in dealing with.
- **It is now widely agreed that loss and damage refers to impacts of climate change that occur despite countries' adaptation and mitigation efforts. We know that there are limitations to mitigation and adaptation.**
- These two points makes a very strong case for parametric insurance to address loss and damage, which is now taking on even greater significance because of the intensity and frequency of hydrometeorological hazards caused by climate change.
- CCRIF has demonstrated that catastrophe risk insurance can effectively provide a level of financial protection for countries vulnerable to natural hazards and also to the increasing impacts of climate change.
- CCRIF's payouts within 14 days are a key resource to help countries recover faster and also to help them build back stronger to reduce future impacts of natural hazards.
- Parametric insurance has the potential to reduce the catastrophic impact of disasters, enable a timely recovery and contribute to sustainable, climate resilient development allowing for building forward stronger.

CCRIF Parametric Insurance – A Game Changer for Loss and Damage associated with Climate Change



With the increasing frequency and intensity of hydrometeorological events caused by CC, parametric insurance can help countries and key sectors (e.g., water, electricity, tourism and agriculture) better manage growing risks and losses.



Parametric microinsurance can benefit vulnerable groups, for example by using microinsurance to make social protection systems more shock responsive to support adaptation efforts.



Parametric insurance can address more than physical damage to assets and infrastructure and can provide solutions for economic exposure.



Parametric insurance payouts are quick and can immediately support countries following a natural disaster: to keep the wheels of government turning, address business interruption and the impact on the economy - including sectors such as agriculture and electric utilities - and on livelihoods.



With the increasing frequency and intensity of events caused by climate change and the increasing losses of governments, business and communities, parametric insurance can be viewed as being better able to match capital to the risk caused by climate change – in other words parametric insurance and the use of risk pooling is more economically viable than traditional insurance for fiscally constrained countries.

Special Endorsements for CCRIF Policies... Game Changer for Loss and Damage

- CCRIF offers the **Reinstatement of Sum Insured Cover (RSIC)** policy endorsement and the **Aggregated Deductible Cover (ADC)** for tropical cyclone and earthquake policies.
- These voluntary endorsements to the main policies allow member countries to access coverage designed to be supplemental to the existing policy structures.



Reinstatement of Sum Insured Cover

- Establishes a reinstatement of cover provision
- This prevents a country from being exposed until the next policy year if the coverage limit is exhausted



Aggregated Deductible Cover

- Provides a minimum payment for TC or EQ that does not trigger a CCRIF policy
- It was also designed to reduce basis risk.
- It aims to reduce the probability of a missed event.
- A payment can be up to the annual net premium

NEW Endorsements for CCRIF TC and XSR Policies – Game Changer for Loss and Damage

In 2023, CCRIF introduced 3 new policy endorsements

For Tropical Cyclone Policies:

Localized Damage Index (LDI) for tropical cyclone events where losses are highly concentrated in small sections of the country.

For Excess Rainfall Policies:

Wet season trigger (WST), which introduces the ability to detect excess rainfall events that occur when the soil is saturated

Localized event trigger (LET) for rainfall events where losses are highly concentrated in small sections of the country.

These 3 endorsements are aimed at improving CCRIF’s ability to identify and provide coverage for events that occur under very specific conditions that contribute to the negative impacts from the event.

Regional Ownership of CCRIF Models



Barbados' use of CCRIF model loss information and return periods to calibrate its natural disaster clause (loan agreements).



Strong interest expressed by multilateral financial institutions to utilize similar information to develop triggered based solutions such as debt deferred instruments for their clients.



The use of CCRIF's risk profile based on its models to assess risk, etc. as part of countries' development planning.



More expanded use of CCRIF's model by the insurance industry for assessing risk in the region.



The possibility of CCRIF providing a disaster information service for the region.

Closing... CCRIF's Promise

- We are committed to improving the resilience of the Caribbean and Central America to climate change and natural hazards.
- By this we mean increasing the ability of governments to reduce the negative impacts of natural hazards on their economies and societies.
- We view comprehensive disaster risk management (CDRM) as an integral component of regional development and our parametric insurance products as a critical part of countries' CDRM strategies... and key to financially protecting economies.
- This commitment is explicit in CCRIF's vision statement:

A leading global development insurer, providing disaster risk financing products and services to member countries to improve lives and livelihoods, building resilience and advancing sustainable development agendas.



Engage With Us:



pr@ccrif.org
www.ccrif.org