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Mission

To serve our member governments as a dynamic and accessible organization focused on assisting financial recovery after a catastrophic natural disaster.

Vision

We will help our members to meet sustainable economic development goals and to support a proactive stance towards disaster risk mitigation, to the ultimate service of Caribbean people.

Board of Directors



MILO PEARSON CHAIRMAN OF THE BOARD

Milo Pearson is well qualified to be chairman of the CCRIF; he has over 35 years of insurance experience and has created two landmark organizations that have had an important and lasting impact on insurance industry in California: the California Earthquake Authority and the Rate Regulation Division of the California Department of Insurance. As a senior partner of Insurance Solutions Group, Pearson specializes in regulatory and catastrophe related issues. He is also the executive director for the Pacific Association of Domestic Insurance Companies, an industry trade association.



ISAAC ANTHONY CARICOM APPOINTED BOARD MEMBER

Chairman and founding member of the Caribbean Public Finance Association (CAPFA), Isaac Anthony currently serves as a CCRIF board member appointed by CARICOM. He is presently the Director of Finance in the Ministry of Finance, International Financial Services and Economic Affairs in St. Lucia and serves as the Registrar of Insurance with responsibility for supervising and regulating the Insurance Industry. With a Bachelors of Science Degree in Economics and Accounting and an Executive MBA from the University of the West Indies, Anthony also serves on the Boards of the St. Lucia Electricity Services Limited (LUCELEC), International Financial & World Investment Corporation, St. Lucia Mortgage Finance Corporation and St Lucia Solid Waste Management Authority.



WARREN SMITH CARIBBEAN DEVELOPMENT BANK APPOINTED BOARD MEMBER

Appointed to the CCRIF Board by the Caribbean Development Bank (CDB), Dr. Warren Smith has more than 30 years experience in Economics and Planning, and holds a BA (Hon.) in Economics, an M.Sc. in Agricultural Economics and a PhD in Economics from Cornell University. Currently, he is the Director of Finance and Corporate Planning at the CDB and has held positions at the National Investment Bank of Jamaica, Prudential Stockbrokers Limited, Life of Jamaica, LIAT and the Petroleum Corporation of Jamaica. In the past, he served as a consultant for the CARICOM Secretariat, the Government of Grenada and a Caribbean Development Bank/World Bank investigative study.



GARRY WILKINS BOARD MEMBER

Garry Wilkins lends his experience as a retired banker with over 40 years experience with executive positions in a variety of countries including those in Australasia, the Far East, West Africa, the Caribbean and the United Kingdom, to the CCRIF board. He was employed by the Barclays Bank Group for 31 years, where his duties included acting as Director and Secretary on various boards. He has worked with a number of advisory bodies on fraud and money laundering prevention including the Cayman Islands police force. He was also employed by Cayman National Corporation as their Group Internal Auditor where he was responsible for both audit and compliance for the holding company and its five subsidiaries consisting of a bank, two trust companies, a securities company and an insurance company. Since his retirement from the Cayman National Corporation Group he has provided independent directorships for a number of banks, funds and other financial institutions and also provides a consultancy service on fiduciary and compliance issues. He is an Associate of the Chartered Institute of Bankers (ACIB) London.



KEN BLAKELEY BOARD MEMBER

A former president of both the Insurance Company of the West Indies, (ICWI) and Eagle Star Insurance Company of Puerto Rico, Ken Blakeley has had a long tenure in Caribbean insurance. His 40-year career in the region's insurance market began with a stint as a resident inspector in Trinidad and Tobago leading him to positions as a Managing Director, Agency Manager and now, as a technical adviser and director at Billy Craig Insurance Brokers in Jamaica. Blakeley has also served as the deputy chairman, Jamaica Association of General Insurance Companies, Chairman of the Board of Studies, The Insurance Institute of Jamaica and as chairman of The Insurance Institute of Jamaica.

The Team



DR. SIMON YOUNG CARIBBEAN RISK MANAGERS LTD, FACILITY SUPERVISOR

Dr. Simon Young has worked in natural hazards risk assessment in the Caribbean for over a decade and currently serves as Facility Supervisor, the lead operational and risk management role within the CCRIF. Dr. Young is the CEO of Caribbean Risk Managers Ltd (CaribRM), formed through a merger of his consultancy company, GeoSY Ltd with the Risk Management Division of the CGM Gallagher Group. CaribRM has completed projects for clients in both the public and private sectors throughout the Caribbean, including the Organisation of American States, the Pan-American Health Organisation, the Inter-American Institute for Global Change, the World Bank, numerous regional governments, and local and regional quasi-government institutions including CDERA, UWI and, in Jamaica, the National Housing Trust and National Water Commission. Private sector clients include some of the largest pan-Caribbean companies as well as global reinsurance companies and brokers.



JAMES RAWCLIFFE SAGICOR INSURANCE MANAGERS LTD, INSURANCE MANAGER

Sagicor Insurance Managers Ltd. (SIM) is a member of the Sagicor Financial Group, which is listed on the Barbados, Trinidad & Tobago and London Stock Exchanges. Formed originally as Barbados Mutual in 1840, Sagicor has become the leading indigenous financial services organisation in the Caribbean, with a presence in 21 countries across the Caribbean, the United Kingdom, in 41 states of the United States and the District of Columbia. SIM provides insurance management services in the Cayman Islands, and provides regulatory, accounting and corporate secretarial support to CCRIF.



WILLIAM DALZIEL LONDON AND CAPITAL LTD, ASSET MANAGER

In March 2005, William Dalziel joined London and Capital Ltd, and currently serves as head of the Captive practice for the firm. He has 29 years' experience in the insurance industry and has worked with major international insurance groups, including the Zurich Financial Services' International Life Business. Within this organisation, he served as Director with responsibility for Latin America and Distribution Development. He has been significantly involved in the captive insurance and Alternative Risk Transfer market at London and Capital, and promotes the building of relationships with advisers, in order to promote the provision of the best solutions for clients.



AIDAN POPE BENFIELD GROUP REINSURANCE BROKER

Aidan Pope is currently based in Miami and is responsible for Benfield's operations and offices throughout the region. Educated at King's College, London University, he is qualified as an ACII and has over 26 years experience in reinsurance and has been involved in travel and production in Latin America and the Caribbean since 1984. He has been particularly involved in Benfield's production efforts in Jamaica, Dominican Republic, Puerto Rico, Argentina, Chile, Colombia, Mexico and Brazil, having established offices in these last two countries for Benfield. A fluent Spanish and Portuguese speaker, Pope has conducted reinsurance workshops throughout the region, and is a frequent contributor to trade publications and journals.



Chairman's Report

On behalf of the Board of Directors and staff of the Caribbean Catastrophe Risk Insurance Facility I am pleased to provide you with our first Annual Report. This report covers our operations and presents our audited financial statements for the period ending May 31, 2008. This period includes a full financial year as well as a short additional time between company incorporation and the start of the 2007/08 financial year.

In June 2007, at the start of the annual Atlantic Hurricane Season, Caribbean Governments made history by signalling their proactive stance towards financial mitigation from natural disasters by launching the world's first joint reserve mechanism for governments. The Caribbean Catastrophe Risk Insurance Facility (CCRIF), is a partnership between 16 countries, the World Bank and support from Canada, the World Bank, UK, France, the Caribbean Development Bank, Ireland, Japan and Bermuda.

The CCRIF is the first and only multi-national catastrophe fund in the world and is unique as an insurance operation because it offers parametric insurance policies to its participants rather than the traditional indemnity policy. Sixteen Caribbean countries joined the CCRIF and received short-term financial liquidity protection from the economic effects of catastrophic hurricanes and/or earthquakes. I am pleased to note that all sixteen countries have renewed their commitment to the CCRIF and to financial mitigation from natural catastrophes for the new fiscal year starting June 1, 2008.

It is critical as a new organization that we listen to both our participating countries and other stakeholders. To that end, we made several changes to our coverage and policies that we believe will benefit our participants.

Improvements for 2008

Effective June 1, 2008, we reduced our rates by 10%, offered as an option an increase in our maximum coverage amount from US\$50 million to US\$100 million, offered an optional lower deductible for hurricane coverage (to a 1 in 15 year event), increased our minimum payment in the event of a loss and reduced, by half, the time we take to make a claim payment. All of these positive adjustments were possible through the successful management of CCRIF's fiscal position throughout its first year of operations and resulted from a concerted effort of the CCRIF team to remain responsive to the needs of its government members.

Developments for 2009 and beyond

We are hard at work on several initiatives we believe will potentially benefit our participating countries. Currently we are working with the World Bank and the Caribbean Institute of Meteorology and Hydrology on a feasibility study regarding the viability of insurance against the effects of heavy rainfall. Should the results of this study indicate that such insurance is possible through a parametric mechanism, we will begin to develop a product to offer to our participants. We are also reviewing the possibility of offering coverage against government exposures to losses in the agricultural sector and providing coverage for the transmission and distribution systems of electrical utilities.

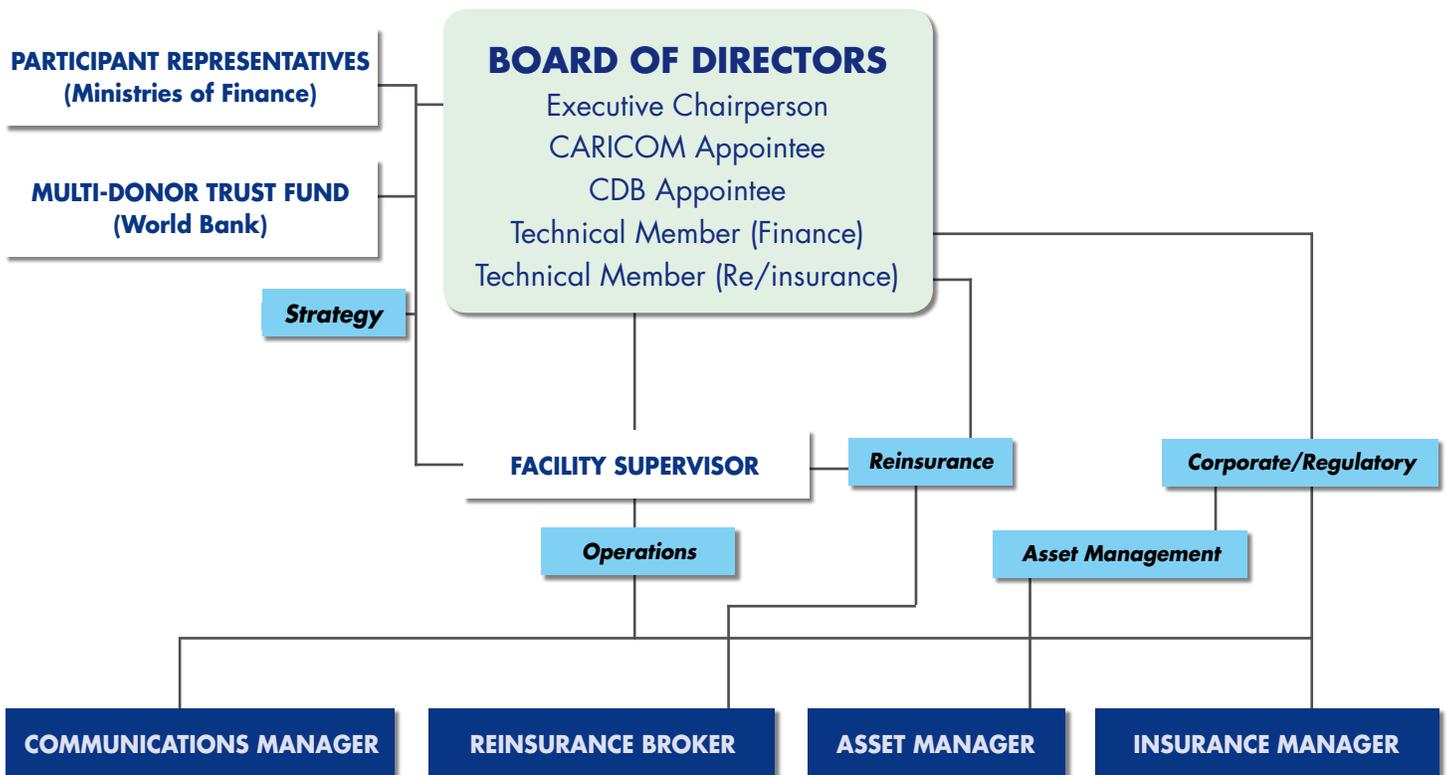
We are excited by these opportunities and remain committed to our primary goal: to provide short-term liquidity to our participating Caribbean governments after they have suffered significant financial loss due to hurricanes and/or earthquakes. We very much look forward to continuing to work with our participating members and other stakeholders as we continue to improve and possibly broaden our products while maintaining a conservative financial philosophy that will allow this organization to sustain itself for many years to come.



Milo Pearson

CHAIRMAN

Organizational Structure



Facility Supervisor's Report

The Caribbean Catastrophe Risk Insurance Facility was developed to help mitigate the short-term cash flow problems small developing economies suffer after major natural disasters. It represents a cost-effective way to pre-finance short-term liquidity to begin recovery efforts for an individual government after a hurricane or earthquake catastrophe, filling the gap between immediate response aid and long-term redevelopment through raising debt or support from international donors. The diversification of risk into a regional pool, the strong initial capitalisation, CCRIF's non-profit status and the large aggregate volume of risk being transferred to the international markets all helped to produce a mechanism which provides optimal security of coverage at the lowest cost.

The CCRIF does not obviate the need for Caribbean governments to set up other financing mechanisms to cover relatively small losses, which occur in more frequent events such as flash floods, tropical storms and heavy rainfall, which do not necessarily cause catastrophic loss. What the CCRIF does is provide a cost-effective short-term solution for Caribbean governments prone to major natural catastrophes.

The facility currently has 16 member governments, with policies effective as of 1 June 2007. It is a Cayman Islands-registered insurance company owned by a Special Purpose Trust, with the participating countries as the sole effective beneficiaries of the Trust. Core funding for CCRIF's operations and retained claims paying capacity was provided by the international donor community at a pledging conference in Washington DC in February 2007. A total of almost US\$50 million has so far been raised from Canada, the World Bank, the United Kingdom, France, the Caribbean Development Bank, Ireland and Bermuda. Each participating member government also contributed to the fund through a one-time participation fee, raising a further US\$22 million. This core capital, together with the income from premium payments and the reinsurance purchased in the international markets, constitutes the claims-paying capacity of the facility. This claims-paying capacity stands at a level such that the facility could make full claims payments to participants for a series of events in a policy year with a less than one in 10,000 chance of occurring.

By design, the 2007 policies only covered catastrophic loss caused by earthquakes and hurricanes that are expected to occur, on average, less often than once every 20 years. Participants retained losses below this threshold in their deductible. If the facility were to cover more frequent losses

such as those that occurred one in every five or ten years, the premium cost to countries would have been much higher. This option was considered during the design process, but at that time many governments indicated they would be unable to pay such higher premiums.

Understanding Parametric Insurance

When the CCRIF concept first came up for discussion after Hurricane Ivan in 2004, it was clear that any facility developed would have to include the ability to make payouts quickly. A study of the Grenada experience, where it suffered losses of more than twice its GDP after Hurricane Ivan, and where the government did not have a source of cash to effect immediate and critical government business, highlighted the need for the CCRIF to be able to provide a quick cash injection for Caribbean governments after a catastrophic hurricane or earthquake.

There are three main reasons the CCRIF was designed as a parametric facility:

1. Payouts can be calculated and made very quickly because loss adjusters do not have to be relied on to estimate damage which can take months or years;
2. Calculation of payouts is totally objective, based on a few simple input parameters published widely in the public domain from the globally-mandated body responsible for estimating those particular parameters, and a set of formulae which form part of the policy; and
3. The risk, which drives policy pricing is uniformly defined (i.e. there is no subjectivity in the definition of the risk.)

Parametric policies are both priced and triggered on the basis of outputs from complex catastrophe risk models. These models are based on historical hurricane and earthquake activity records and estimated losses for these past events. The historical record, and scientific research, provide the foundation for forward projections of hurricane and earthquake activity per country, thousands of years into the future, creating a country risk profile for each member nation. (All country risk profiles are available in the CCRIF member area at www.ccrif.org.) The modelling of government losses was executed by EQECAT, using local exposure information collected under contract by a team from the University of the West Indies.

How does a Parametric Policy work?

The CCRIF insurance policies use a parameter of the hazard as a proxy for a loss, rather than the actual loss. The principle of indemnity (the covered party enduring a loss) still holds, but instead of the loss being measured on the ground after an event, the loss is estimated using a series of formulae based in turn on catastrophe risk modelling.

The parametric formulae are derived from fitting a line (which is represented mathematically in the parametric formula) to a loss exceedance curve (LEC), which is a curve plotting the amount of the modelled loss against the probability of that loss being matched or exceeded. The LEC in turn is derived from running tens of thousands of scenario events through a loss model, which links the expected value of the hazard parameter for each event (wind for tropical cyclones, shaking intensity for earthquakes) to the loss generated by the event across the given portfolio (in the case of CCRIF, the portfolio is loosely defined as government assets and direct interests.)

For hurricane events, the wind speed estimated on the ground is used as the proxy for loss, and payouts are made against the loss calculated using this proxy. In order to effectively average wind speed over a large area such that it serves as a reasonable proxy for losses across the same large area, distinct measuring points are used, each one representing the economic value of the area that particular measuring point represents. The measuring points are weighted to give greater value to points representing greater government economic value, so a country's capital and major economic centres will have a greater weight than rural undeveloped areas.

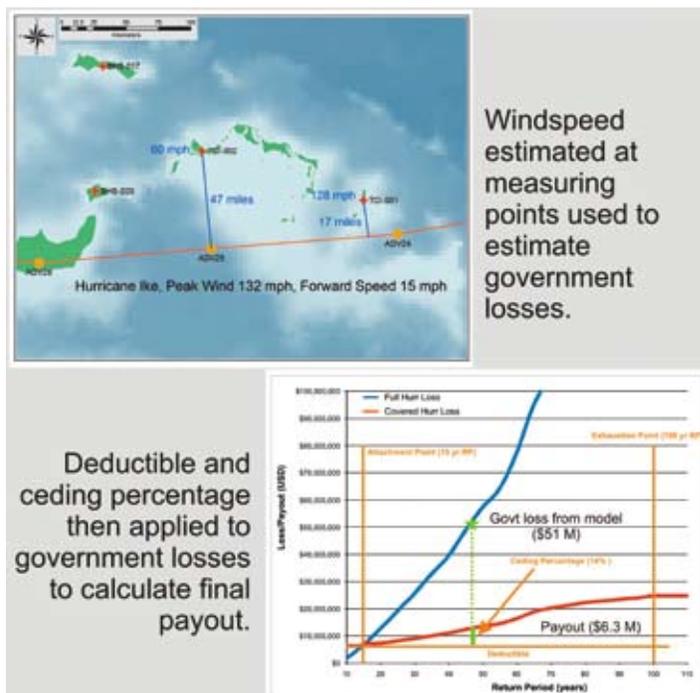
In the calculation of the parametric equations, the effective loss (using wind speed as a proxy) is calculated separately for each measuring point and then aggregated across the entire country. The value of the wind speed used as a proxy for loss at each measuring point is calculated using a set of formulae provided within the policy document. In order to achieve total objectivity and transparency, a simplified version of the best-established relationship of wind speed to distance away from the eye in a hurricane (the Holland wind model) is used by CCRIF. This formula links the central peak wind speed of a hurricane, its forward speed and the distance and direction from the eye to the measuring point (all derived from information published every 6 hours by the US National Hurricane Center (NHC), the World Meteorological Organisation (WMO)'s regional

reporting agency for tropical cyclones), as well as the radius to maximum winds (RMW), which is fixed at 23 km for CCRIF, to recreate the peak one-minute sustained wind speed at the measuring point. That wind speed is converted to a gust wind speed by increasing it by 25% and by including a local friction factor (wind slows slightly due to friction over land, the type of land cover affecting the amount of slowing).

For earthquake events, the facility supervisor uses earthquake location and magnitude information from the global seismic data centre operated by the United States Geological Survey (USGS) to determine the level of shaking at the same measuring points used for hurricanes. The level of shaking is then converted to an index value using the country-specific parametric equations; the index value is directly equivalent to the expected government impact loss.

For both earthquakes and hurricanes, a preliminary calculation is made immediately after an event, but the final calculation is made 14 days after an event to ensure that the best information is available from the reporting agencies.

If the index value calculated for an event in a particular country falls above the attachment point (which is the equivalent of a deductible) for that country then a payment is made. The amount of total payments to a country in a policy year is limited by exhaustion point of the coverage, selected by each country individually, although no country can purchase coverage of more than US \$100 million per hazard. The payment in any given event is made based on a sliding scale relative to the scale of the loss.



Windspeed estimated at measuring points used to estimate government losses.

Deductible and ceding percentage then applied to government losses to calculate final payout.

Operational Year in Review

CCRIF monitors and reports upon all tropical cyclone and earthquake activity in the Caribbean Basin that has the potential to affect one or more of its member countries. The following two types of events are defined and routinely reported upon by CCRIF:

Non-triggering event

Tropical Cyclone: Any named Tropical Cyclone event which moves within 230 km of any measuring point of any CCRIF member but does not generate an index value of greater than zero.

Earthquake: Any earthquake event with a body-wave magnitude of greater than 5.7 within a box bounded by the following - Latitude 2° and 41° N Longitude 97° and 51° W but does not generate an index value of greater than zero. These geographical areas are shown in Figure 1.1.

Non-triggering events are summarized in a CCRIF Quarterly Report, which is circulated to all stakeholders and which is available on the CCRIF web site.

Triggering event

Tropical Cyclone: Any Tropical Cyclone event which produces an index value of greater than zero in one or more countries.

Earthquake: Any earthquake event which produces an index value of greater than zero in one or more countries.

Triggering events are summarized in a specific CCRIF Event Briefing, which is circulated to all stakeholders and which is available on the CCRIF web site.

Caribbean Catastrophe Events

The 2007 Atlantic Hurricane Season comprised a total of 17 named tropical cyclones, six of which reached Hurricane status. Two of these hurricanes, Dean and Felix, made landfall as Category 5 storms within the Caribbean Basin, the first time since records began that this has occurred. Hurricane Felix tracked across the southern part of the basin and thus had no measurable impact in any CCRIF countries. Hurricanes Dean and Noel caused the most impact to CCRIF member governments and are further reviewed. Tropical Storm Olga became the eighteenth named system after the official end of the hurricane season, but was not strong enough to cause significant impact in any of the CCRIF countries.

There were 10 earthquakes which reached the CCRIF criteria for reportable events between 1 June 2007 and 31 May 2008; the vast majority were on the west coast of Central America and did not impact any CCRIF countries. The most noteworthy earthquake was the 29 November 2007 event in the eastern Caribbean, which triggered CCRIF payout in Dominica and St. Lucia and caused serious damage in Martinique (which is not a CCRIF member).



Figure 1.1

CCRIF Triggering Tropical Cyclone Events

Because damage to a particular territory from a named storm is strongly dependent on the distance which the storm is away from the territory, it is not only the intensity of a storm that is important but its exact path across or past each particular CCRIF member country. For example, a land-falling Category 1 storm in most cases will do more damage than a Category 5 storm 100 miles away.

Hurricane Noel passed through the Caribbean in late October and early November 2007. Although it reached hurricane status soon after passing through the northern Bahamas, Noel

produced only tropical storm force winds within any of the CCRIF's participants. Noel also produced widespread heavy rains across the northern Caribbean and severe flood-related damage in parts of Hispaniola and some rain-related impacts in the Bahamas. CCRIF tropical cyclone policies are designed to respond to losses (above a deductible) estimated from and caused by the speed of wind in a storm, not to rainfall amounts. Thus the CCRIF policies held by Haiti, the Bahamas and the Turks & Caicos Islands were not triggered by Noel. Small losses were estimated from the CCRIF index model for Haiti (generated at the measuring point in Port-au-Prince) and for the Bahamas (generated at the measuring point in Nassau), but these losses were below the policy deductible in each case, and therefore did not cause either policy to pay out.

Hurricane Dean was a major storm when its eye passed some distance south of Jamaica. Due to its relatively compact size, only Category 1 or lower winds were actually felt at any of the CCRIF measurement locations in Jamaica, and the resulting index value (equating to damage to government infrastructure and interruption to revenue) fell well within Jamaica's deductible. Earlier in its life, Dean passed between Dominica and St. Lucia as a minimal Category 2 and again, winds at the measuring points were below the threshold required to trigger the policies. A comprehensive analysis of Dean in Jamaica starts on page 11.

CCRIF Triggering Earthquake Event

A major earthquake occurred at 19:00:19 UTC (GMT, 19 seconds after 3pm local time) on 29 November close to Martinique in the Eastern Caribbean. The event had a magnitude of 7.4 and occurred at a depth of 146 km. The event was felt throughout the Leeward and Windward islands, as far north as Anguilla and southwards to Guyana. Significant damage occurred in Martinique and some damage also occurred in northern Saint Lucia and southern Dominica. Minor damage was also documented in St Vincent & the Grenadines and Barbados which are CCRIF members.

Payments were made to Dominica and Saint Lucia on 13 December 2007 via wire transfer. Formal cheque presentation ceremonies were held with the St. Lucia Prime Minister at his official residence in Castries, Saint Lucia on 12 December and with the Dominican Prime Minister in the Cabinet Room in Roseau, Dominica on 13 December.



Prime Minister and Minister for Finance of Dominica, Hon. Roosevelt Skerrit accepts a cheque for US\$528,021, the full amount the government received for the November 29 earthquake, from Dr. Simon Young, CEO of Caribbean Risk Managers Ltd, Facility Supervisor of the CCRIF.

Hurricane Dean in Jamaica: A review of CCRIF's performance

Hurricane Dean was a Category 4 storm as it passed Jamaica but was sufficiently far south that the most devastating winds were only felt in the extreme south of the island (Figure 2.1). Had Dean taken the track forecast by the NHC 24 hours before impact (at 2100 UTC (4 pm local time in Jamaica) on 18 August, Advisory 23) then Jamaica would have received a full payout (US\$ 50 million) under its policy from CCRIF. However, that payout would have been commensurate with huge damage in Jamaica, which would likely have run to several billion US Dollars. CCRIF undertook a retrospective analysis of this event comparing:

- Wind speed estimates used in the CCRIF parametric formulae with actual measurements and best-available wind field estimate; and
- CCRIF calculated government loss with actual direct government losses as estimated by the Planning Institute of Jamaica (PIoJ) using the United Nation's Economic Commission for Latin American and the Caribbean (ECLAC) methodology.

Wind speed analysis

Table 2.1 (page 12) shows three sets of wind speed measurements from Jamaica and a comparison with the best-available wind field estimate from the National Hurricane Center. The first on-the-ground data are the official records provided by the Jamaica National Meteorological Service (JNMS) in its report, "Preliminary Report on Hurricane Dean", dated August 2007. The second are a series of measurements made by ham radio operators and reported by JNMS and the third are similar measurements made by three amateur meteorologists in the Kingston area, reported directly to the CCRIF supervisor.

The JNMS recorded wind throughout the passage of Hurricane Dean at two locations, Folly Point in north-eastern Portland parish and Morant Point in eastern St Thomas parish (see Table 2.1). Both are automated stations meeting World Meteorology Organisation requirements, and it is presumed that they are both reporting one-minute sustained wind speed at 10 m amsl (above mean sea level) in open terrain. However, it should be noted that this is not explicitly stated in the JNMS report.

JNMS also reported data from three ham radio operators. The status of the equipment and the precise location, elevation

and exposure of the instruments is unknown, so the reliability of the data is not as good as the JNMS data. However, it is likely that these data are reasonably close to WMO standard measurements as described above.

The third set of data is all within the Kingston metropolitan area – equipment is standard 'Davis Instruments'-type automated weather station, situated in an urban or semi-urban environment. These instruments do not meet WMO standards but are measuring actual wind speeds at or below roof level in an urban area.

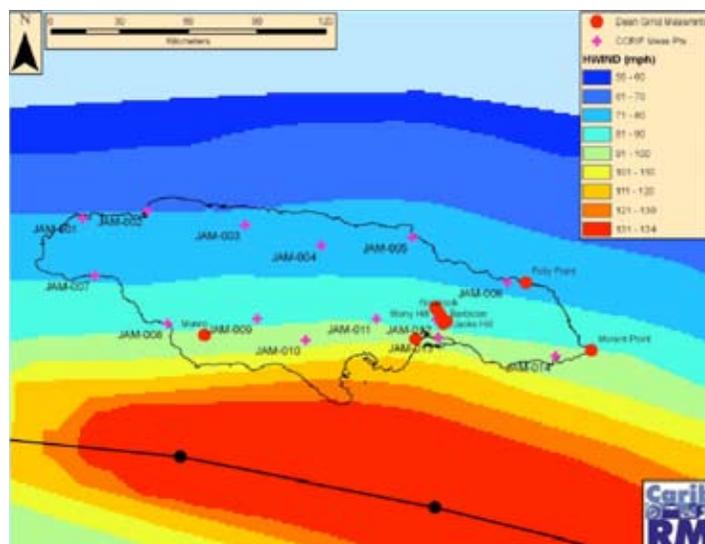


Figure 2.1
H*WIND extrapolated wind field, with CCRIF measuring points and actual data points (see Table 2.1) for Jamaica. Track of Dean can be seen to the south of Jamaica.

The output representing the best available wind field for North Atlantic hurricanes is NOAA's H*WIND output. H*WIND is the output used by the forecasters at the NHC to estimate the peak central wind speed and the radii of 64, 50 and 34 kt winds in each quadrant, which are provided in the NHC Forecast/Advisory product. H*WIND ingests information from a wide variety of remote sensing instruments operated by NOAA and meteorologists in the region, as well as information from buoys and on-the-ground measurements. It then uses complex algorithms to assimilate and rationalise that data and fit a modelled wind field to the data so that the wind field makes

Location	Peak Measured Wind (mph)	H*WIND (mph)	Difference (mph)	Notes
Folly Point (JNMS)	50	77	+ 27	
Morant Point (JNMS)	63	90	+ 27	
Stony Hill (Ham Op)	75	85	+ 10	Measurement point is at high elevation
Portmore (Ham Op)	98	96	- 2	
Munro (Ham Op)	103	92	- 11	Measurement point is at high elevation
Barbican (Amateur)	30 (63 gust)	88	+58	
Norbrook (Amateur)	~40 (65 gust)	86	+ 46	
Jack's Hill (Amateur)	~30 (50 gust)	88	+ 58	

Table 2.1
On-the-ground wind speed measurements in Jamaica for Hurricane Dean and comparison to NHC best-estimate.

scientific sense and deviates as little as possible from actual measurements.

H*WIND outputs are fed automatically to the forecasting desk at the NHC and are put into the public domain soon thereafter. However, H*WIND outputs are snapshots of the wind field at a fixed time, and that fixed time is at best every three hours, but sometimes much less often. The outputs cannot therefore be used to estimate the peak wind speed at a particular point without subjective extrapolation of the wind field between the snapshot outputs. It should also be noted that H*WIND is estimated as if the entire wind field were above water, and therefore does not reflect the impact of terrain and friction on the actual wind speed.

Three snapshots from H*WIND are relevant to estimating the peak wind speed across Jamaica; those at 1930 and 2230 UTC on 19 August and one at 0130 UTC on 20 August. These three snapshots have been combined using simple linear interpolation of the snapshot wind field at intervals of 5 m/sec and then re-combining to give a single peak sustained wind map (Table 2.1).

Table 2.2 provides a summary of the comparison between the two data sets described above and the CCRIF-calculated wind speeds at the 14 measurement locations in Jamaica. This comparison suggests that, on the whole, the CCRIF-calculated values are reasonably representative of what might have been measured on the ground during Dean. The reported 20% to 30% overestimate of H*WIND compared to measured values as outlined above Table 2.1 is consistent with the average difference in the CCRIF-calculated values (26% less than H*WIND).

The Folly Point ground measurement closely corresponds geographically to a CCRIF measuring point; the Folly Point JNMS station recorded a peak wind of 51 mph, and the CCRIF-calculated value for JAM-006 is 52 mph. The other JNMS station, at Morant Point, recorded a speed 27% lower than the H*WIND at that location; JAM-014 is close to Morant Point and shows an identical 'underestimate' compared to H*WIND.

Measuring Pt ID	CCRIF wind	H*WIND (mph)	Difference (% of HWIND)
JAM-001	52	71	-27%
JAM-002	48	70	-31%
JAM-003	48	72	-33%
JAM-004	50	76	-34%
JAM-005	47	75	-37%
JAM-006	52	78	-33%
JAM-007	65	79	-18%
JAM-008	80	88	-9%
JAM-009	72	88	-18%
JAM-010	78	97	-20%
JAM-011	66	89	-26%
JAM-012	63	88	-28%
JAM-013	69	93	-26%
JAM-014	69	94	-27%

Table 2.2
Comparison of CCRIF calculated wind speeds and H*WIND equivalent at the 14 measurement points in Jamaica.



Calculating the Loss

CCRIF does not measure losses on the ground directly, but instead uses wind speed as a proxy for the loss. The proxy relationship (the way in which increasing wind speed corresponds to increasing damage) is developed through the use of loss models. Loss models use the historical record of storms and losses and complex scientific processes to generate thousands of pseudo-storms and their corresponding losses, given that loss events are few and far between in the recent historical record. (See page 7 Understanding Parametric Insurance).

The parametric nature of CCRIF policies means that once information becomes available for the track and intensity of a storm from the National Hurricane Center (NHC), a series of calculations, detailed in each CCRIF policy, can be undertaken, and any payout due to a country can be calculated.

The calculations involve three main steps:

1. Calculate the effective wind speed at each of the measuring points in the country using a simplified wind field model and input parameters from NHC. This modelled wind speed replaces actual wind speed measurements, which would be impossible to guarantee at each measuring point;
2. Calculate the parametric index value, which is representative of the impact of the storm on the whole island and is directly related to the modelled loss; and
3. Calculate the anticipated payment to a country, which is dependent on the particular coverage options selected by each country and the parametric index value calculated in 2.

To calculate the effective peak wind speed (S) at a measuring point, one needs to know, for the point at which the centre of the eye is closest to the measuring point:

- The peak wind speed (M) of the cyclone
- The forward or translational speed (T) of the cyclone;
- The side (L or R) on which the measuring point is relative to the forward motion of the cyclone (if the measuring point is on the right of the storm then T is positive, if to

- the left then T is negative);
- The distance (D) between the centre of the eye and the measuring point; and
- The "radius to maximum winds" (Rmax, the distance between the centre of the eye and the point at which peak winds are felt.)

The first three of these characteristics come directly from the NHC Forecast/Advisory Product, issued every six hours. The storm track and its characteristics are extrapolated in a straight line between these six hourly nodes such that there is a position, intensity and forward speed of the cyclone every five minutes. The characteristics of the cyclone at the five minute point closest to each measuring point are used to calculate the wind speed at that measuring point, along with the distance between the measuring point and that five minute node. The last variable, Rmax, is fixed in the CCRIF policy calculation at 23 km, as there is no objective measurement of this variable published by NHC.

Two different formulae are used to calculate the measuring point wind speed depending on the distance, D. For distances greater than 230 km, the wind speed is zero. For distances between 23 and 230 km, the following formula is used:

S is the greater of $(M - |T|) * (R1.5 * \exp(1 - R1.5 / D1.5) / D1.5) + T$ and zero.

For distances less than 23 km, the peak wind speed, M, is used. Once the sustained wind speed, S, is calculated, the following calculation is made to find G, the gust wind speed in m/sec, for each individual measuring point:

$$G = (S / 3.6) * 1.25 * F$$

Where F is the friction factor for the measuring point.

The index formula is then:

$$TC \text{ Index} = \alpha \times \sum_{i=1}^n [\text{weight}_i \times (\max(0, (G_i - 22.5)) \hat{\alpha})]$$

Where Alpha (α) and Beta ($\hat{\alpha}$) are the country-specific parametric indices and weight is the individual weighting for each measuring point (where there are multiple measuring points for a territory.)

Once the index value is calculated, the final payout is determined using the coverage amount and attachment and exhaustion points (effectively the deductible and policy limit) specific to each country.

Result Analysis Using Planning Institute of Jamaica data

CCRIF compared the results of its parametric calculations with the best-available estimates for actual government impacts in Jamaica for Hurricane Dean. The Planning Institute of Jamaica (PloJ) undertook a full economic impact assessment for Hurricane Dean, based on globally recognised methodology developed by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).

The PloJ estimated a total economic impact on Jamaica of US\$327 million for Hurricane Dean. Of this loss, just over half (52%) was attributed to medium to long-term reduction in national income due to impacts on the agriculture sector – an area of loss which is explicitly excluded in the modelling of government loss undertaken by EQECAT, the CCRIF’s modelling company, due to the fact that it is not a direct loss on the government’s short-term costs and revenue stream.

The remaining 48% can reasonably be included in the ‘total government loss’ figure to be compared to the CCRIF model. For the CCRIF policy, overall government losses are adjusted to that portion of the loss that would impact the government directly (either through direct loss or through reduction in revenue) in the short-term. In the case of Hurricane Dean in Jamaica, the direct short-term loss is estimated at 25% of total government loss, based on the size of the event and the measurement points impacted – mostly rural, agriculture lands as opposed to urban cities, which hold a higher proportion of government risk. As such, we estimate Hurricane Dean to have been a one in 11 year event in terms of overall government losses. The short-term government impact value calculated for Hurricane Dean via the CCRIF model was US\$30 million (a calculated index value of 29,762), comparing well with the loss of US\$40 million estimated using the PloJ numbers. Important to note is that premiums are calculated and paid relative to the short-term government impact loss and not the ‘headline loss’ figure of US\$327 million.

Calculations to demonstrate the impact of Dean taking a slightly different track were undertaken to illustrate the way in which the CCRIF parametric policies work. For Jamaica, CCRIF undertook a calculation for Hurricane Dean at the same intensity but running along the southern edge of Kingston Harbour (about 35 miles north of its actual track.) This is the track forecast by NHC 24 hours before the storm actually passed Jamaica. Under this scenario, Jamaica would have received a payout of US\$50 million, its policy aggregate coverage limit, for the event.

MEMBER COUNTRIES

Anguilla



Antigua & Barbuda



Bahamas



Barbados



Belize



Bermuda



Cayman Islands



Dominica



Grenada



Haiti



Jamaica



St. Kitts & Nevis



St. Lucia



St. Vincent & the Grenadines



Trinidad & Tobago



Turks & Caicos



CCRIF Policy Developments

New Modelling Framework

A new hurricane and earthquake risk model commissioned by the CCRIF will be tested in late 2008 with its phased introduction as an option to existing policy holders and as a necessity for any new non-CARICOM members in 2009.

The new approach is one of modelled loss. This means that the new policy will be able to reduce the basis risk in the parametric loss estimates by modelling each loss as it happens, rather than reducing the loss estimation methodology to a series of simple equations. The new model will use the best definition available of the entire hurricane wind and storm surge field for wind policies and earthquake shaking field for earthquake cover to drive its loss model. Instead of being estimated only at distinct measuring points, the new model estimates the level of hazard and consequent loss for every 1km grid square of an island's territory. The losses are then added up across the country to find the total country-wide loss.

The new CCRIF modelling framework, developed by Kinetic Analysis Corporation (KAC), is based on public domain research and is easily modified to provide a modelled loss framework for various other hazards and loss types. The existing index loss model relies on proprietary research and therefore requires the commissioning of new and extensive modelling in order to add hazards and member governments to the facility. The new KAC model will allow the facility to form the foundation for a wide variety of policy formulations, some of which are further discussed below.

CCRIF is actively working on a number of initiatives to improve current products, develop coverage types and bring in new participants. Many of these initiatives have been promoted by requests and in discussion with our member governments.

Flood/excess rainfall coverage

Providing access to excess rainfall coverage for our member governments has been a high priority for the facility. Unfortunately, true flood insurance is technically challenging to develop. Existing ground saturation at the time of an event, topography, land use and historical data are only some of the variables to consider for the project – all which are notoriously difficult to obtain and therefore model. Still, the need for the policy is clear and CCRIF has partnered with the Caribbean

Institute of Meteorology and Hydrology (CIMH) to conduct a feasibility study in order to create a methodology for execution of a CCRIF rainfall/flood product. The results of that study, if favourable, will guide the CCRIF in the development of the new policy, which would become available in time for the June 2009 renewals alongside existing wind and earthquake policies.

Extreme Weather Monitoring Network

One of the most critical necessities for offering an excess rainfall product is the availability of reliable rainfall measurements at adequate density. A second pre-requisite is the availability of verifiable historical data which is required to properly price the risk for the reinsurance markets. To help address both of these issues, the CCRIF has signed a Memorandum of Understanding with the CIMH to support the development of an extreme weather monitoring network which will record extreme rainfall and wind events and act as the verification network for CCRIF parametric policies. CIMH is near completion of a test instrument package and funding will be sought to fully test and then roll-out that instrument package into a region-wide network.

Agriculture Insurance

In response to requests from member governments, CCRIF continues to closely monitor developments in agriculture risk management and stands ready to support governments in the transfer of parametric risk from the agriculture sector. The World Bank is currently responding to a request from the Jamaican government through funding of a project to develop a risk management framework for the agriculture sector, and it is hoped that parametric insurance products will be developed for farmers in Jamaica and then the wider Caribbean. Parametric policies would need to have a primary underwriter either in the state or private sector, but CCRIF would be able to assist in the onward transfer of risk to the international markets at best cost.

Power Distribution Systems

CARILEC, Caribbean Electrical Utility Services Corporation, has approached CCRIF about developing a parametric solution for insuring transmission and distribution systems against catastrophic losses due to a hurricanes; these systems are usually not insured due to the prohibitive costs in the open market. Pooling of such risks, as well as a parametric framework, would make such coverage more affordable. Caribbean governments continue to hold equity interest or fully

own most of the CARILEC utilities and also recognise the vital role that rapid repair of electrical distributions systems play in post disaster recovery. CCRIF has agreed to focus some of its research and development efforts on this initiative, which will be ongoing through the next 12 to 18 months.

Real Time Impact Modelling and Risk Mapping

CCRIF launched its real-time impact modelling product developed by KAC and using the same modelling framework as for the soon to be introduced CCRIF loss modelling product. The facility plans to further develop this real-time impact mapping system especially in conjunction with the KAC modelled-loss policy formulation. In addition to this initiative, CCRIF is working closely with the World Bank on a regional risk mapping project funded using the Global Fund for Disaster Risk Reduction (GFDRR) which will be primarily executed by the University of the West Indies.

New Members

CCRIF continues a dialogue with a number of governments who have expressed an interest in the CCRIF model. However, these discussions are at an early stage, and no firm commitments have been made by either party.

It could have been so much worse

The effects of hurricane and earthquake events recorded in the basin on non-CCRIF member countries

November 29 Earthquake, Martinique

Deaths: One
Magnitude: 7.4
Reach: Felt as far as Colombia

Hurricane Felix, Nicaragua

Deaths: 98
Total Insured Loss: US\$200M
Maximum wind speed: 165 mph
Safir-Simpson Scale: Category Five

Stakeholder Engagement

The CCRIF has deployed a comprehensive approach to engaging stakeholders including press briefings, website updates, stakeholder briefing documents and participation in regional disaster management and Caribbean Ministry of Finance seminars and workshops.

Cayman Captive Conference, Cayman Islands December 2007: "The Caribbean Catastrophe Risk Insurance Facility: An innovative and unique joint reserve fund for sovereign governments"

COFAP Briefing, Ministers' Meeting, Bahamas, 6 March 2008: "CCRIF Briefing"

Small States Forum, World Bank/IMF Annual Meeting, Washington DC, 21 October 2007: "CCRIF Year to Date"

ACS/IDB Conference/Workshop on Catastrophe Risk Transfer, Haiti, 14 November 2007: "Risk transfer via parametric insurance; the CCRIF experience"

CDERA Pre-Board Meeting, Antigua, 8 May 2008: "Caribbean Catastrophe Risk Insurance Facility, Status Update - May 15, 2008"

CDERA Pre-Board Meeting, Antigua, 8 May 2008: "TAOS Real-Time Impact Forecasting System for CCRIF Participating Countries -2008 Hurricane Season"

CDERA Comprehensive Disaster Management Meeting, Barbados, December 2007: "Risk transfer via parametric insurance; the CCRIF experience"

World Forum of Catastrophe Risk Programs, Madrid, September 2007 and Iceland, June 2008: "CCRIF Introduction", "CCRIF Update" and "Risk swaps as a risk transfer mechanism"

Caribbean Development Bank Board Briefing, Barbados, 10 October 2007 "CCRIF Briefing"

28th Annual Caribbean Insurance Conference 2008, The Insurance Association of the Caribbean, Inc. (IAC), Curacao, June 1-3, 2008: "The Caribbean Catastrophe Risk Insurance Facility."

CCRIF's Financial Stability

The capitalisation and risk transfer policies of the CCRIF are predicated on achieving a satisfactory balance between the cost of coverage to participating countries and the survivability of the facility as a going concern. CCRIF has developed and utilises its own dynamic financial analysis system, which allows for deep insights into the complexities of catastrophe risk financing. This in-house analysis is supported by independent input from our reinsurers – Benfield's ReMetrica team - and is overseen by the Cayman Islands Monetary Authority (CIMA) in their capacity as regulator. While CCRIF is not rated by any of the commercial rating agencies, many of the same tools are used in analysing and drawing conclusions on the survivability of the facility.

The CCRIF can currently survive a series of loss events with a less than one in 10,000 chance of occurring in any given year. Due to planned premium reductions, the level of security drops somewhat through the course of our 10-year forward modelling. However, the lowest projected survivability for CCRIF in the 10-year modelled period is about a one in three thousand chance of claims exceeding capacity (and thus defaulting on its obligations) in any one year.

Although direct comparisons are difficult, such survivability levels, when compared to other national catastrophe pools and to rating agency criteria, are much better than average. For example, the Taiwanese earthquake pool has a survivability of about 1 in 240 years and the Turkish earthquake pools currently stands at 1 in 150 years with plans for an increase to 1 in 200 years.

In order to boost its claims-paying capacity above the value of its assets and underwriting income, CCRIF purchases reinsurance (insurance for insurance companies) from the international reinsurance markets (primarily located in London, continental Europe, Bermuda and the US.)

CCRIF placed its reinsurance coverage for 2007/08 of US\$110 Million immediately prior to the inception of CCRIF insurance policies on 1 June 2007. All coverage precisely matches the underlying insurance coverage offered to CCRIF participants, and there were therefore no changes through the year.

Figure 3 shows the final reinsurance structure for the 2007/08 policy period. CCRIF retains the bottom US\$10 million, with US\$110 million of reinsurance above that.

Munich Re took the dominant share of the traditional reinsurance programme for 2007/08, with Paris Re and Hiscox, a Lloyd's of London Syndicate, supporting. US\$20 million of the top layer of risk was placed into the capital markets via a risk swap between CCRIF and the World Bank Treasury, the first time such an instrument has been used to transfer risk from a national catastrophe pool.

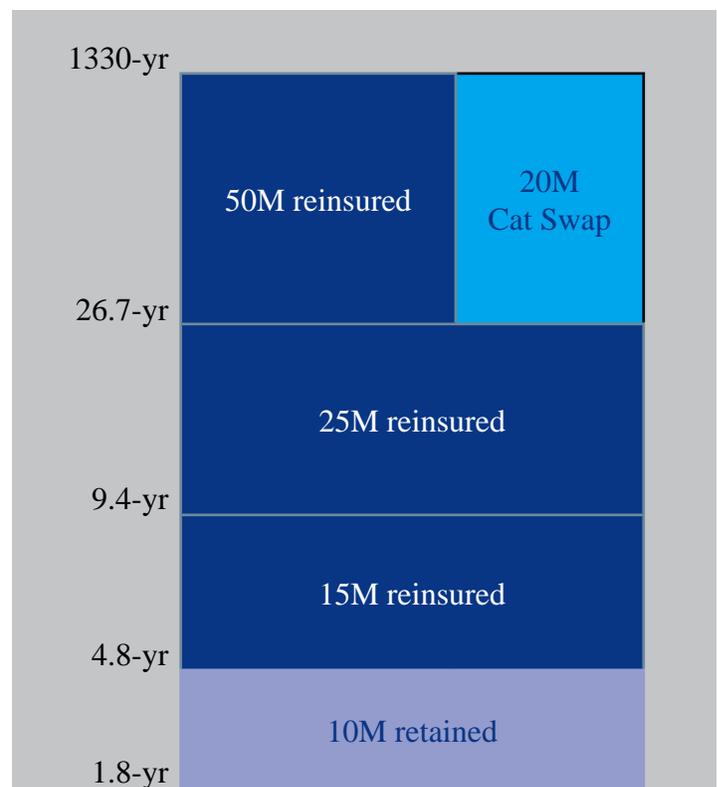


Figure 3. CCRIF's 2007/08 risk transfer structure, with return period of each layer shown.

News and Notes

What Our Members Are Saying

Bahamas

"The consequences of climate change are severe for Caribbean governments, particularly increasing our exposure to natural disasters and making pre-disaster planning paramount. The additional funds contributed by Ireland will further strengthen the Facility and thus the Caribbean governments it serves."

Minister of Finance and Prime Minister, the Rt. Hon. Hubert Ingraham, in expressing his appreciation on behalf of the CCRIF member governments for the Irish Government's contribution of US\$2.4M.

Barbados

"Our involvement in the launch and success of the world's first regional risk insurance facility is a signal to international donors, lending agencies, insurance markets and indeed our local disaster agencies and citizens, that Caribbean governments are leading the way in pre-disaster planning by working to develop programmes and policies to mitigate natural disasters long before they happen."

Former Deputy Prime Minister Mia Mottley, speaking at the second Caribbean Disaster Management (CDM) Conference, in December 2007.

Bermuda

"The government of Bermuda's commitment to proactive disaster mitigation is mirrored in the CCRIF concept. We are therefore very pleased to make this donation, not only because it strengthens the fund of which we are a member, but also because it supports a strategy all Caribbean governments can embrace – disaster risk must be managed long before the disaster."

Premier Ewart Brown, in announcing the donation of US\$500,000 to CCRIF's reserves.

Cayman Islands

"We are proud to count ourselves a member of one of the most innovative risk solutions in the Caribbean. Our membership demonstrates the fact that the Cayman government is dedicated to developing disaster management

solutions, while the fact that the facility is Cayman domiciled signals to the world that we have a sound and dynamic insurance-captive industry."

Kenneth Jefferson, Financial Secretary.

Dominica

"We wish to acknowledge that the CCRIF as it is now set up is significant, but we also want to state that there is need to continue to assess the facility to ensure that it remains relevant to the needs of the Caribbean."

Prime Minister and Minister for Finance, Planning, National Security and Overseas Nationals, Hon. Roosevelt Skerit, on receiving the first instalment of Dominica's payout after the November 2007 earthquake.

Jamaica

"Caribbean nations must implement measures to mitigate risk posed by natural disasters in order to meet its development objectives. Still, these measures must be useful and affordable. The implementation of the suggestions made by myself and other Caribbean member governments to provide hurricane coverage for more frequent events, as well as the reduction in premiums, means that member governments now have access to a more comprehensive facility for the overall benefit of its citizens."

Honourable Audley Shaw, Minister of Finance and the Public Service

Grenada

"[The CCRIF] is yet another example of the type of innovation which small states, in partnership with the World Bank, can create. The necessity for the facility is clear and compelling."

Former Prime Minister Keith Mitchell, addressing a breakfast meeting of the Board of Governors of the International Monetary Fund (IMF) and the World Bank.

CCRIF in the Press



Audited Financial Statements

Financial Statements

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**To The Board of Directors and Shareholder of
Caribbean Catastrophe Risk Insurance Facility**

In our opinion, the accompanying consolidated balance sheet and the related consolidated statements of income, shareholder's equity and cash flows present fairly, in all material respects, the financial position of Caribbean Catastrophe Risk Insurance Facility and its subsidiary (the "Group") as at May 31, 2008, and the results of its operations and its cash flows for the period from February 27, 2007 (date of incorporation) to May 31, 2008, in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Group's management. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these statements in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.



August 26, 2008

**CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY
CONSOLIDATED BALANCE SHEET**

(expressed in U.S. dollars)

	<u>May 31,</u> <u>2008</u>
ASSETS	
Cash and cash equivalents (Note 4)	19,363,071
Investments (Note 5)	30,710,645
Accrued interest	40,684
Prepaid expenses	30,418
Amounts due from Multi Donor Trust Fund (Note 6)	<u>2,045,285</u>
 Total assets	 <u>\$52,190,103</u>
 LIABILITIES AND SHAREHOLDERS' EQUITY	
Liabilities	
Accounts payable (Note 7)	1,007,648
Premiums received in advance (Note 8)	11,724,781
Participation fee deposits (Note 9)	19,488,512
Unrealized losses on forward and futures contracts (Note 10)	<u>18,648</u>
 Total liabilities	 <u>32,239,589</u>
 Shareholder's equity	
Share capital (Note 11)	1,000
Share premium (Note 11)	119,000
Retained earnings	<u>19,830,514</u>
 Total shareholder's equity	 <u>19,950,514</u>
 Total liabilities and shareholder's equity	 <u>\$52,190,103</u>

Approved for issuance on behalf of the Board of Directors of Caribbean Catastrophe Risk Insurance Facility by:

<p>Milo Pearson </p> <p>_____ Director</p>	<p>26 August 2008</p> <p>_____ Date</p>
<p>Garry Wilkins </p> <p>_____ Director</p>	<p>26 August 2008</p> <p>_____ Date</p>

The accompanying notes are an integral part of these consolidated financial statements.

**CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY
CONSOLIDATED STATEMENT OF INCOME**

(expressed in U.S. dollars)

	February 27, 2007 (date of incorporation) to <u>May 31, 2008</u>
Operating income	
Income from parametric contracts (Note 2)	\$19,488,512
Expenses on parametric reinsurance contracts (Note 2)	<u>(7,947,500)</u>
Net income on parametric contracts	11,541,012
Ceding commissions on parametric contracts	<u>104,375</u>
Total operating income	<u>11,645,387</u>
Operating expenses	
Claims paid on parametric contracts (Note 12)	946,997
Brokerage and facility supervisor fees	<u>463,838</u>
Total operating expenses	<u>1,410,835</u>
Net operating income	10,234,552
Other income and expenses	
Investment income (Note 13)	1,273,909
Income from Multi Donor Trust Fund (Note 6)	9,369,160
Administrative expenses (Notes 14 and 15)	<u>(927,107)</u>
Net income	<u>\$19,950,514</u>

The accompanying notes are an integral part of these consolidated financial statements.

CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY
CONSOLIDATED STATEMENT OF CHANGES IN SHAREDHOLDER'S EQUITY

(expressed in U.S. dollars)

	Share capital	Share premium	Retained earnings	Total
Balance at February 27, 2007 (date of incorporation)	\$ -	\$ -	\$ -	\$ -
Issuance of shares	1,000	119,000	-	120,000
Net income for the period	-	-	19,950,514	19,950,514
Dividends declared (see Note 15)	<u>-</u>	<u>-</u>	(120,000)	(120,000)
Balance at May 31, 2008	<u>\$ 1,000</u>	<u>\$ 119,000</u>	<u>\$19,830,514</u>	<u>\$19,950,514</u>

The accompanying notes are an integral part of these consolidated financial statements.

**CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY
CONSOLIDATED STATEMENT OF CASH FLOWS**

(expressed in U.S. dollars)

February 27,
2007 (date of
incorporation) to
May 31, 2008

Operating activities

Net income	\$19,950,514
Adjustments to reconcile net income to net cash from operating activities:	
Changes in assets and liabilities:	
Investments	(30,710,645)
Accrued interest	(40,684)
Prepaid expenses	(30,418)
Amounts due from Multi Donor Trust Fund	(2,045,285)
Accounts payable	1,007,648
Unrealized losses on forward and futures contracts	18,648
Premiums received in advance	<u>11,724,781</u>
Net cash used in operating activities	(<u>125,441</u>)

Financing activities

Issuance of shares *	-
Dividends paid *	-
Participation fee deposits	<u>19,488,512</u>
Net cash provided by financing activities	<u>19,488,512</u>
Net change in cash and cash equivalents	19,363,071
Cash and cash equivalents at the beginning of period	<u> -</u>
Cash and cash equivalents at the end of period	<u>\$19,363,071</u>

* For non-cash items, see Notes 15.

The accompanying notes are an integral part of these consolidated financial statements.

CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

FOR THE PERIOD FROM FEBRUARY 27, 2007 (DATE OF INCORPORATION) TO MAY 31, 2008

(expressed in U.S. dollars)

1. Incorporation and principal activity

Caribbean Catastrophe Risk Insurance Facility, Ltd. (the “Company”) was incorporated on February 27, 2007 under the laws of the Cayman Islands and obtained an unrestricted Class “B” Insurer’s licence under the provisions of the Cayman Islands Insurance Law on May 23, 2007. The Company’s sole shareholder is the CCRIF Star Trust (the “Trust”). The Trustees of the Trust are based in the Cayman Islands.

The principal activity of the Company is to provide catastrophe risk coverage through parametric contracts, specifically relating to tropical cyclones and earthquakes (“Acts of Nature”), to certain Caribbean countries (“Participating Countries”).

The Company also owns all of the beneficial interests in the Global Managed (7) \$ Fund (the “Investment Fund” or “Subsidiary”) (a Segregated Portfolio Cell of London & Capital Satellites SPC). Accordingly, the Company consolidates the results of the Investment Fund within these financial statements. The purpose of the Investment Fund is to conduct the investment activities of the Company. The Company and the Investment Fund are referred to as “the Group” in these consolidated financial statements.

2. Parametric contracts

The principal activity of the Group is to provide catastrophe risk coverage to governments of Participating Countries, through parametric contracts, specifically relating to Acts of Nature that occur in close proximity of the Participating Countries. Each Participating Country is set individual premiums, attachment points and aggregate coverage limits in their respective contracts. There are no limits on claims for single incidents (other than the per country policy aggregate coverage limits), however, claims are based on calculated index values using specified terms, conditions and formulae set out in the “Claims Procedures Manual” (hereinafter the “Claim Payout”) and not with reference to actual losses incurred by the respective Participating Countries. Accordingly, Claim Payouts are not triggered by actual losses but rather the occurrence of the specified Acts of Nature within the defined policy parameters. For the 2007/08 policy year (which terminated on May 31, 2008), the combined aggregate coverage limits for all Participating Countries are \$364.9 million for tropical cyclones events and \$129.9 million for earthquake events, respectively.

The Group has ceded layers of this exposure to commercial reinsurers and the International Bank for Reconstruction and Development (“World Bank”) arranged through a broker. The following is a summary of the coverage in the program for the period up to May 31, 2008:

- The Group retains all losses up to \$10 million per annum.
- The next \$15 million of losses are reinsured with 3 reinsurers with an A.M.Best rating of at least A-.
- The next \$25 million of losses are reinsured with 3 reinsurers with an A.M.Best rating of at least A-.
- The next \$70 million of losses are ceded 71.4% to 2 commercial reinsurers with an A.M.Best rating of at least A-, and 28.6% to the World Bank.
- The Group retains all subsequent losses above \$120 million.

Notwithstanding the arrangements outlined above, currently all losses incurred in the Group’s retention limits are reimbursed to the Group by the Multi Donor Trust Fund until exhaustion of the funds available within that fund (see Note 6).

The accompanying notes are an integral part of these consolidated financial statements.

CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

FOR THE PERIOD FROM FEBRUARY 27, 2007 (DATE OF INCORPORATION) TO MAY 31, 2008
(expressed in U.S. dollars)

3. Significant accounting policies

These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP") and are stated in United States dollars. A summary of the significant accounting and reporting policies used in preparing the accompanying consolidated financial statements is as follows:

Basis of Preparation: The financial position, results of operations and cash flows of the Company and Subsidiary have been included in these consolidated financial statements. All material balances and transactions (and related gains/losses) between the Company and the Subsidiary have been eliminated upon consolidation.

Cash and cash equivalents: Cash and cash equivalents comprise of call accounts and deposits with maturities of three months or less on date of purchase.

Investments, investment transactions and investment income: Investments consist of investments in exchange traded funds, corporate debt securities, future contracts and forward exchange contracts. The Group has early adopted FASB Statement 159 "The Fair Value Option for Financial Assets and Financial Liabilities" ("FAS 159") and concurrent with the adoption of this statement, adopted the provisions of FASB Statement 157 "Fair Value Measurements" ("FAS 157"). FAS 157 requires management to designate investments into three categories depending on how fair value is determined. Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the Group has the ability to access at the measurement date. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. Investments are the only class of asset or liability which the Group has made the election to early adopt FAS 159.

Investments are initially recorded at cost on trade date (being the fair value at date of acquisition) and are subsequently revalued to fair value. The fair value of fixed income securities are determined based on quoted market prices, matrix prices and prices determined using generally accepted pricing models as provided by the Group's investment manager. The fair value of the mutual funds is based on the daily net asset values provided by the respective fund administrators.

Unrealized gains and losses on investments are recorded as a change in fair value in the Consolidated Statement of Income. Realized gains and losses on investments are (and were) determined on the specific method identification and are credited or charged to the Consolidated Statement of Income.

Interest and dividend income is recorded on the accruals basis.

Income and expenses from parametric contracts: The parametric policies written and ceded by the Group do not limit the payment amounts to the policyholder's incurred insurable loss (see Note 2 for details). Accordingly, these policies are not accounted for as insurance within these consolidated financial statements.

Premiums written on parametric contracts are initially recognized as a liability (reinsurance ceded: as an asset) and subsequently reported at fair value. All subsequent changes in fair value of the parametric contracts are recognized in earnings as income (reinsurance expenses) attributable to parametric contracts. The fair value of the contracts is determined based on management's best estimate of the discounted payouts (recoveries) resulting from the reasonably probable occurrence, magnitude and location of insured events (based on historical trends and statistics) during the unexpired period of the contracts. At May 31, 2008, there was no unexpired period on either the written or ceded parametric contracts; accordingly, the fair value of these instruments was \$nil.

Losses are determined in accordance with the formula set out in the contract (see Note 2) and are recorded as an expense on occurrence of a covered event. At May 31, 2008, there were no unpaid losses.

CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

FOR THE PERIOD FROM FEBRUARY 27, 2007 (DATE OF INCORPORATION) TO MAY 31, 2008
(expressed in U.S. dollars)

3. Significant accounting policies (continued)

Forward and futures contracts: The Group permits its investment manager to invest, within prescribed limits, in financial exchange traded futures contracts and to sell securities not yet purchased (“Short Selling”) for hedging purposes and for managing the asset allocation and duration of the fixed income portfolio. Initial margin deposits are made upon entering into futures contracts and can be made either in cash or securities. During the period the futures contracts are open, changes in the value of the contracts are recognized as unrealized gains or losses by “marking-to-market” on a daily basis to reflect the market value of the contracts at the end of each day’s trading. Variation margin payments are made or received, depending upon whether unrealized losses or gains are incurred. When the contracts are closed, the Group records a realized gain or loss equal to the difference between the proceeds from (or cost of) the closing transaction and the Group’s basis in the contracts.

The Group also permits its investment manager to invest in forward foreign exchange contracts to hedge against foreign currency fluctuations in its securities which are denominated in currencies other than the U.S dollar. These contracts are also valued daily using the “marking-to-market” method and are recognized in the balance sheet at their fair value.

Realized gains and losses and movement in unrealized gains and losses on both futures and foreign currency forward contracts are recorded as a component of investment income in the Consolidated Statement of Income.

Participation fee deposits: Participation fee deposits are paid by Participating Countries to enter the program. Deposits received are recorded as a liability in the financial statements. Participation fee deposits are recognized as income when:

- they are no longer refundable to the Participating Countries (see Note 9)
- they are required to fund losses (see Note 9)

Deposits that are utilized to fund losses will be reinstated to the extent available from subsequent retained earnings up to the maximum amount of the initial deposits.

Foreign currency translation: Foreign currency assets and liabilities are converted to U.S. dollars at the rate of exchange prevailing at the balance sheet date. Transactions in foreign currencies are converted into U.S. dollars at the rate of exchange prevailing at the date of the transaction. Foreign exchange differences are included in the Consolidated Statement of Income in the year to which they relate.

4. Cash and cash equivalents

Cash and cash equivalents comprise:	<u>2008</u>
Current and call accounts	4,286,190
Fixed term deposits	<u>15,076,881</u>
	<u>\$19,363,071</u>

Cash and cash equivalents are held by a bank in the Cayman Islands and managed within guidelines established by the Board of Directors.

**CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**

FOR THE PERIOD FROM FEBRUARY 27, 2007 (DATE OF INCORPORATION) TO MAY 31, 2008
(expressed in U.S. dollars)

5. Investments

All of the Group' investing activities are conducted through the Investment Fund, which is managed by an investment manager under an investment management agreement (see Note 1).

The following table summarizes the Group's investments in the Investment Fund that are measured at fair value at May 31, 2008:

	Fair Value Measurements Determined Using:			
	Level 1	Level 2	Level 3	Total
	inputs	inputs	inputs	
Mutual funds		3,366,960	-	3,366,960
Corporate debt securities	-	5,685,186	-	5,685,186
Short term investments	<u>21,658,499</u>	<u>-</u>	<u>-</u>	<u>21,658,499</u>
	<u>\$ 21,658,499</u>	<u>\$ 9,052,146</u>	<u>-</u>	<u>\$ 30,710,645</u>

Short term investments consist of cash held with investment manager, term deposits and a margin call account (see Note 10). Also included in short term investments, is an amount denominated in British Pound Sterling, of \$98,810 (£50,000). The foreign currency risk associated with this balance is hedged using a forward foreign exchange contract (see Note 10). The margin call account represents restricted cash required to be posted with respect to the futures contracts (see Note 3 and 10).

Interest rates attaching to the fixed income securities range from 2.05 % to 5.45 %. At May 31, 2008 approximately 100 % of debt securities are Investment Grade (A- or better). In accordance with the Group's Investment Policy, no more than 5 % of the investments are below grade BBB.

The Unpaid Principal Balance of fixed income debt securities and their fair value at May 31, 2008, were as follows:

	Unpaid Principal Balance	Fair Value
Corporate debt securities	<u>\$ 5,675,000</u>	<u>\$ 5,685,186</u>

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(expressed in U.S. dollars)

6. Multi Donor Trust Fund

The CCRIF Trust Fund (hereinafter referred to as the “Multi Donor Trust Fund” or “Donor Trust”), was created by the World Bank as part of a grant arrangement with the Company. Under this arrangement, the World Bank has established a grant framework to assist the Company financially in its operations. Costs reimbursable under the grant agreement include certain:

- (a) professional service fees, administrative fees, banking initiation fee, and registration fees, including related travel expenses which are incurred by the Company in connection with the establishment of the program;
- (b) administrative fees, professional fees, audit costs, exchange rate costs, banking fees, reinsurance premiums, and remuneration and travel expenses of board members of the Company;
- (c) insurance payouts of the Company, to the extent that such payouts are not covered by any reinsurance purchased by the Company (see Note 3); and
- (d) such other operational expenses of the Company agreed with the World Bank.

The Donor Trust has an expected life of 5 years which is extendable upon negotiations between the World Bank and the donors to the Donor Trust. At the termination of the grant arrangement, the reimbursements will cease. Any unused funding at the date of termination will no longer be available to the Group.

During the period ended May 31, 2008, the following costs were reimbursed and/or reimbursable by the Donor Trust:

Expenses on parametric contracts	7,943,125
Claims paid on parametric contracts	946,997
Directors’ fees	118,728
Facility management fees	<u>360,310</u>
	<u>\$ 9,369,160</u>

At May 31, 2008, the following cost reimbursements were due from the Donor Trust:

Expenses on parametric contracts	1,893,281
Directors’ fees	68,430
Facility management fees	<u>83,573</u>
	<u>\$ 2,045,285</u>

At May 31, 2008, \$45,068,918 was available from the Donor Trust to finance future reimbursable costs of the Group during the remaining period of the arrangement.

7. Accounts payable

Accounts payable comprises:

	<u>2008</u>
Accruals	132,648
Amounts due to broker for unsettled trades	<u>875,000</u>
	<u>\$ 1,007,648</u>

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8. Premiums received in advance

Premiums received in advance represent amounts paid by Participating Countries with respect to the 2008/09 policy.

9. Participation fees deposits

Participating fee deposits represent non-recurring amounts required to be paid by each Participating Country to enter the program. The deposits are equivalent to the annual premiums written in respect of each Participating Country. It is Management's intent that participation fee deposits are available to fund losses in the event that funds from retained earnings, reinsurers and the Donor Trust are insufficient. If deposits are used to fund losses, it is also Management's intent that any subsequent earnings generated by the Group will be used to reinstate the deposits to their original carrying value. The participation fees are refundable, without interest, in the event that the Group does not renew the coverage to participating countries. Participation fees are not refundable if a Participating Country leaves the program for more than one year in any five year period, and would be recognized as income at that point. Participating Countries, who leave the program resulting in participation fees being voided, may, at the discretion of the Directors, be required to repay participation fees if they want to rejoin the program subsequently.

10. Forward and futures contracts

As at May 31, 2008, the Group had the following outstanding forward foreign currency and futures contracts:

	<u>Expiry date</u>	<u>Notional value</u>	<u>Fair Values at May 31, 2008</u>
British Pound Sterling forward	June 3, 2008	£400,000 (at forward rate of US\$1.9762: £1)	1,203
U.S 2 Year Note future	September 30, 2008	\$2,200,000	(7,390)
U.S 5 Year Note future	September 30, 2008	\$1,100,000	(<u>12,461</u>)
Total			\$(<u>18,648</u>)

At May 31, 2008, the Group had placed cash collateral on deposit of \$19,852 with a third party to meet margin requirements for futures contracts. This balance is included in short-term investments (see Note 5).

At May 31, 2008, the Group held a security with a fair value of \$693,192 (£350,770) and cash of \$98,810 (£50,000), denominated in British Pound Sterling, and used the British Pound Sterling forward contract described above to hedge against the foreign associated currency risk.

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11. Share capital and share premium

Authorized:	
50,000 shares of \$1 each	\$ <u>50,000</u>
Issued and fully paid:	
1,000 shares of \$1 each	1,000
Share premium	<u>119,000</u>
	\$ <u>120,000</u>

The share premium account represents the excess of the proceeds from issued share capital over the par value of the shares issued. The share premium account was established in accordance with the Cayman Islands Companies Law, which restricts the uses of these reserves.

Pursuant to the Company's Articles of Association, the Directors may declare and authorize payment of dividends out of profits of the Company. Payment of any dividends is subject to approval by the Cayman Islands Monetary Authority ("CIMA").

Under the Cayman Islands Insurance Law the Company is required to maintain a minimum net worth of US\$120,000.

CIMA has statutory powers that enable it to use its discretion to require the Company to conduct its operations in accordance with general or specific conditions which may be imposed by CIMA or may be agreed between CIMA and the Company. Generally, such matters are set out in the Business Plan which the Company files with CIMA and, amongst others, includes reference to the risks assumed and retained by the Company, the funding and capitalization levels, and the Company's investment policies.

12. Claims paid

Claims paid relate to the payment of claims with regards to an earthquake event that affected the Martinique Region of the Caribbean in November 2007.

13. Investment Income

Investment income comprises.

	<u>2008</u>
Investment income received	1,455,388
Change in fair value of investments	(86,801)
Net loss on sale of investments	(76,030)
Net unrealized losses on forward and futures contracts	(<u>18,648</u>)
	\$ <u>1,273,909</u>

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14. Administration expenses

Administration expenses comprise:

	Period ended <u>May 31, 2008</u>
Audit fees	58,500
Captive management fees	65,000
Consultancy fees	177,350
Investment management, custody and fund administration fees	66,363
Directors' fees	100,455
Executive Director's fees	104,780
Legal fees	114,884
Government fees	14,091
Meeting expenses	12,203
Publicity	62,252
Trust expenses (see Note 15)	101,725
Startup expenses	40,000
Registered office fee	2,500
Sundry expenses and bank charges	<u>7,004</u>
	<u>\$ 927,107</u>

15. Related party transactions

During the period ended May 31, 2008, the Group paid the following expenses on behalf of the Trust:

Trustee fees	91,257
Enforcer fees	<u>10,468</u>
	<u>\$ 101,725</u>

During the period ended May 31, 2008, the Company declared a dividend of \$120,000, payable to the Trust. This balance was settled against the share capital contribution of \$120,000 due from the Trust.

16. Taxation

No income, capital or premium taxes are levied in the Cayman Islands and the Company has been granted an exemption until May 29, 2027, for any such taxes that might be introduced. The Group intends to conduct its affairs so as not to be liable for taxes in any other jurisdiction. Accordingly, no provision for taxation has been made in these financial statements.

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17. Financial instruments

(a) Fair value

The carrying amount of the Group's financial assets and liabilities, excluding investments, approximate their fair value due to their short term maturities. Investments and forward and futures contracts are carried at fair value, as described in Note 3 and Note 10 respectively.

(b) Credit risk

Financial assets which potentially subject the Group to concentrations of credit risk consist of cash and cash equivalents, investments in debt instruments, futures and forward contracts, accrued interest receivable and the balance receivable from the Multi Donor Trust Fund. The maximum amount of loss the Group would incur if the counterparties to the transactions do not meet their obligations, would be the carrying amount of such assets in the balance sheet. The Group's cash and cash equivalents are placed with high credit quality financial institutions. Similarly, the Group's investment policy requires that the investment manager invests in securities with a high credit quality. The balance due from the Multi Donor Trust Fund balance is effectively due from the World Bank, which has a AAA credit rating at May 31, 2008. Futures and forward contracts are subject to the credit risk of the respective counterparties. The Group manages this credit risk by transacting only with counterparties considered highly reputable and creditworthy.

(c) Interest rate risk

The Group's term and fixed deposits are at fixed interest rates and mature within three months. The Group also invests in fixed interest securities, the fair value of which will be affected by movements in interest rates. An analysis of the Group's investment portfolio is shown in Note 3. The fair value of the futures contracts will also be affected by movements in interest rates.

(d) Market risk

Market risk exists to the extent that the values of the Group's monetary assets fluctuate as a result of changes in market prices. Changes in market prices can arise from factors specific to individual securities or their respective issuers, or factors affecting all securities traded in a particular market. Relevant factors for the Group are both volatility and liquidity of specific securities and markets in which the Group holds investments.

(e) Foreign exchange risk

In the normal course of business, the Group may hold assets and liabilities in currencies other than U.S. dollars. To reduce its risk to foreign exchange fluctuations the Group may enter forward on the foreign exchange contracts. The Group is exposed to currency risks to the extent of any mismatch between foreign exchange forward contracts and the corresponding financial instruments denominated in foreign currencies. Foreign currency forward contracts commit the Group to purchase or sell the designated foreign currency at a fixed rate of exchange on a future date. See Note 10 for details of forward foreign exchange contract entered into by the Group during the period.

(f) Futures contracts risk

In the normal course of business, the Group trades financial futures, which are carried at fair value. These futures contracts represent future commitments to purchase financial instruments on specific terms at specified future dates. The fair value of the futures contracts will fluctuate corresponding to the fair value of the underlying financial instruments (see Note 10). The notional value of the underlying financial instruments represents the Group's maximum risk of loss. The Directors consider this risk to be mitigated because of the short terms of the futures contracts and the underlying financial instruments being U.S. Treasury Notes.



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