The Case for Upscaling: Increasing CCRIF Insurance Coverage for Tropical Cyclone, Earthquake and Excess Rainfall

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DISCUSSION OVERVIEW

- Caribbean Hazard Risk Profile
- Overview of CCRIF policies
- Case Study: TC Gonzalo
- Adequacy of Coverage
- Conclusions
Earthquakes

- Large (Mag 7.0 and up)
- Potentially damaging events (15 km depth and less) are very likely
- Similar to Haiti 2010 earthquake

Source: CCRIF MPRES Stochastic output
Caribbean Hazard Risk Profile (Cont’d)

**Excess Rainfall**
- Intense rainfall for longer duration
- Increased damage due to flooding

**Hurricane/Tropical Cyclone**
- Increasing trend in Cat. 4 & 5 hurricanes
- As Climate Warms and CO2 levels increase
Overview of CCRIF Policies

- CCRIF offers Earthquake (EQ), Tropical Cyclone (TC) and Excess Rainfall (XSR) policies.

- TC Model: Covers government losses due to wind and storm surge damage from a define Tropical Cyclone.

- XSR Model: Covers excess rainfall and is triggered by tropical clones and non-cyclonic systems.

- EQ Model: Covers losses due to earthquake events.

- Country selects policy characteristics: Premium, attachment and exhaustion point.
For example, increase in payouts by changing the attachment point (deductible).

<table>
<thead>
<tr>
<th>Country X</th>
<th>Policy Choice 1</th>
<th>Policy Choice 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attach</strong></td>
<td>$218,870,759</td>
<td>$119,280,495</td>
</tr>
<tr>
<td><strong>Attach (yrs)</strong></td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td><strong>Ceding %</strong></td>
<td>3.197%</td>
<td>2.466%</td>
</tr>
<tr>
<td><strong>Coverage limit</strong></td>
<td>$32,256,344</td>
<td>$27,340,853</td>
</tr>
<tr>
<td><strong>Premium</strong></td>
<td>$1.3</td>
<td>$1.3</td>
</tr>
<tr>
<td><strong>No. of Payouts</strong></td>
<td>9</td>
<td>13</td>
</tr>
</tbody>
</table>

Policy characteristics are selected by countries
CCRIF Payouts To Date

2007

Earthquake
Dominica - $528,021
Saint Lucia - $418,976

TC Ike
Turks & Caicos Islands - $6,303,913

TCs Earl/Tomas
Anguilla - $4,282,733
Barbados - $8,560,247
St. Lucia - $3,241,613
St. Vincent and Grenadines - $1,090,388

TC Gonzalo/ Nov. Trough
Anguilla - $493,465
Anguilla - $555,249
Barbados - $1,284,881
St. Kitts and Nevis - $1,055,408

2008

Earthquake
Haiti - $7,755,579

2010

2014
Case: Barbados XSR Event

Covered Area Rainfall Event:

- 21 November 2014 Trough System
- The average accumulated rainfall for this event using the 2-day aggregate was 133.58mm
- Policy threshold exceeded
- The monthly average rainfall in November for Barbados is 110.29mm
- Event surpassed this (model is capturing what it needs to)
TC GONZALO: CASE STUDY
CCRIF member countries affected: Antigua and Barbuda, Anguilla, Bermuda, and St. Kitts and Nevis.

- 60 mph (95km/h) – 70 mph (120 km/h) winds.
- Did not trigger any TC (wind) policies.
- Triggered XSR policy for Anguilla.
TC Gonzalo: One Event, Two Different Policy Triggers

- Of the 4 CCRIF member countries affected, 2 had XSR policies: Anguilla and St. Kitts and Nevis.
- The Caribbean Rainfall Model indicated that a Covered Area Rainfall Event (CARE) was produced in Anguilla starting on 13 October 2014 and ending on 14 October 2014.
- Anguilla’s policy subsequently triggered, therefore they were due a payout.
- The St. Kitts and Nevis policy did not trigger.
The return period is the expected time between hazard events of a certain magnitude.

For example, a 100-year return period essentially represents the likelihood of an event to occur once every 100 years.

The return period for an event depends on the country and modeled losses.

Return periods for TC Gonzalo:

<table>
<thead>
<tr>
<th>Country</th>
<th>Return Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anguilla</td>
<td>13</td>
</tr>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>7</td>
</tr>
<tr>
<td>Bermuda</td>
<td>18</td>
</tr>
<tr>
<td>St Kitts &amp; Nevis</td>
<td>5</td>
</tr>
</tbody>
</table>
The definition of ‘adequate’ in this case is set to cover (25%) of Government’s likely losses for both TC and EQ.

88% of CCRIF members’ policies cover no more than 15% of TC and EQ national liability.

For XSR, $2.5 million in premium for $36 million in total coverage.

Only 8 countries (50%) with product, currently.
Scaling Up of Coverage

- Takes on greater importance for disaster risk reduction/management.
- Financial constraints are only exacerbated in the aftermath of a disaster.
- 13 out of 16 members with EQ.
- Increase premium spend to buy more coverage (TC/EQ).
- Increase premium spend to maintain coverage levels (if lower TC attach): approximately 18% on average.
- 8 out of 16 members with XSR.
- Purchase XSR.
CONCLUSION

- **CCRIF Success:**
  - Ongoing relevance
  - Responsiveness to region’s needs

- **Disaster Trends:**
  - Extreme weather variability and climate change
  - Risk financing solution needs

- **Member Country Needs:**
  - Quick payout; ex ante mechanisms (an option)
  - Premium affordability (tackling debt & fiscal challenges)
  - Coverage scale up (increase in limits & additional products)

- **Financial Sustainability:**
  - Donor Support; New product capitalization