CWUIC SP
Caribbean Water Utilities Insurance Collective Segregated Portfolio

Building the Resilience of Water Utilities in the Caribbean

With thanks for these slides to:

K&M ADVISORS
a Dorado Group Company
Why CWUIC SP?
Tropical Cyclone Tracks since 1850’s (NOAA)
Impacts of Climate Change Observed in the Caribbean

- Hot extremes have increased\(^8\)
- Changes in heavy precipitation and drought have varied across the region\(^9\)
- Climate change has affected water security due to warming, changing precipitation patterns, and greater frequency and intensity of climatic extremes\(^10\)
- Sea Level Rise – 20 to 25 cm over next 30 years
The Vulnerability of Water Utilities to Natural Hazards

**Direct impacts** include asset damage to the facilities of the water utility, and expenses and losses of revenues experienced due to business interruption:

- **Service disruption** to homes, schools, businesses, hospitals and hotels – health and disease risks. Water rationing and or emergency supplies distribution.
- Fixing and replacing damaged assets (infrastructure and equipment) incurs *unpredictable costs* that cannot be budgeted for by the utility and which are hard/unfair to pass on to consumers through increased prices.
- These critical services are an *implicit contingent liability* for Governments.
- Until service is restored, the company cannot sell water leading to *losses in revenue* while the utility incurs substantial repair costs
- Significant increase in operating costs likely due to trucking and other emergency short term options.

**Indirect impacts** include *electricity supplies being reduced or cut, disabling filtration, and pumping and leading to interruptions in service.*
# A Sample of Water Utility Losses

<table>
<thead>
<tr>
<th>Utility and Jurisdiction</th>
<th>Event</th>
<th>Severity</th>
<th>Estimate of time during which service was interrupted*</th>
<th>Estimate of total cost incurred in US$mil**</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWC in Jamaica</td>
<td>Flood Rains (May- June 2002)</td>
<td>Tropical Wave</td>
<td>12 days</td>
<td>1.8</td>
</tr>
<tr>
<td>NWC in Jamaica</td>
<td>Hurricane Ivan (Sep 2004)</td>
<td>Cat 5</td>
<td>14 days</td>
<td>9.4</td>
</tr>
<tr>
<td>NAWASA in Grenada</td>
<td>Hurricane Ivan (Sep 2004)</td>
<td>Cat 3</td>
<td>5 to 30 days</td>
<td>3</td>
</tr>
<tr>
<td>WSC in The Bahamas</td>
<td>Hurricane Frances - Andros (Sep 2004)</td>
<td>Cat 3</td>
<td>8 days</td>
<td>N/A</td>
</tr>
<tr>
<td>DOWASCO in Dominica</td>
<td>Hurricane Dean (Aug 2007)</td>
<td>Cat 1</td>
<td>7 days</td>
<td>0.3</td>
</tr>
<tr>
<td>NWC in Jamaica</td>
<td>Tropical Storm Nicole (Sep 2010)</td>
<td>Tropical Storm</td>
<td>7 days</td>
<td>3.1</td>
</tr>
<tr>
<td>DOWASCO in Dominica</td>
<td>Tropical Storm Ophelia (Sep 2011)</td>
<td>Tropical storm</td>
<td>7 days</td>
<td>0.1</td>
</tr>
<tr>
<td>WASCO in St. Lucia</td>
<td>Christmas Eve Trough (Dec 2013)</td>
<td>Trough</td>
<td>16 days</td>
<td>1</td>
</tr>
<tr>
<td>DOWASCO in Dominica</td>
<td>Tropical Storm Erika (Aug 2015)</td>
<td>Tropical Storm</td>
<td>7+ days</td>
<td>14.6</td>
</tr>
<tr>
<td>WSC in Bahamas</td>
<td>Hurricane Dorian – Abaco (Sept 2019)</td>
<td>Cat 5</td>
<td>Months</td>
<td>15</td>
</tr>
<tr>
<td>DOWASCO in Dominica</td>
<td>Hurricane Maria (Sep 2017)</td>
<td>Cat 5</td>
<td>37 days</td>
<td>35.2</td>
</tr>
<tr>
<td>BWS in Belize</td>
<td>Hurricane Eta (Nov 2020)</td>
<td>Cat 4</td>
<td>1 day</td>
<td></td>
</tr>
</tbody>
</table>

Source: Information provided by the utilities.

*Further data collection is required to ensure consistency in this estimate from utilities regarding the time of service interruption. Based on the data received, it is unclear if this is the time that elapsed for some systems or all systems to be restored.

**Estimated in cost in US dollars is equivalent to the value of the US dollar in the year in which the event occurred and have not been inflated to the value of the US dollar today.
Are Water Utilities Resilient?

Consider exposure and hazard risk. What risks does the utility face? What assets are exposed? How is that risk managed?

What CAPEX projects will reduce risks and build resilience? How will they be financed?

Understand the utility’s vulnerability

Develop prioritized & affordable CAPEX plans to strengthen systems

Develop a Disaster Risk Management Strategy, backed by pre-arranged finance

Improve the governance and financial situation of the utility

How is the utility governed and what is its financial performance?

Does the utility have a regularly updated disaster contingency plan? Are staff trained? What resources would be required to respond, recover and rebuild? Who would pay?
How will CWIUC SP help?
As of September 2023, CWUIC SP has been officially established as a segregated portfolio under CCRIF SP. A first of its kind facility, CWUIC SP will help water utilities in the Caribbean build resilience to natural hazards through disaster risk finance and management products, tools, and support.
CWUIC SP is a Segregated Portfolio (SP) of CCRIF SPC

- Central American SP (CA SP)
- Caribbean Excess Rainfall SP (XSR SP)
- Caribbean Public Utilities SP (CPU SP)
- Caribbean Tropical Cyclone/Earthquake SP (TC/EQ SP)
- Caribbean COAST SP

✓ CCRIF SPC has segregated portfolios that offer parametric insurance products
✓ Unlike other CCRIF SPs that only offer parametric insurance, CWUIC SP will offer an additional two components:

Component 1: The CWUIC Response Program
Component 2: Parametric insurance for natural hazards
Component 3: The CWUIC Resilience Program
CWUIC SP’s objective is to build resilience and help utilities recover from disasters.

Component 1: The CWUIC Response Program will provide support for early recovery assistance among participating water utilities.

Component 2: Parametric insurance will provide coverage against natural hazards and provide quick liquidity after a qualifying natural hazard event.

Component 3: The CWUIC Resilience Program will facilitate access to funding from development banks and other financial institutions for priority resilience projects.

CWUIC SP will be a first-of-its-kind facility providing Caribbean water utilities with access to a formalized response program and emergency preparedness training, parametric insurance, and funding for investments in priority resilience projects.

All Caribbean water and sanitation utilities are welcome and encouraged to join CWUIC. Subsidies and price discounts will help the utilities in ODA-eligible countries buy the cover they need.
Governance and Management Structure of CWUIC SP

CWUIC SP Lead: Christopher Husbands

Comp 1 Specialist: Shamila Ragoobir

Comp 2 Specialist

Comp 3 Specialist
Component 1:
The CWUIC Response Program
Overview of the CWUIC Response Program

Component 1 of CWUIC SP will support a post-disaster assistance and coordination between utilities to restore and rebuild water utilities post-hazard.

CWUIC SP will develop a program that, among other things, will:

✓ **Improve communications** among water utilities
✓ Provide guidance on **advanced agreements with suppliers**
✓ Develop procedures to **survey damage caused by the event**
✓ Develop procedures for the **mobilization, deployment and coordination of workmen and crew**
✓ Develop procedures for the **movement of materials, tools, and equipment**
✓ Provide **training and development** for personnel

IDB Group has worked closely with CAWASA, CWWA, and CDEMA to develop and reach an agreement in principle for Component 1.
Phases of the CWUIC Response Program

1. Preparedness Planning During Normal Conditions
   - Develop emergency plans
   - Conduct training and development
   - Maintain emergency toolbox
   - Conduct Simulation Exercises
   - Develop protocols

2. Preparedness Planning in Anticipation of a Disaster
   - Conduct meteorological and seismic monitoring
   - Communicate with utilities in risk zones
   - Activate response and recovery readiness (e.g., possible mobilization of crew)

3. Emergency Response
   - Affected utility requests assistance
   - Conduct damage and needs assessments
   - Select assisting utility/utilities
   - Mobilize crews, equipment, and other resources

4. Post-Emergency Restoration
   - Coordinate return of crews
   - Write and submit Final Reports
   - Reimburse assisting utilities and vendors
   - Review final mission reports

5. Annual review of the CWUIC Response Program
Component 2: Parametric Insurance
Preliminary Terms of CWUIC SP’s Insurance Policies

Preliminary terms of insurance policies to be offered by CWUIC SP:

**One-year policy periods** (typically 1 June - 31 May). In some cases, CWUIC SP may offer late entry policies that are shorter than one year.

The **premium for each utility’s policy will be based on its risk profile.** It will also depend on the **Attachment Point, Exhaustion Point, and Ceding Percentage** as determined by the utility.

In 2024, CWUIC SP intends to offer utilities a hybrid **tropical cyclone (TC)** and **excess rainfall (XSR)** policy option for the hurricane season, before expanding to additional perils in the future.
Component 3: The Resilience Program
The objective of Component 3 is to increase the resilience of CWUIC SP’s member utilities to disasters.

CWUIC SP will support utilities in identifying and structuring priority resilience projects and will facilitate access to funding provided by development banks and other financial institutions to its members.

Priority resilience projects will reduce the risk for participating members and should reduce premiums for future policy terms.
Investing in Priority Resilience Projects

Priority resilience projects are **capital investments**, within the mandate and scope of the utility, that **reduce a utility’s risk to natural hazards** and therefore reduce the likelihood that the utility may lose the ability to serve its customers during or after a disaster. Some examples are:

- **Constructing berms around dams or reservoirs** to reduce the chances of contamination and obstruction from debris

- **Building in redundancy** by installing back-up water supply pipelines, water storage, solar-powered generators, and water and wastewater treatment facilities in locations inland and less prone to natural hazards

- **Installing monitoring devices**, providing real-time information, and radio-based systems that enable technicians to remotely configure water supply and sanitation systems during and after disasters

- **Reinforcing assets in vulnerable locations**. For example, this can be achieved by installing protective walls and storm-water evacuation sewers, reinforcing intakes, placing water supply lines deeper underground, and inserting High Density Polyethylene (HDPE) and other coatings in water and wastewater pipelines to reduce permeation
Knowledge – a Centre of Excellence

Through The CWUIC Resilience Program, CWUIC SP will develop a close relationship with utilities, development banks, and other financial institutions. This will result in CWUIC SP developing knowledge and expertise in disaster risk management and disaster risk finance.

Support utilities with the identification and structuring of priority resilience projects

Facilitate access to funding from development banks and other financial institutions for priority resilience projects

Collect, organize, and provide information on priority resilience projects that can be used to make utilities more resilient

As a center of excellence, CWUIC SP will become highly specialized in priority resilience projects that reduce the vulnerability of water utilities in the Caribbean to natural hazards.
Water Utility Engagement
CWUIC is open to all water and sanitation utilities in the Caribbean, including:

<table>
<thead>
<tr>
<th>Caribbean Water Utility (CWUIC)</th>
<th>Antigua Public Utilities Authority (APUA), Antigua &amp; Barbuda</th>
<th>Water and Sewerage Corporation (WSC), The Bahamas</th>
<th>Barbados Water Authority (BWA), Barbados</th>
<th>Belize Water Services Limited (BWS), Belize</th>
<th>Water Authority of The Cayman Islands (WAC), Cayman Islands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominica Water and Sewerage Company (DOWASCO), Dominica</td>
<td>National Water and Sewerage Authority (NAWASA), Grenada</td>
<td>Guyana Water Inc (GWI), Guyana</td>
<td>National Water Commission (NWC), Jamaica</td>
<td>Montserrat Utilities Limited (MUL), Montserrat</td>
<td>Nevis Water Department (NWD), Saint Kitts and Nevis</td>
</tr>
<tr>
<td>Water and Sewerage Company Inc (WASCO), Saint Lucia</td>
<td>Central Water and Sewerage Authority (CWSA), St. Vincent &amp; the Grenadines</td>
<td>Suriname Water Company (SWM), Suriname</td>
<td>Suriname Water Company (SWM), Suriname</td>
<td>Water and Sewerage Authority (WASA), Trinidad and Tobago</td>
<td></td>
</tr>
</tbody>
</table>
## Status of Data Provided by Utilities for Risk Modeling

<table>
<thead>
<tr>
<th>Utility</th>
<th>Jurisdiction</th>
<th>IDB BMC</th>
<th>CDB BMC</th>
<th>GIS Location</th>
<th>Replacement Value</th>
<th>Modeled</th>
<th>Policy Option Letter</th>
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<tbody>
<tr>
<td>National Water Commission</td>
<td>Jamaica</td>
<td>Yes</td>
<td>Yes</td>
<td>Complete</td>
<td>Complete</td>
<td>Yes</td>
<td>April 2024</td>
</tr>
<tr>
<td>Water and Sewerage Corporation</td>
<td>Bahamas</td>
<td>Yes</td>
<td>Yes</td>
<td>Complete</td>
<td>Complete</td>
<td>Yes</td>
<td>April 2024</td>
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<tr>
<td>Water and Sewerage Authority</td>
<td>Trinidad and Tobago</td>
<td>Yes</td>
<td>Yes</td>
<td>Complete</td>
<td>Complete</td>
<td>Yes</td>
<td>April 2024</td>
</tr>
<tr>
<td>Belize Water Services Limited</td>
<td>Belize</td>
<td>Yes</td>
<td>Yes</td>
<td>Complete</td>
<td>Complete</td>
<td>Yes</td>
<td>April 2024</td>
</tr>
<tr>
<td>Dominica Water and Sewerage Company</td>
<td>Dominica</td>
<td>No</td>
<td>Yes</td>
<td>Complete</td>
<td>Complete</td>
<td>Yes</td>
<td>April 2024</td>
</tr>
<tr>
<td>National Water and Sewerage Authority</td>
<td>Grenada</td>
<td>No</td>
<td>Yes</td>
<td>Complete</td>
<td>Complete</td>
<td>Yes</td>
<td>April 2024</td>
</tr>
<tr>
<td>Barbados Water Authority</td>
<td>Barbados</td>
<td>Yes</td>
<td>Yes</td>
<td>Complete</td>
<td>Complete</td>
<td>Ongoing</td>
<td>April 2024</td>
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<tr>
<td>Haiti</td>
<td>Yes</td>
<td>Yes</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Bespoke</td>
<td>April 2024</td>
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<tr>
<td>Guyana Water Inc</td>
<td>Guyana</td>
<td>Yes</td>
<td>Yes</td>
<td>Partial</td>
<td>Partial</td>
<td>Starting</td>
<td>Late 2024</td>
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<tr>
<td>Suriname Water Company</td>
<td>Suriname</td>
<td>Yes</td>
<td>Yes</td>
<td>Partial</td>
<td>Partial</td>
<td>Starting</td>
<td>Late 2024</td>
</tr>
<tr>
<td>Nevis Water Department</td>
<td>Nevis</td>
<td>No</td>
<td>Yes</td>
<td>Partial</td>
<td>Partial</td>
<td>Starting</td>
<td>2024 – tbc</td>
</tr>
<tr>
<td>Water and Sewerage Company Inc</td>
<td>Saint Lucia</td>
<td>No</td>
<td>Yes</td>
<td>Partial</td>
<td>Partial</td>
<td>Starting</td>
<td>2024 - tbc</td>
</tr>
<tr>
<td>Water and Sewerage Department</td>
<td>Saint Kitts St. Vincent &amp; the Grenadines</td>
<td>No</td>
<td>Yes</td>
<td>None</td>
<td>None</td>
<td>Not Begun</td>
<td>2025 - tbc</td>
</tr>
<tr>
<td>Central Water and Sewerage Authority</td>
<td>Antigua &amp; Barbuda</td>
<td>No</td>
<td>Yes</td>
<td>None</td>
<td>None</td>
<td>Starting</td>
<td>2024 - tbc</td>
</tr>
<tr>
<td>Antigua Public Utilities Authority</td>
<td>Antigua &amp; Barbuda</td>
<td>No</td>
<td>Yes</td>
<td>None</td>
<td>None</td>
<td>Not Begun</td>
<td>2025 - tbc</td>
</tr>
<tr>
<td>Montserrat Utilities Limited</td>
<td>Montserrat</td>
<td>No</td>
<td>Yes</td>
<td>None</td>
<td>None</td>
<td>Starting</td>
<td>2024 - tbc</td>
</tr>
<tr>
<td>Water Authority of The Cayman Islands</td>
<td>Cayman</td>
<td>No</td>
<td>Yes</td>
<td>None</td>
<td>None</td>
<td>Not Begun</td>
<td>2025 - tbc</td>
</tr>
</tbody>
</table>
Funding Arrangements
Funding for CWUIC SP

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>Timing</th>
<th>Executor</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Pilot Program for Climate Resilience (PPCR). Technical assistance for early-stage studies to develop CWUIC SP.</td>
<td>US$739K Technical Assistance</td>
<td>Approved and in execution</td>
<td>IDB</td>
<td></td>
</tr>
<tr>
<td>AquaFund managed by the IDB provided support to studies to structure CWUIC SP.</td>
<td>US$300,000</td>
<td>Approved and in execution</td>
<td>IDB</td>
<td></td>
</tr>
<tr>
<td>UK’s FCDO has provided a US$5.6 million grant for CWUIC SP’s structuring and operations and US$25 million returnable grant to CCRIF SPC to capitalize CWUIC SP</td>
<td>US$5.6 million for structuring and operations</td>
<td>Approved and in execution</td>
<td>IDB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>US$25 million for Capitalization</td>
<td>Approved and in execution</td>
<td>CCRIF SPC</td>
<td></td>
</tr>
<tr>
<td>The Caribbean Development Bank (CDB) has provided grant funding for risk modeling for CWUIC SP</td>
<td>US$650,000</td>
<td>Approved and in execution</td>
<td>CCRIF SPC</td>
<td></td>
</tr>
<tr>
<td>The Coca-Cola foundation has provided US$500,000 to support Component 3: The CWUIC Resilience Program</td>
<td>US$500,000</td>
<td>Approved and in execution</td>
<td>IDB</td>
<td>Funds will be used for feasibilities studies for priority resilience projects</td>
</tr>
<tr>
<td>Green Climate Fund (GCF)</td>
<td>US$500 million to US$1 billion</td>
<td>The IDB is in discussion with the GCF, mainly with the aim of increasing the level of support to the Component 3.</td>
<td>TBD</td>
<td>Funds may be structured for Component 3: The CWUIC Resilience Program and could also include capital contributions for CWUIC SP</td>
</tr>
</tbody>
</table>

Continued efforts to raise additional support
Next Steps

- Engage with water utilities and governments regarding CWUIC SP: build awareness and understanding
- Support water utilities in collecting data for risk modeling, finalize risk modeling and pricing.
- Agree the premium subsidies for utilities in ODA-eligible countries
- Issue policy options letters in time for 2024 season
- Launch Component 1: CWUIC Response Program
- Launch Component 3: CWUIC Resilience Program
- Continue fundraising efforts to ensure CWUIC SP is well resourced
Contact Us

Christopher Husbands
Team Leader
CWUIC SP
Email: Ch.cwuic@ccrif.org

Isaac Anthony
CEO
CCrif SPC
Email: ccrif.ceo@gmail.com