

TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Strengthening and Expansion of CWUIC to Enhance Resiliency in the Water and Sanitation Sector in the Caribbean
▪ TC Number:	RG-T4777
▪ Team Leader/Members:	Sasaki, Keisuke (INE/WSA) Team Leader; Machado, Kleber B. (INE/WSA) Alternate Team Leader; Cox, Kambiri Shannon (INE/WSA); Riquelme, Rodrigo (INE/WSA); Lee Lee Sergio Kyu Chul (INE/WSA); Lopez, Liliana M. (INE/WSA); Rubio Fernandez, Eva (TTD/TTR); Villarroel Toral Maria Soledad (INE/WSA); Lewis, Gilroy Francis (INE/WSA); Crespín Villatoro, Alexandra (INE/WSA); Johnson, Monique Therese Marie (CSD/DRM); Diaz Gill Virginia Maria (LEG/SGO)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	.N/A
▪ Date of TC Abstract authorization:	.April 9, 2025
▪ Beneficiary ¹ :	Bahamas, Barbados, Belize, Dominican Republic, Guyana, Haiti, Jamaica, Suriname, Trinidad and Tobago
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	Multidonor AquaFund(MAF); OC SDP Window 2 - Infrastructure(W2B); OC Strategic Development Program Window 3 - Transitory Emerging Need for Sustainable Development in the Caribbean(W3B)
▪ IDB Funding Requested:	Multidonor AquaFund (MAF): US\$250,000.00 OC SDP Window 2 - Infrastructure (W2B): US\$200,000.00 OC Strategic Development Program Window 3 - Transitory Emerging Need for Sustainable Development in the Caribbean (W3B): US\$250,000.00 Total: US\$700,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	September 1, 2025
▪ Types of consultants:	Individual Consultants and firms
▪ Prepared by Unit:	INE/WSA-Water & Sanitation
▪ Unit of Disbursement Responsibility:	INE/WSA-Water & Sanitation
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the IDB Group Institutional Strategy: Transforming for Scale and Impact 2024-2030:	Sustainable, resilient, and inclusive infrastructure; Regional integration; Biodiversity, natural capital, and climate action; Institutional capacity, rule of law, and citizen security; Public sector policy and management

II. Objectives and Justification of the TC

2.1 The general objective of this TC is to strengthen and expand Caribbean Water Utilities Insurance Collective (CWUIC) to enhance resiliency² in the water and sanitation

¹ It is noted that Dominican Republic and Haiti are not countries included in the ONE Caribbean beneficiary countries. Counting on resources of the Multidonor AquaFund and OC SDP Window 2 – Infrastructure allows the TC to support these countries.

² In this context, 'resilience' in this TC refers to the ability to reduce the risk of service interruption through appropriate disaster preparedness ex ante investments, and to recover effectively following a disaster.

(W&S) sector in the Caribbean. The specific objectives are: (i) evaluate the performance of CWUIC's three programs: (a) Parametric Insurance Program (regional risk pooling), (b) Response Program (assistance in disaster preparedness and response), and (c) Resilience Program (assistance to strengthen the capacity to withstand hazard impacts through targeted investments), as well as its organizational and governance structure; (ii) strengthen the Response Program; (iii) explore new areas for the Parametric Insurance Program; (iv) enhance the Resilience Program; and (v) implement dissemination and stakeholder engagement activities.

- 2.2 The Caribbean is highly exposed to hurricanes and other extreme weather events, along with higher temperatures, intense and prolonged droughts, severe rainfall, and increased flooding. Further, several studies have shown that, under increased temperature projections, a general intensification of these changes in the future can be expected.³ Vulnerability is, however, not uniformly distributed among the countries of the Caribbean,⁴ due to variations in different factors related to exposure and coping/adaptative capacity (e.g. geography, demographics, economic ability to withstand and cope with disasters, and exposure to extreme climatic events, among others).⁵ W&S utilities are not exempt, and, moreover, following any such event, both the ability of W&S services to withstand disruptions and to resume operations quickly in case of a disaster are key to the overall recovery of the affected area.
- 2.3 For the W&S sector, a pioneering mechanism, CWUIC SP (Caribbean Water Utilities Insurance Collective Segregated Portfolio) was established in September 2023, to help W&S utilities in the Caribbean build resilience to natural hazards through disaster risk finance (Parametric Insurance Program), assistance in disaster preparedness and response (Response Program), and assistance in ex ante investments to reduce service disruptions and enhance adaptative capacity (Resilience Program). CWUIC SP is structured as a Segregated Portfolio under the CCRIF Segregated Portfolio Company (formerly, the Caribbean Catastrophe Risk Insurance Facility). For the development of CWUIC SP, the IDB Group has been collaborating with CCRIF SPC, Foreign, Commonwealth and Development Office of the United Kingdom (UK FCDO), and the Caribbean Development Bank (CDB).
- 2.4 Since its establishment in 2023, CWUIC has made remarkable progress. The Parametric Insurance Program has been the primary area of success: for the 2024 Atlantic hurricane season, CWUIC was able to sign parametric insurance policies for with three utilities (Belize Water Services Limited (BWS, Belize), National Water and Sewerage Authority (NAWASA, Grenada), and Dominica Water and Sewerage Company Limited (DOWASCO, Dominica)). In July 2024, CWUIC reached an important milestone: following Hurricane Beryl, NAWASA received the first insurance payout from CWUIC. So far in 2025, the following is the list of additional utilities which have decided to sign parametric insurance policies for the 2025 Atlantic hurricane season: Water and Sewerage Corporation (WSC, the Bahamas), Water and Sewerage

³ Campbell JD, Taylor MA, Stephenson TS, Watson RA, Whyte FS. Future climate of the Caribbean from a regional climate model. *International Journal of Climatology*. 2010;31(12):1866–78.

Taylor MA, Stephenson TS, Chen AA, Stephenson KA. Climate change and the Caribbean: Review and response. *Caribbean studies*. 2012;40(2):169–200.

McSweeney C, New M, Lizcano G, Lu X. The UNDP Climate Change Country Profiles. *Bulletin of the American Meteorological Society*. 2010;91(2):157–66.

⁴ Rhiney K. Geographies of Caribbean Vulnerability in a Changing Climate: Issues and Trends. *Geography Compass*. 2015;9(3):97–114.

⁵ Stennett-Brown RK, et.al. (2019).

Company Inc. (WASCO, Saint Lucia), Central Water and Sewerage Authority (CSWA, Saint Vincent and the Grenadines) and Montserrat Utilities Limited (MUL, Montserrat). It is worth mentioning that these policies so far have been covering the risks of tropical storms, hurricanes, severe rainfall, and/or flooding. CWUIC is intended to provide comprehensive support to W&S utilities for disaster risk financing and management. For this reason, in addition to the Parametric Insurance Program (disaster risk finance), two programs are contemplated: Response Program assistance in disaster preparedness and response), and Resilience Program (assistance in resiliency investments). Under the Response Program, CWUIC started to provide technical assistance in disaster preparedness, and is currently developing a mutual aid mechanism among W&S utilities for response activities. For this mechanism, the Caribbean Water and Wastewater Association (CWWA) has been contracted as the institution that provides technical coordination. As for the Resilience Program, technical assistance will soon be provided to the first utility to design and plan ex ante investments that enhance system robustness and adaptive capacity to climate hazard related disruptions.

- 2.5 The development of CWUIC has been supported by the IDB Group through several operations by IDB Invest and the IDB. Initially, the feasibility study was conducted under the Advisory Service RG-T3406 (ATN/AC-17265-RG). Following this study, the IDB started to take the lead, and the TC RG-T3879 (ATN/SX-18842-RG) financed additional consultancies, including the development of a comprehensive business plan of CWUIC and several models to be used for the design of the insurance products. The TC RG-T4105 (ATN/MA-19464-RG, ATN/CF-20783-RG) supported the activities required for the establishment of the CWUIC, including the preparation of legal documents, and is providing resources for the development of the Resilience Program. The TC RG-T4109 (ATN/CF-19544-RG), with the contribution from the UK FCDO, has been instrumental in the operationalization of the CWUIC. RG-G1045, also with the contribution from the UK FCDO, finances premium support to water utilities to make CWUIC's insurance products more affordable in its initial years. CWUIC became operational in 2023, and, building on this successful development so far—which has been possible under the collaboration with CCRIF SPC, UK FCDO, and CDB—this TC aims to support CWUIC's strengthening and expansion, by drawing lessons learned so far of CWUIC's operation (Component 1), proposing and implementing improvement actions for the three programs (Components 2-4), and carrying out dissemination and stakeholder engagement (Component 5).
- 2.6 Additionally, during the implementation of this TC (in particular the Component 2), the team will seek synergy with another regional TC (ATN/OC-21359-RG) in execution whose objective is to facilitate Caribbean W&S utilities to conduct pool procurement, based on a virtual community (using a virtual platform) where utilities share information on their parts and materials. Such information would be beneficial at the time of the activation of mutual aid, allowing the utility which needs assistance to see which neighbouring utility is in the best position to help, including the availability of compatible parts and/or materials.
- 2.7 This TC is consistent with the IDB Group Institutional Strategy: Transforming for Scale and Impact (CA-631) and contributes to the following strategic objectives: (i) Reducing poverty and inequality: this TC seeks to strengthen the capacity of water utilities in the Caribbean to withstand from hazard-related service disruptions and improve operational efficiency even after disasters through the CWUIC initiative. By enhancing the capacity of W&S utilities to respond to natural disasters and extreme

weather events, this program will contribute to maintaining continuous and reliable service delivery, particularly benefiting vulnerable communities that are most affected during crises; (ii) Addressing climate change: this TC will support water utilities in the Caribbean region to better assess and improve their adaptive capacity in the face of climate-related challenges. Through CWUIC's resilience framework—which includes parametric insurance, disaster preparedness and targeted investments—water operators will be better equipped to mitigate climate risks and ensure sustainable service continuity; and (iii) Bolster sustainable regional growth: This TC will help W&S utilities enhance their efficiency and sustainability through comprehensive risk management and further resiliency to natural disasters. By incorporating tools and strategies that address financial sustainability and ex ante infrastructure investments to reduce service disruption and enhance recovery capacity, CWUIC supports utilities in adopting innovative approaches to disaster risk reduction and service continuity, ultimately contributing to the sustainable development of the region.

- 2.8 The operation is also aligned with the operational focus areas of: (i) Biodiversity, Natural Capital, and Climate Action; (ii) Institutional Capacity, Rule of Law, and Citizen Security; (iii) Sustainable, Resilient, and Inclusive Infrastructure; and (iv) Regional Integration.
- 2.9 On gender, it is noteworthy that women are disproportionately more affected by disasters than men.⁶ And in this context, the Sendai Framework for Disaster Risk Reduction 2015-2030.⁷ highlights the necessity of women's participation for effectively managing disaster risk and designing, resourcing and implementing gender-sensitive disaster risk reduction policies, plans and programs. It is worth pointing out that female participation in W&S utilities workforce is often quite limited. It is essential to incorporate the point of view of women during the discussion on the strengthening and expansion of CWUIC's programs. In workshops, the team will actively seek participation of women. The team will record participation data disaggregated by gender.
- 2.10 The beneficiary countries of this TC are: (i) Bahamas; (ii) Barbados; (iii) Belize; (iv) Dominican Republic; (v) Guyana; (vi) Haiti; (vii) Jamaica; (viii) Suriname, (ix) Trinidad and Tobago⁸. Water and Sanitation Utilities of these countries will be the main entities that benefit from the strengthening and expansion of CWUIC. The TC is aligned with the Strategic Objectives of the Country Strategies (this alignment is presented in in the [Optional Electronic Link](#)).
- 2.11 Strategic Alignment to ONE Caribbean and AquaFund. ONE Caribbean is the IDB Group's comprehensive regional approach to promoting sustainable development in the Caribbean and Small Island Developing States (GN-3201-5). ONE Caribbean recognizes the common challenges facing the region and seeks to address them through a territorial focus and a coordinated regional approach that leverages resources, cooperation, and economies of scale. This TC is specifically aligned to the climate resilience and disaster risk management pillar of the ONE Caribbean initiative,

⁶ Maria Alejandra Escovar and Soledad Balduzzi, "International Women's Day: The Unequal Impact of Disasters on Women", IDB Blogs *Hablemos de Sostenibilidad y Cambio Climático*, March 8, 2024, <https://blogs.iadb.org/sostenibilidad/en/international-womens-day-the-unequal-impact-of-disasters-on-women/>

⁷ [Sendai Framework for Disaster Risk Reduction 2015-2030](#).

⁸ The Government of the Republic of Trinidad and Tobago, through a letter from the Ministry of Planning, Economic Affairs and Development, has expressed its interest in participating in this R&D TC.

as the activities under this TC will strengthen the capacity of water utilities in the region to better prepared to respond and recover from natural disasters. TC is consistent with the objectives of the Multidonor AquaFund (MAF), by generating and disseminating knowledge pertinent to the strengthening of W&S utilities with respect to, among other aspects, resiliency of services.

- 2.12 It is also aligned with the Ordinary Capital (OC) Strategic Development Program (SDP) Window 2 – Infrastructure (W2B), by promoting sustainability of infrastructure services (GN-2819-14). TC also aligns with the IDB Infrastructure Strategy Sustainable Infrastructure for Competitiveness and Inclusive Growth (GN-2710-5), by assisting natural disaster risk reduction in the W&S sector.
- 2.13 The project is also aligned with the Regional Disaster Risk Management (DRM) Impact Program “Ready and Resilient Americas” (RG-T4696 (ATN/OC-21540-RG)). The TC will form part of the strategic engagement the Bank is promoting in the Caribbean regarding DRM. While the TC focuses specifically on the W&S sector, during the implementation of the activities, the team will assess how CWUIC’s offerings complement IDB’s activities with stakeholders outside of the W&S sector (e.g. how CWUIC’s offerings are considered under relevant strategies on DRM at the national level).

III. Description of activities and outputs

- 3.1 **Component 1: Evaluation.** This component will finance an evaluation of the performance of CWUIC's three programs: (i) Parametric Insurance Program (regional risk pooling); (ii) Response Program; and (iii) Resilience Program, as well as its organizational and governance structure. This evaluation will combine qualitative assessment (e.g. interviewing clients and other stakeholders⁹, and reviewing the products delivered so far) and quantitative analysis (e.g. budgeted and actual cost incurred per product, deviations from CWUIC's business plan). In order to gain a holistic understanding of CWUIC's relevance for the Caribbean as well as its effectiveness, the following six questions have been tentatively proposed for this evaluation: (i) Relevance: is the intervention doing the right things?; (ii) Coherence: how well does the intervention fit?; (iii) Effectiveness: is the intervention achieving its objectives?¹⁰; (iv) Efficiency: how well are resources being used?; (v) Impact: what difference does the intervention make?; and (vi) Sustainability: will the benefits last?
- 3.2 **Component 2: Strengthening of the Response Program.** This component will finance consultancies related to the following: (i) demand analysis on emergency response and/or business continuity plans¹¹; (ii) defining steps for the improvement of the mutual aid program (including the utilization of a digital platform¹² to coordinate

⁹ In particular, it is fundamental to incorporate the views of CCRIF SPC (the institution under which CWUIC SP is established) into this evaluation.

¹⁰ Including the effectiveness of the parametric insurance products.

¹¹ During this activity, the team intends to assist the water utilities to map emergency water supply alternatives.

¹² The expected main functionalities of such a platform, with the objective of expediting the coordination of intra-regional response to disasters, include (i) quickly communicate among utilities information on the impact of a disaster; (ii) register and update assistance needs; (iii) utilities to express their intentions to provide assistance; and (iv) upon agreement between the parties, activate assistance. In order this platform to be sustainable, it is essential that the cost of maintaining it be low and that the coordinating institution be able to absorb such cost.

intra-regional response to disasters), so the program can serve the purpose in a sustainable manner under different projected scenarios.

3.3 Component 3: Exploration of new areas for the Parametric Insurance Program.

This component will finance consultancies related to the following: (i) feasibility study to enhance and/or expand CWUIC's modeling, including the analysis of the number and types of modeling required (currently, CWUIC uses SPHERA Tropical Cyclone model (2023 version), Excess Rainfall (XSR) Model (2023 version), and Runoff Model (2024 version)); and (ii) preparation of CWUIC's action plan to further develop the Parametric Insurance Program, which includes assessing the feasibility of a structured subsidization mechanism.

3.4 Component 4: Enhancement of the Resilience Program: This component will finance consultancies related to the following: (i) improvement of the decision support tool; and (ii) studies required for the dimensioning of the level of support for structuring and for the scaling up of resilience projects in the W&S sector (including the identification and fostering of innovative solutions that support resiliency), leveraging and attracting resources for resilience projects.

3.5 Component 5: Dissemination, sensitization and stakeholder engagement.

This component will finance activities related to dissemination, sensitization and stakeholder engagement, including two workshops to ensure that the activities to be carried out under this TC are reflective of the needs of targeted utilities and the views of relevant stakeholders.

3.6 Expected results. The TC is expected to generate the following key outputs (see the Results Matrix for additional details): (i) Performance evaluation of CWUIC SP initiative conducted; (ii) Coordination mechanisms of network of operators (such as the utilization of a digital platform) strengthened; (iii) Feasibility study on enhancing and expanding CWUIC's modeling conducted; (iv) CWUIC's action plan to further develop the Parametric Insurance Program prepared; (v) Decision Support Tool improved; (vi) Action plan for the enhancement of the Resilience Program; and (vii) two workshops organized..

IV. Budget

4.1 The cost of this TC is US\$700,000, which will be financed with resources from the OC SDP Window 2 – Sustainable and Resilient Infrastructure (W2B) (Infrastructure) (US\$200,000), from the OC SDP Window 3 - Transitory Emerging Need for Sustainable Development in the Caribbean (W3B) (ONE Caribbean)¹³ (US\$250,000) and from the Multidonor AquaFund (MAF) (US\$250,000). The funds will be used to finance the hiring of firms and/or individual consultants, as well as the costs of

¹³ The TC is aligned with the OC SDP Window 3 - Transitory Emerging Need for Sustainable Development in the Caribbean (W3B) (ONE Caribbean), as it will contribute to its objectives by: (i) addressing common underlying water sector challenges in the Caribbean; and (ii) boosting regional knowledge with partners to better address current challenges and identify opportunities to enhance disaster preparedness and recovery within the water sector.

mobilization expenses related to the performance of their functions and other non-consulting services. The details of the budget are presented below.

Indicative Budget (in US\$)

Component	Description	Infrastructure (W2B)	ONE Caribbean (W3B)	Multidonor AquaFund(MAF)	Total Funding
Component 1	Evaluation	20,000	50,000	50,000	120,000
Component 2	Strengthening of the Response Program	50,000	50,000	50,000	150,000
Component 3	Exploration of new areas for the Parametric Insurance Program	40,000	50,000	50,000	140,000
Component 4	Enhancement of the Resilience Program	70,000	60,000	60,000	190,000
Component 5	Dissemination, sensitization and stakeholder engagement	20,000	40,000	40,000	100,000
TOTAL		\$200,000	\$250,000	\$250,000	\$700,000

V. Executing agency and execution structure

- 5.1 This TC will be executed by the Inter-American Development Bank through the Water and Sanitation Division (INE/WSA). The execution by the Bank is justified as it is a regional knowledge and dissemination TC of regional scope that requires prioritization of and coordination with nine countries, promoting regional sector knowledge (OP-619-4). INE/WSA will be responsible for all aspects of this TC under the supervision of the Team Leader. Activities developed with beneficiary entities will be coordinated with the respective Country Offices, through INE/WSA specialists assigned to such countries. Formalization of services for digital solutions will be carried out in coordination with the Technology and Transformation Department.
- 5.2 The execution period is 36 months (including disbursements). All procurement to be executed under this Technical Cooperation have been included in the Procurement Plan and will be hired in compliance with the applicable Bank policies and regulations as follows: (a) Hiring of individual consultants, as established in the regulation on Complementary Workforce (AM-650) and (b) Contracting of services provided by consulting firms and non-consulting services in accordance with the Corporate procurement Policy (GN-2303-33) and its Guidelines.
- 5.3 **Monitoring and Evaluation.** The implementation will be monitored through the following mechanisms: (i) technical working meetings between the Bank and the

consultants; (ii) review by the Bank (and eventually the beneficiary entities) of the technical reports to be submitted by the consultants; and (iii) coordination meetings.

- 5.4 Progress will be reported at least annually in the Bank's system (Convergence), including the following information: (i) physical and financial progress of the CT; (ii) products and results obtained; (iii) lessons learned; and (iv) any other information considered relevant
- 5.5 Any knowledge products generated within the framework of this technical cooperation will be the property of the Bank and may be made available to the public under a creative commons license. However, upon request of the beneficiaries, the intellectual property of said products may also be licensed and/or transferred to the beneficiaries through specific agreements.

VI. Project Risks and issues

- 6.1 One risk is potential delays in obtaining data and information from water utilities, as experienced during the initial period of the CWUIC in which there were sometimes slow or incomplete responses. This could affect timelines in regard to planning and execution of activities under this TC. However, thanks to the team's engagement so far since the establishment of the CWUIC, communication with utilities has improved, and future coordination is expected to be timelier and more effective. Under the TC, stakeholder engagement meetings are contemplated to further mitigate this risk.
- 6.2 Availability of relevant data is critical for the Component 3, as models used for parametric insurance require triggers. If a model depends on one source and that source becomes unavailable, the model needs adjustments. To mitigate this risk, in conducting the feasibility study of enhancement and/or expansion of models, the team will consider as a key element whether there are multiple data sources for model triggers.
- 6.3 Another risk is the challenge of finding consultants (firms or individuals) with the appropriate expertise to carry out planned activities as well as experience in the W&S sector in the Caribbean. This may add to the time burden of the execution of the TC. To mitigate this risk, the team will plan adequate time for procurement processes, so more and more consultants with proven track record in similar assignments will be interested in the activities of this TC.
- 6.4 To ensure the sustainability of CWUIC, during the evaluation (Component 1), one key question is on this aspect (¶3.1, question (vi) Sustainability: will the benefits last?), and the team will incorporate the findings from this evaluation to the activities under the remaining components.

VII. Exceptions to Bank policy

- 7.1 No exceptions to Bank policies are foreseen.

VIII. Environmental and Social Aspects

- 8.1 This TC does not have applicable requirements of the Bank's Environmental and Social Policy Framework (ESPF).

Required Annexes:

[Results Matrix_7618.pdf](#)

[Terms of Reference_56085.pdf](#)

[Procurement Plan_85349.pdf](#)