TC Document

RG-T4706

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Enhancing knowledge dissemination on Water Security in preparation for COP30
▪ TC Number:	RG-T4706
▪ Team Leader/Members:	Barandiaran Salcedo, Doris Melissa (RMG/ESR) Team Leader; Galmez Marquez, Veronica (CSC/ACU) Alternate Team Leader; Grau Benaiges, Javier (INE/WSA); Oliveira, Flavia Carneiro Da Cunha (INE/WSA); Nalesso, Mauro (INE/WSA); Bonilla Merino, Arturo Francisco (LEG/SGO); Paez Rubio, Tania (INE/WSA); Rodriguez Ramirez, Fabian Andres (INE/WSA); Salazar Hoyos Vanessa (INE/WSA); Lopez, Liliana M. (INE/WSA); Grunwaldt, Alfred Hans (CSD/CCS); Crespin Villatoro, Alexandra (INE/WSA); Veprinsky Mehl Adam (CSC/ACU); Dunbar, Gregory A (VPC/FMP); Roberts Paula (INE/WSA); Berlanda Custodio Da Silva, Cleide (VPC/FMP)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	16 May 2025.
▪ Beneficiary:	Brazil, Perú, Colombia, Ecuador, Bolivia, Guyana and Suriname
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	Multidonor AquaFund(MAF)
▪ IDB Funding Requested:	US$150,000.00
▪ Local counterpart funding, if any:	US$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	August 2025
▪ Types of consultants:	Individuals, Consultant Firms and Non-Consulting Services
▪ Prepared by Unit:	INE/WSA-Water & Sanitation
▪ Unit of Disbursement Responsibility:	INE/WSA-Water & Sanitation
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy:	Sustainable, resilient, and inclusive infrastructure; Gender equality; Diversity; Indigenous People; Afro-descendants

II. Objectives and Justification

2.1 The Amazon basin hosts the world's largest tropical rainforest, making it a global center of biological diversity (ACTO, 2024). As the largest hydrographic basin in the world (6% of the planet's surface), it produces nearly 20% of the planet's freshwater and contains 25% of the world's terrestrial biodiversity (Gomez, 2019)[1]. In South America, it represents 70% of the freshwater discharge (ACTO, 2018 and 2024), playing a vital role in regulating planetary climate patterns, sustaining regional ecosystems, ensuring water, food and energy security, and supporting the livelihoods

[1] Gomez, R. (2019). La riqueza natural de la Amazonia como base del desarrollo sostenible regional. *Development Bank of Latin America (CAF)*: https://www.caf.com/es/conocimiento/visiones/2019/09/la-riqueza-natural-de-la-amazonia-como-base-del-desarrollo-sostenible-regional/

of local communities. Furthermore, the Amazon is crucial to climate resilience as it naturally sequesters approximately 150-200 billion tons of carbon dioxide in soils and vegetation, functioning as one of the planet's largest carbon sinks.

2.2 Its biocultural diversity is intimately linked to its watersheds, including both freshwater and terrestrial ecosystems. Rivers provide critical services like navigable thoroughfares, nutrients that fuel floodplain agriculture, potable water, and freshwater fisheries. However, despite its vital role in providing essential ecosystems services, its conservation and protection has been increasingly threatened by the negative effects of rising global temperatures and other anthropogenic activities. In 2023-2024 for example, El Niño event caused exceptional and prolonged low-water anomalies, triggering cascading effects on the Amazon's vast aquatic ecosystems and the livelihoods of indigenous and local communities (Santos de Lima et al., 2024)[2]. As a result, many Amazonian communities have been left without access to water, isolated, and unable to rely on rivers for essential daily activities such as accessing food, water, and medicine, or traveling to schools and hospitals.

2.3 As climate resilience is directly linked with water security, the Bank through its water security strategy for Latin America and the Caribbean, *"Water for the Future,"* developed an innovative approach to addressing water security challenges in the region based on the concept of managing the water cycle rather than simply allocating available water resources among various sectors. This innovative approach proposes: (i) an integrated management of supply and demand, incorporating environmental and climate change considerations while recognizing the interconnections of water demand across different sectors (the "nexus" approach), (ii) the use of Nature-Based Solutions (NBS) to complement and strengthen traditional gray infrastructure approaches, enhancing the natural resilience of water source, (iii) an institutional and regulatory framework that links these components and facilitates their practical implementation by decision-makers in the region, (iv) the application of advancements in science and technology to drive improvements in water security across the region. In addition, the Water and Sanitation Division has a line of work on Transboundary Waters Program "Joined by Water".

2.4 The Amazonia Forever Regional Program is the IDB's umbrella program acting as a platform and mechanism for collaboration and coordination in critical lines of action and themes in the Amazon territories, based on countries' priorities. Amazonia Forever (AF) is an important articulator and contributor that addresses critical gaps, scale up financing, knowledge intelligence and collectively support the implementation of the different Treaties[3], Declarations[4] and Action plans aimed at closing social,

---

2 Santos de Lima, A., et al. (2024). "El Niño event caused exceptional and prolonged low-water anomalies, triggering cascading effects on the Amazon's vast aquatic ecosystems and the livelihoods of indigenous and local communities." *Scientific Research Publishing*. https://www.scirp.org/journal/paperinformation?paperid=136388

3 For example, the Amazon Cooperation Treaty Organization (ACTO), an intergovernmental organization formed by the eight Amazonian countries which signed the Amazon Cooperation Treaty (ACT), a broad vision of the South-South cooperation process, which works in different dimensions within the framework of its implementation of ACTO.

4 For example, the Belém Declaration, which addresses a wide range of topics such as institutional strengthening of ACTO; Amazon cities; Amazon Parliament; judicial and intelligence cooperation in combating illicit activities, including environmental crimes; Sustainable infrastructure; Economy for sustainable development; Health; Food and nutritional security and sovereignty, as well as social protection.

ecological and economic gaps in Amazonia. Thus, AF advocates for a strengthened sectorial and economic-financial coordination in the region to scale-up the impact of interventions.

2.5 To apply this innovative approach, specifically in Amazonia, the IDB Water Security team has progressively started a dedicated line of work focused on water resilience in Amazonia through a growing portfolio of Technical Cooperations (TCs). This line of work is part of a broader work plan that includes TCs in other basins, such as Trifinio and La Plata, as well as in specific countries where water security and climate resilience studies have been conducted. Currently, three TCs are being implemented in the Amazon Basin: **i) RG-T3776:** A regional action plan for drinking water, basic sanitation, and solid waste management in collaboration with ACTO, which includes sectoral measures to drive innovation; **ii) RG-T4288:** Innovation and Science for Water Security, Climate Resilience, and the Protection of Amazon Biodiversity, developed within the framework of the Amazon Regional Observatory (ORA), which will use an integrated modeling tool (WHAT-IF/HydroBID) to analyze different physical and socioeconomic scenarios within the water-energy-food-climate nexus; and **iii) RG-T4180:** Towards a Better Understanding of the Amazon Aquifer Systems (AAS) for their Protection and Sustainable Management, which aims to identify and test lessons to reduce stress on the AAS. Additionally, in February 2025, the Program "Improving Climate Resilience by Increasing Water Security" (or GCF Water Security Program) was approved by the Green Climate Fund (GCF) with a total funding of USD $391.4M to deploy adaptation measures such as enhanced hydroclimatic information systems, early warning systems, and climate resilient water and sanitation infrastructure. This program will be the first multi-country fund exclusively dedicated to water adaptation in the Amazon Basin.

2.6 In this context, the upcoming Conference of the Parties (COP30) of the United Nations Framework Convention on Climate Change (UNFCCC) will take place in Belem, Brazil, in November 2025, for the first time in Amazonia. The Bank has prioritized four strategic pillars for COP30, being the second pillar, Amazonia Forever. Hence, it will set focus on the Amazon and critical issues such as the protection of vital ecosystems, financial mechanisms for climate adaptation, the implementation of NBS, and the inclusion of Indigenous Peoples, Afro-descendant Communities, and Traditional Communities (IP.AD.TC). Moreover, this conference represents a key moment for LAC countries to raise ambition in their climate action, given the upcoming submission of Nationally Determined Contributions (NDCs), setting the ground for high-level sectorial dialogues ("NDC 3.0" process). Hence, the Conference presents a unique opportunity to support decision-makers with knowledge products—drawn from the experience working in water security issues—to advance towards water resilience in Amazonia.

2.7 The **objective** of this technical cooperation is to share knowledge products developed through the implementation of the Water Security Strategy and the Transboundary Program of INE/WSA at the COP 30 and events pre-COP. This includes promoting the recently approved program funded by GCF and IDB, "Improving Climate Resilience by Increasing Water Security in the Amazon Basin." While this TC focuses on the Amazon basin, it will also incorporate technical expertise and lessons learned from TCs executed in other regions of LAC. The aim is to provide reference knowledge products from these regions on water resilience, that can serve as replicable case studies for the Amazon, particularly in the context of COP30 in Belém, Brazil. The **specific objectives** of this TC are: (1) support the development and dissemination of

knowledge products and communication materials on water resilience and the implementation of Nature-based Solutions (NbS) in the water and sanitation sector, (2) facilitate technical and political dialogues related to these knowledge products in preparation for the COP30, and (3) promote the dissemination of the GCF Water Security Program in the Amazon. Products delivered after COP will support sectorial dialogue with counterparts and contribute to the knowledge agenda related to the implementation of the Water Security Strategy and the Transboundary Program of INE/WSA. These products will also assist in launching the GCF Water Security Program, support the beginning of its implementation, and enhance relations with key stakeholders. The final decision of which products will be published at the end might vary and will be based on a strategic prioritization by INE/WSA.

2.8 This TC will incorporate a gender and diversity approach, recognizing that women, girls, and Indigenous peoples are among the most vulnerable to the impacts of climate change—particularly extreme events such as droughts and floods. These groups often face increased risks of abuse, limited access to resources and decision-making and are typically responsible for securing water and sanitation services, which are highly susceptible to disruptions caused by water insecurity. Such disruptions can hinder their ability to study, work, and live with dignity (UN-Water, 2021), and also increase their exposure to health risks, displacement, and gender-violence. In acknowledgment of these barriers, this TC will incorporate and disseminate gender-sensitivity in the knowledge products and dissemination and socialize the gender and diversity action plan already designed under the GCF Water Security Program.

2.9 This TC is aligned with the IDB Group Institutional Strategy: Impact+ (CA-631), its strategic objectives 1) Addressing Climate Change and 2) Bolstering sustainable growth", and its operational focus areas of: (i) biodiversity, natural capital, and climate action; (ii) sustainable, resilient, and inclusive infrastructure; and (iii) regional integration. In addition, this TC is also aligned with (i) the Water and Sanitation Sector Framework (GN-2781-13), the Environment and Biodiversity Sectoral Framework (GN-2827-8) and (ii) Climate Change Sectoral Framework (GN-2848-9). Furthermore, this TC is also aligned with the Amazonia Forever Program as it supports two of its five pillars: People, and Sustainable Infrastructure & cities and connectivity. Additionally, this TC aligns with the IDB Group Country Strategies of the seven Amazon countries involved: Bolivia (2022-2025) (GN-3088), Brazil (2024-2027) (GN-3243-3), Colombia (2024-2027) (GN-3238-3), Ecuador (2022-2025) (GN-3103-1), Guyana (2023-2026) (GN-3187), Perú (2022-2026) (GN-3110-1), and Suriname (2021-2025)(GN-3065). (i) In Bolivia, this TC contributes to the strategic objective of fostering environmental sustainability, climate change adaptation, and implementation of the Nationally Determined Contributions (NDC), and the transversal area 3.30 "Climate Change and environmental sustainability". (ii) In Brazil, it supports the area 2.33 of pillar 2, which emphasize the need for investments in NBS to enhance their preparedness to face natural disasters and the effects of climate change. (iii) In Colombia, it aligns with the strategic objective "Increase access to services in urban areas, with an emphasis on water and sanitation". (iv) This TC is also aligned with Ecuador's Strategic Objective 7: "Expand access to and improve coverage of basic and social services" and Priority Area 3.35: "Climate change, environmental sustainability, and natural disasters". (v) In Guyana, this TC aligns with section 3.10, that highlights the importance of developing resilient infrastructure projects that mitigate the risks of climate change and sea level-rise. (vi) In Peru, this TC is aligned with the strategic objective 4 "Strengthen environmental management with a focus on sustainability and climate change" and priority area 3 "environmental sustainability and

climate change, with an emphasis on water resources, environmental management, and agribusiness". (vii) Lastly, in Suriname this TC is aligned with the Strategic Objective 1.2, "Reduce inequalities in access to utilities," and section 3.20, "Cross-cutting Themes," particularly around water and sanitation infrastructure and the achievement of NDCs. Finally, this TC is funded by the Multidonor AquaFund (MAF), the main financing mechanism to support IDB's investments in water and sanitation in the region since 2008. The Technical Cooperation aligns with the fund's objectives of developing innovative knowledge products, increasing institutional capacity and supporting technical studies. In particular, it supports the workstream of "Water Security and Climate Change".

2.10 This TC is aligned with three IDB Thematic Pillars for COP30: Resilience, Amazonia Forever, and Financial Innovation and Climate Action. Specifically, it supports the *Amazonia Forever* pillar by focusing on practical solutions to enhance water security and climate resilience in the Amazonia; and the *financial innovation and climate action* pillar by showcasing case studies, as well as disseminating the regional program, with concessional resources from the Green Climate Fund, covering six countries in the Amazon Basin (Colombia, Bolivia, Ecuador, Suriname, Brazil, Peru). Both can serve as models to channel climate finance into resilient water security interventions. Moreover, these contributions are aligned with the Global Stocktake as well as the COP30's thematic pillars on *human settlements, adaptation, infrastructure, and early warning systems* and *nature and forest, biodiversity, water and oceans* as they focus on advancing climate-resilient communities by promoting green infrastructure solutions, tools for integrating water management into planning processes, and a multi-sectoral (nexus) approach to guide policy development and investment decisions across sectors in Amazonia. All of which are key to advance in formulating and implementing national adaptation plans, and NDC.

III. Description of activities/components and budget

3.1 **Component I: Knowledge generation:** This component will develop a minimum of three (3) technical notes focused on Nature Based Solutions (NbS) and their application in water adaptation projects. The aim of these technical notes is to present at COP30 in Belém knowledge products that, showcase advances in the application of NbS in the water sector, with the potential for scaling up. As examples for the first technical note, the TC will showcase the results regarding the already formulated 1) portfolio of short- and medium-term green infrastructure interventions for the Bogota Water and Sewerage Company (known as EAAB), and 2) a portfolio of green infrastructure interventions in the Yuna Basin in Dominican Republic. The second technical note will be focused on enhancing water adaptation perspectives in the National Climate Planning in Brazil. Lastly, the third technical note will provide an analysis of the Water Energy Food Nexus approach in the Amazon Basin through the WHAT-IF/HydroBID model.

3.2 These knowledge products will present case studies that can serve as models for implementing NbS to enhance water availability, improve water quality, climate resilience, and address water-related hazards. The first technical note will share the results of feasibility studies, NbS monitoring frameworks, and recommendations for their application by the Bogota Water and Sewerage Company, offering valuable technical insights for sector clients, including operators. Additionally, this technical note will highlight the ways in which NbS contributes to restoring water recharge areas, in regions where like the Amazon, have been degraded by land-use conflicts or poor

agricultural practices, showcasing the portfolio of green infrastructure interventions in the Yuna Basin as a case study.

3.3 The second technical note focuses on the water tracker tool, and the results of its application in Brazil will be showcased, demonstrating how this tool can inform climate planners and policymakers for decision-making by systematically evaluating both the explicit and implicit ways in which water is incorporated into a country's national climate plans and planning process.

3.4 The third technical note presents the WHAT-IF/HydroBID[5] model results, demonstrating its ability to analyze scenarios to assess regional outcomes, while considering the economic, environmental, and social dynamics of the Amazon Basin. This technical note aims to lay a foundation for promoting an integrated, multi-sectoral (Nexus) approach to inform policy development and investments across sectors in the Amazon.

3.5 It is important to note that the two first technical notes, although not focused on the Amazon, present valuable lessons learned that can inform the implementation of NbS in the Amazon when considering local conditions and context-appropriate adaptive management strategies.

3.6 The proposed technical notes will be gender-sensitive by incorporating case studies that highlight, when possible, the differentiated roles, needs, and contributions of women and diverse groups in water-related interventions. An inclusive, and non-discriminatory language will be used, and where possible, gender gaps and opportunities to enhance inclusion and resilience of women and diverse groups through the application of solutions such as NbS, the Water Tracker, and the WHAT-IF/HydroBID model will be identified.

3.7 **Component II: Knowledge sharing and outreach**: This component will focus on the dissemination of knowledge products on water resilience in strategic pre-COP30 webinars and events, where insights from technical studies will be shared to inform policy discussions. The TC also aims to showcase the capacity building provided throughout the past years to the Amazon Cooperation Treaty Organization (ACTO), who was a key and strategic partner in the development of technical notes 2 and 3, strengthening the knowledge development and technical capacity of the Amazon Regional Observatory (ARO). The aim of this component is to participate and collaborate in events and discussions with representatives from ministries/ national agencies[6], planning, and finance, multilateral organizations, NGOs, and representatives from civil society about strategies to progress towards more ambitious climate goals. Additionally, it is expected that these knowledge-sharing events will help identify valuable lessons learned that can inform INE/WSA's current portfolio on the Amazon, as well as contribute to conversations on innovative solutions to accelerate the implementation of NDCs, ensuring that they are not only ambitious but also impactful in fostering environmental and water resilience in the region. It is also worth mentioning that those technical notes will inform activities planned under the implementation of the program “Improving Climate Resilience by Increasing Water Security in the Amazon Basin” which is also expected to be launched at COP 30.

---

5 WHAT-IF (Water, Hydropower, Agriculture Tool for Investment and Financing) is an open-source decision support tool for water infrastructure investment planning within the water–energy–food–climate Nexus.

6 For instance, the Water Tracker model has informed the National adaptation Plan developed by the National Water and Sanitation Agency (ANA) in Brazil and in the last update of the Brazil NDC.

The dissemination of the above-mentioned knowledge products will also highlight the importance of incorporating the gender approach and inclusion of diversity in all program activities, as well as the methodologies that can be implemented to ensure the effective participation of these groups in all processes. Dissemination activities will also promote intercultural accessibility by using culturally appropriate communication materials and providing language accessibility where relevant, particularly for Indigenous Peoples, Afro-descendant, and Traditional Communities (IP.AD.TC).

3.8 **Component III**: **Dissemination of the GCF Water Security Program in the Amazon**: This component is designed to strategically disseminate information about the GCF Water Security Program within high-level technical and political forums, as well as among stakeholders. This goal includes the dissemination of the Program's Gender and Diversity Strategy, which outlines specific actions to improve access to resources and opportunities for IP.AD.TC in the Amazon region. Effective dissemination at this stage is critical to lay a solid foundation for successful implementation, facilitating informed engagement and fostering collaborative partnerships at public and private levels. Activities will include logistical support for participation in events involving government representatives, senior ministers, and international delegates. The importance of these dissemination efforts is amplified in the context of this TC by the upcoming COP30 in Belém, Brazil, offering a timely and strategic platform to enhance visibility, build momentum, and generate broader support among the diverse audience attending the global event, for the first time in the Amazonia.

IV. Budget

The total cost of this TC is US$150,000.00 which will be financed with resources from the Multidonor AquaFund (MAF). The unit responsible for disbursements will be INE/WSA.

Indicative Budget (in US$)

Activity/Component	IDB/MAF Funding	Total Funding
Component I: Knowledge generation	$50,000	$50,000
Component II: Knowledge sharing and outreach	$50,000	$50,000
Component III: GCF program dissemination	$50,000	$50,0000
TOTAL	**$150,000**	**$150,000**

V. Executing Agency and Execution Structure

5.1 The Bank, through its Water and Sanitation Division (INE/WSA), in coordination with CSC/ACU, will serve as the executing entity for this TC. The Bank's role as the executing agency is justified by its leadership in implementing the TCs from which the technical notes and knowledge products to be disseminated under this TC were developed. Additionally, based on the progress and achievements of ongoing INE/WSA TCs focused on the Amazon, valuable insights will be gathered to support the development of new knowledge products on NBS on the water sector, climate adaptation and the WEF nexus approach.

5.2 Since this is a Research & Dissemination (RD) TC, this operation will be executed by the IDB in accordance with OP-619-4 Annex 2, The Water and Sanitation Division

(INE/WSA), will be responsible for all aspects of this TC, including disbursements and reporting, under the supervision of INE/WSA.

5.3 INE/WSA will also be the Unit of Disbursement Responsibility (UDR) and will be in charge of the procurement processes, which will ensure that the procurements developed within the framework of the TC are timely and foreseen in the execution time. The disbursement and execution period established for the project is 24 months.

5.4 **Procurement.** The activities to be executed under this technical cooperation have been included in the Procurement Plan (Annex IV) and will be executed in accordance with the IDB's established procurement methods, namely: (i) hiring of individual consultants, as established in the regulations AM-650; and (ii) hiring of consulting firms for services of an intellectual nature and the contracting of logistics services and non-consulting services, according to the Corporate Procurement Policy (GN-2303-33) and its associated Guidelines.

5.5 All knowledge products, including datasets, maps, and reports derived from this TC will be the Bank's intellectual property and may be available to the public under a creative commons license. However, at the request of a beneficiary, in accordance with the provisions of AM-331, the intellectual property of said products may also be licensed to one or more beneficiaries through specific contractual commitments that shall be prepared with the advice of the Legal Department.

VI. Project Risks and Issues

6.1 No major risks are expected for the execution of this TC, but certain challenges have been identified. The first challenge relates to time constraints, as COP30 is scheduled for the last quarter of 2025, creating a hard deadline that may limit the ability to complete all deliverables on time. To mitigate this, a detailed work plan with specific timelines will be established to ensure not only the timely completion of deliverables but also their quality and relevance. Second, there is a minor risk that the products may lack the necessary level of detail to promote effective policy dialogue at the COP30. To address this risk, close coordination with the relevant IDB units leading COP30-related actions and participation with key partners and stakeholders like ACTO will be maintained. This will facilitate the alignment of knowledge products with key policy discussions.

VII. Exceptions to Bank policy

7.1 No exceptions to Bank policy have been identified for this operation.

VIII. Environmental and Social Aspects

8.1 This Technical Cooperation is not intended to finance pre-feasibility or feasibility studies of specific investment projects or environmental and social studies associated with them; therefore, this TC does not have applicable requirements of the Bank's Environmental and Social Policy Framework (ESPF).

Required Annexes:

Results Matrix_30900.pdf

Terms of Reference_94536.pdf

Procurement Plan_15080.pdf