TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Scaling Innovative Financing for the Water and Sanitation Sector
▪ TC Number:	RG-T3806
▪ Team Leader/Members:	Garcia Merino, Lucio Javier (INE/WSA) Team Leader; Machado, Kleber B. (INE/WSA) Alternate Team Leader; Aleman, Marco Andres (VPC/FMP); Allende Lopez, Marcos (ITE/IPS); Almeida Oleas, Natalia (LEG/SGO); Arguello, Marlene Zoraida (VPC/FMP); Arista Alarcon, Miriam Miliana (INE/WSA); Basani, Marcello (INE/WSA); Bedoya Del Olmo, Celia (INE/WSA); Grunwaldt, Alfred Hans (CSD/CCS); Guiza Ceron, Carlos Andres (INE/WSA); Leal Batista, Antonio (ITE/IPS); Lopez, Liliana M. (INE/WSA); Mendez Torrico, E. Gustavo (INE/WSA); Paez Rubio, Tania (INE/WSA); Pereira, Tiago Pena (INE/WSA); Perez Menendez, Angel Ramon (IFD/CMF); Sasaki, Keisuke (INE/WSA); Vila Saint-Etienne, Sara (LEG/SGO)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	
▪ Date of TC Abstract authorization:	18 Feb 2021
▪ Beneficiary:	LAC, Brazil, Peru
▪ Executing Agency and contact name:	Water.Org
▪ Donors providing funding:	Multidonor AquaFund(MAF)
▪ IDB Funding Requested:	US$600,000.00
▪ Local counterpart funding, if any:	US$0
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	September 2021
▪ Types of consultants:	Individual Consultants and Consulting Firms
▪ Prepared by Unit:	INE/WSA-Water & Sanitation
▪ Unit of Disbursement Responsibility:	INE/WSA-Water & Sanitation
▪ TC included in Country Strategy (y/n):	n
▪ TC included in CPD (y/n):	n
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Environmental sustainability; Gender equality; Institutional capacity and rule of law; Productivity and innovation; Social inclusion and equality

II. Objectives and Justification of the TC

2.1 While most investments in the water and sanitation sector are financed by the public sector, investment levels have been insufficient to achieve universal access. It is estimated that there is a financial gap to achieve the water and sanitation related Sustainable Development Goals (SDG) in the region of approximately US$15 billion per year. To increase investment levels, there must be private sector and market-based solutions to complement and accelerate government investment. In addition to the investments in infrastructure, families usually need to cover the costs of connecting to the networks and any associated household improvements with their own resources, and sometimes they require small loans to finance these costs. These small loans are only offered by microfinance institutions (MFIs) using traditional models with high interest rates. Among the many reasons families do not connect to networks and decide not to do these investments are: (i) lack of knowledge about the health benefits

of connecting to the network and (ii) the lack of financial mechanisms so that families, especially low-income ones, can face these expenses. Experience indicates that to solve these challenges, it is necessary to provide the right incentives and mechanisms to low-income families to finance the costs of installation and improvements of hydro-sanitary facilities inside their homes. Also, it is important to ensure the existence of policies, norms, or regulations to incentivize the connection and to raise public awareness about the social and environmental benefits of connecting to the service.

2.2 Microcredits can play a big role in providing families with a financial tool to connect to existing networks. Usually, microcredits are offered to low-income individuals from peri-urban and/or rural areas, without a credit history and often with no guarantees, and high interest rates. The first reason for this is that without a credit history or a mechanism for ensuring repayment (collateral or guarantees), the loan is considered to have more risk for the lender. The second reason is the geography of where the borrowers live. Microfinance institutions use a labor-intensive approach to attract new clients, monitor, and disburse loans. Loan officers are constantly going out to sell their microfinance institution's products by visiting clients face-to-face in small villages, rural areas, and slums. These translate into higher operational costs than regular financial institutions where customers go to bank branches. There are new models like water credits and new technologies such as blockchain that can decrease interest rates in microcredits and help those most vulnerable to develop a financial history, ensuring financial inclusion.

2.3 There have been experiences in LAC and worldwide about what are called water credits, microcredits directed to increase water and sanitation services, with a focus on connectivity or on accessing some kind of offsite solution, depending on the context of the household and the potential service provision solution. Microfinance is a viable intervention to curb the water crisis and capitalize on growing financial markets. The Bank has supported several initiatives such as CREDIAGUA in Peru (ATN/OC-13613-PE) and studies on connectivity to networks in Bolivia[1] and Peru[2]. Among the lessons learned are: (i) the importance of linking water credit programs to the extension of networks with the water and sanitation service provider, so that the timing is agreed, and the water credit program starts as the utility starts the construction works for the network. Coordination between the MFI and the service provider is key; (ii) the need to offer a financial product that can be adjusted to the progressive needs of families. Poor families do not usually make a strong investment in a household improvement, but they do improvements little by little; financial products must take this fact into account so that they can be expanded and adjusted; and (iii) in many cases, in peri-urban areas, auto-construction of household improvements is the normal methodology. It is key to ensure the systems built with the financial support meet the required standards at the country level.

2.4 Water.org, a nonprofit organization, has also been active in this field, using microfinance to offer a portfolio of solutions that break down the financial barriers between people living in poverty and access to safe water and sanitation. The WaterCredit program developed by Water.org brings small loans to those who need access to affordable financing and expert resources to make household water and toilet solutions a reality. It is a pay-it-forward system that makes it possible to help more people in ways that will last. In Brazil, Water.org has partnered with Banco do

[1] Link
[2] Link

Nordeste (BNB), which accounts for approximately 60% of the microfinance market in Brazil and has 3.8 million active clients, 75% of which are women. BNB serves the Northeast region of Brazil (Ceara, Maranhao, Piaui, Rio Grande do Norte, Paraiba, Pernambubo, Alagoas, Sergipe, and Bahia), where up to 80% lack access to sewerage systems and 40% lack access to a water network. BNB started piloting the WaterCredit program primarily in the state of Ceara, with the goal of training 500 officers. The main solutions that are being provided are loans for water improvements, specifically rainwater harvesting, water tanks and reservoirs, filters, protected springs and wells.

2.5 The WaterCredit program was offered with BNB's AgroAmigo[3] program in Ceara, which serves rural clients who are farmers and have agricultural related home-based businesses. The outreach of the current WaterCredit program has been 16,000 people through 4,000 loans mobilizing US$5.6 million in capital for water and sanitation loans. Building on both these experiences, the Bank wants to expand and pilot how to achieve, scale, and replicate the WaterCredit model in other countries in LAC where there is potential for growth.

2.6 On the other hand, there are new methodologies such as blockchain that can bring a decrease in interest rates in microcredits and help those most vulnerable to develop a financial history, ensuring financial inclusion. With blockchain, the individuals getting a loan for the first time can own the verified approval and repayment information beyond the term of the loan. This information can be used for subsequent loans or other financial products at the same or different institutions. Among the challenges that MFIs face, a key hurdle is the high operational cost relative to the small loan amounts, as MFI's loan assessors spend time in communities validating the identities through traditional national identity cards and visiting the homes of borrowers, neighbors, and local businesses to verify identification and background information. While blockchain has also value over and above traditional database architecture solutions, simply moving to electronic processes opens the door to decrease administrative costs through optimization of efforts and reducing manual workload around transcribing data from paperwork. Blockchain technology provides both the borrower and the lender real-time access to the data as it is being created, further streamlining communication between parties.

2.7 In 2019, the Bank's Water and Sanitation division carried out a pilot study of blockchain technology in Peru[4], in alliance with Water.org, where a private blockchain application was implemented in two microfinance entities to study the benefits of the technology in microcredit processes and test its use with real borrowers. The application was launched with real borrowers who registered on the platform with the necessary inputs to execute loan approvals on blockchain, and communications secured with technology were processed throughout the loan registration and approval process.

2.8 **Strategic alignment**. This TC is consistent with the Second Update of the Institutional Strategy 2020-2024 (AB-3190-2) and is aligned with the challenges of: (i) Productivity and Innovation, by focusing on the provision of infrastructure services and adequate, safe, reliable and affordable public services, prioritizing the use of innovative financing mechanisms to improve access to services and (ii) Social Inclusion and Equality, by

[3] AgroAmigo is Banco do Nordeste's Rural Microfinance Program, which offers productive and targeted credit to rural clients.

[4] Link

supporting interventions that promote universal and sustainable access to Water, Sanitation and Hygiene (WASH) services, with a strong emphasis on vulnerable populations. The TC is aligned with the cross-cutting areas of: (i) Climate Change (CC) and Environmental Sustainability, by promoting the development of actions that contribute to increasing service connection of collection and treatment of sewage; (ii) Gender Equality and Diversity, by promoting financing instruments that facilitate access to loans that benefit women who traditionally have low access rates; and (iii) Institutional Capacity and Rule of Law, since it will finance activities to improve the capacity to manage microcredits in selected MFIs. The TC will contribute to the IDB Group Corporate Results Framework 2020-2023 (document GN-2727-12) as measured by the *Households with improved access to water and sanitation* indicator. The TC is also aligned with the Water and Sanitation Sector Framework Document (GN-2781-8), specifically with the dimensions of success and lines of action related to universal access and improvement of the quality of services and of social and environmental sustainability; and with the "Sustainable infrastructure for competitiveness and inclusive growth" strategy (GN-2710-5), in the priority area for action to: "Promote access to infrastructure services". Finally, TC is consistent with the Multidonor Aqua Fund (MAF), by promoting innovation, to help the governments of the region to achieve the SDGs through the quality WASH services for all and capable of facing the challenges of the CC, ecosystem degradation and increasing water insecurity. This operation is also aligned with the IDB Group Strategy with Brazil 2019-2022 (document GN-2973), specifically the priority area of improving the business climate and narrowing gaps in sustainable infrastructure for enhanced competitiveness and the strategic objective “narrow infrastructure gaps. It is also aligned with the IDB Group Strategy with Peru 2017-2021 (document GN-2889) by contributing to the strategic objective of improving access to and quality of water and sanitation services.

2.9 The objective of the TC is to establish a methodology and approach that creates and expands access to improved water and/or sanitation facilities and services among low-income communities with a two-pronged approach by (i) scaling access to WaterCredit by partnering with Banco do Nordeste (BNB) and its implementation partner Instituto Nordeste Cidadania (INEC), hereafter referred to as the BNB-INEC program,[5] and (ii) promoting the development of blockchain technology into the MFI systems to better capture cost savings and functionality, to create an economic identity for users, and to digitalize the interaction between users and MFIs.

2.10 The beneficiaries of the TC are the people accessing water credits in Brazil and Peru through the MFIs. In addition, Brazilian and Peruvian MFIs with whom Water.org will partner. Water.org will approach microfinance partners in Brazil and Peru to participate in the pilot; these partners may include Abcred, an association of MFIs in Brazil, and MFIs like Caja Municipal de Ahorro y Crédito (CMAC) Cusco and CMAC Trujillo in Peru and BNB and Banco da Familia in Brazil.

III. Description of activities/components and budget

[5] INEC is a technical implementation partner of Banco do Nordeste (BNB) and provides technical support and capacity, including supplying staff and loans officers to operationalize BNB’s microfinance programs. Water.org has a grant implementation agreement with INEC and a technical cooperation agreement with BNB AgroAmigo division.

3.1 **Component 1. Scaling-up WaterCredit in Brazil.** The objective of this component is to expand the WaterCredit program, in collaboration with microfinance institutions (MFIs) to extend loans to their clients for water and sanitation solution purposes. Water.org has a current program with BNB AgroAmigo and INEC, which will be scaled with the support of this TC. Water.org will support BNB-INEC with technical assistance to design, pilot, and scale their water and sanitation micro-loan programs; host trainings and capacity development of staff; develop market assessment and program evaluations; and offer ongoing technical and coordination support to ensure the successful implementation of their WaterCredit lending programs.

3.2 MFIs partners are selected considering their geographical focus, the potential demand for water and sanitation credit products and the previous experience with WASH loan programs in Brazil. In this regard, Water.org has selected BNB and INEC to implement the WaterCredit program[6]. It is expected the project will support the scale up of BNB's WaterCredit operations, covering all geographies of BNB with additional attention to the Pernambuco State, including products for sanitation, as well as seeking expansion to urban areas through the CrediAmigo[7] microfinance program.

3.3 It is expected that the project will facilitate the disbursement of 13,000 water and/or sanitation loans reaching 52,000 people with their own water and/or sanitation solutions and that it will be able to mobilize US$14 million in capital.

3.4 The activities in this component are to: (i) Identify and generate loan demand in the population to improve water and sanitation services. This will include market assessments and research; events in the community, promotion, and dissemination of the water and sanitation loan products and; preparation of communication materials with the community and hosting awareness raising lectures; (ii) Train new MFI's branch staff to support lending efforts, including improving their virtual training and e-learning platform; (iii) Strengthen the selected MFIs in order to add a sanitation product line under the AgroAmigo program and work within the MFI to develop a loan product with the CrediAmigo program, by strengthening the allocated team to the WaterCredit program and providing incentives to the MFI's staff, among others, and to; (iv) Monitor the WaterCredit program through household surveys to validate loan disbursements and usage, and establish how WaterCredit programs can be put in place in selected settings such as rural areas or for specific sub-sectors such as sanitation.

3.5 **Component 2. Leverage Blockchain Platform in Peru and Brazil.** The objective of this component is to familiarize and capacitate MFIs and utility partners with the blockchain technology and explore with them how they could see using the technology, especially around cost savings and functionality, to then bring solutions to them where

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[6] Water.org selects microfinance institutions after inviting them to submit an Expression of Interest (EoI) form, followed by a due diligence and partner certification process. The due diligence and partner certification process assesses a microfinance institution's overall operations, which includes the mission, products and services, customer profiles, operational and financial management, risk profile, governance structure and prior experience with WASH related loan products. Water.org completed the partner certification process for BNB in 2018, with the recommendation that the institution has the necessary requirements to pilot and scale a WaterCredit loan program, including prior experience with a water funding initiative (FNE Agua), matching client income profiles, capacity for scale given BNB's significant geographic footprint in the Northeast and large client base (1.2 million AgroAmigo and 2.7 million CrediAmigo clients), and strong internal processes, controls and governance.

[7] CrediAmigo is Banco do Nordeste's Urban Microfinance Program. It is the largest productive and oriented microcredit program in South America, which offers entrepreneurs who work either in formal or informal sectors individual or solidarity group loans for their businesses.

Water.org can add value. To do so, the project will work with at least one MFI in Brazil and one in Peru to promote the integration of blockchain technology into a blockchain platform (LAC Chain)[8] to better capture costs and functionality for microcredits.

3.6 The MFIs will be selected based on willingness to participate in the pilot and an initial assessment of the current processes and challenges faced by the MFIs and their capacity to implement the pilot. Water.org will provide landscape information and convene meetings with existing MFI partners in Peru and Brazil to present the blockchain pilot concept, IDB's LAC-Chain platform, and ask them to share their current processes and procedures. The partners to landscape may include Abcred, an association of MFIs in Brazil; MFIs like Caja Municipal de Ahorro y Crédito (CMAC) Cusco and Caja Municipal de Ahorro y Crédito (CMAC) Trujillo in Peru; and Banco da Familia in Brazil.

3.7 The activities in this component include: (i) Carry out assessments on participating MFIs' current systems and processes for lending to identify the needs and capacity of these institutions to implement a blockchain application as a pilot; (ii) Educate MFIs in Peru and Brazil and/or utility on the data processes of the blockchain such as end client transaction with vendor or purchaser (credit history); End client to agent (loan application); Agent to Approver (loan approval); Bank to client (disbursement); Client to bank (verification of use of loan); Client to bank (repayment); (iii) Educate MFIs in Peru and Brazil and/or utility how to assess potential uses / benefits of the blockchain such as Ease of verification of client transaction history; Cost savings vis a vis loan officer time; Speed of approval; Ease of repayment; (iv) Educate MFIs in Peru and Brazil and/or utility on how to promote the creation of an economic identity for borrowers/individuals; (v) Track and record pilot results with MFIs in Peru and Brazil and/or utility, and; (vi) Follow up with MFIs in Peru and Brazil and/or utility on strategy going forward.

3.8 **Component 3. Evaluation, Auditing and Knowledge Generation.** The objective of this component is to evaluate, audit and generate knowledge products from the pilot activities.

3.9 The activities include: (i) 1 Internal evaluation of the blockchain platform; (ii) the implementation of an evaluation at the end of the project; (iii) the execution of an audit according to the Bank policies, and (iv) the elaboration of a technical note, including the pilot as a case study and showing the most important lessons learned and results and visibility events during the duration of the project.

Indicative Budget (in US$)

Activity/Component	Description	IDB/Fund Funding	Total Funding
Component 1. Scaling-up WaterCredit in Brazil	Deploy WaterCredit programs with selected MFIs	$290,369	$290,369
Component 2. Leverage Blockchain Platforms in Peru and Brazil	Pilot blockchain with selected MFIs	$164,531	$164,531

[8] LAC Chain is blockchain platform led by the IDB Group. The LACChain blockchain network is an infrastructure that enables the development of the blockchain ecosystem in Latin American and the Caribbean. LACChain is technology agnostic and seeks to enable public-permissioned networks with all technologies that can respond to the techno-legal framework of LACChain Link.

Component 3. Evaluation, Auditing and Knowledge Generation	Evaluate, Audit and Generate Knowledge	$145,100	$145,100
Total		**$600,000**	$600,000

3.10 The overall supervision of the project will be under the responsibility of Javier Lucio Garcia Merino (lucioga@iadb.org). The designated focal points in the country office will be Thiago Pena Pereira (tiagop@iadb.org) and Tania Paez (taniap@iadb.org) for the beneficiary countries. There are no supervision costs foreseen.

IV. Executing agency and execution structure

4.1 Water.org will be the executing agency of the TC. Water.org is a global Nonprofit Organization working to bring water and sanitation to the world by helping people get access to safe water and sanitation through affordable financing, such as small loans, and to empower people in need with these life-changing resources – giving women hope, children health and families a bright future. Water.org has been selected to be the executing agency of this program based on their vast experience in microfinance and water globally and in LAC. Water.org has worked with the INE/WSA in an initiative supporting the water and sanitation operator in Lima (Peru) to offer water credits to its users[9]. Water.org has an office in Peru and is currently exploring registration options in Brazil. Water.org has partnered with several MFIs in these countries. In Brazil, Water.org has three active MFIs partners. In Peru, Water.org has partnered with 11 MFIs.

4.2 Component 1 will be executed in alliance with the Instituto Nordeste Cidadania (INEC) and Banco do Nordeste (BNB). Water.org provides technical assistance and subsidies to MFIs to implement their WaterCredit programs and will partner with BNB and INEC to integrate the WaterCredit loan product into BNB's AgroAmigo program. INEC is a Civil Society Organization (Organização da Sociedade Civil de Interesse Público (OSCIP)) which supports BNB's CrediAmigo and AgroAmigo microfinance programs since 2003. Water.org has a non-financial technical cooperation agreement with BNB and a grant agreement with INEC and will fund INEC directly to continue its support BNB’s microfinance programs. Some funded activities will be the mobilization of WaterCredit, information sharing and monitoring of loan beneficiaries and, the pilot and scale-up of the WaterCredit program. BNB has reached over 70,000 people, disbursed more than 18,000 loans, and mobilized more than US$10 million in loan capital. The direct selection of INEC is justified in the specific and relevant experience in the sector and the continuity of maintaining a technical focus with the work that is currently being carried out (See Annex IV).

4.3 Component 2 will be designed with the LAC Chain platform[10]. Water.org will seek to work with at least 2 of their existing MFI partners who can implement the blockchain application for the whole cycle of a loan. Water.org’s role will be to coordinate the pilot with MFI partners, including hiring contractors to conduct needs assessments, developing training materials for MFI staff and client marketing materials, and organizing capacity building workshops with partners.

[9] 2645/OC-PE
[10] Link

4.4 Water.org will be responsible for the technical and fiduciary execution, and the coordination of all the activities of the TC, for which they may hire independent consultants previously agreed upon with the Bank. Water.org will be responsible for managing the Bank's financing resources, accounting for the use of such resources. The procurement plan for the project covers the 36 months of program execution and will be updated annually or when necessary or required by the Bank. According with the provisions of paragraph 1, Appendix 4 of the IDB's Procurement Policies, GN-2349-15 y GN2350-15 executing agency will use its own procurement procedures. Likewise, the program will have an operating manual (MOP) accepted by the Bank. Prior to the beginning of the activities of the TC, a non-objection letter from each beneficiary country will be requested by the Bank.

4.5 An external financial audit of the TC will be submitted by Water.org to the Bank within one hundred twenty (120) days following the expiration of the Original Disbursement Period or any extensions thereof. Water.org will submit to the Bank a Final Evaluation Report 180 days after the date of last disbursement of the contribution with a content agreed upon by the Bank.

4.6 **Condition prior first disbursement.** The approval by the Bank and by the executing agency of the operational manual (MOP) for the program. This condition is considered essential to ensure that program execution is launched with operating regulations in place to provide detailed guidelines on operations and coordination. The MOP will include the criteria, tools, and procedures for program execution in the terms previously agreed upon by the executing agency and the Bank, including but not limited to: (i) institutional, administrative, and financial management; and (ii) planning, support, and monitoring.

4.7 **Intellectual property.** All knowledge products derived from this Technical Cooperation will be the Bank's intellectual property.

V. Major issues

5.1 The main risk identified for both components is the lack of engagement of microfinance institutions which is reduced by the previous work done by both the Bank and Water.org in the countries and the network developed through previous activities.

5.2 The success of WaterCredit in Brazil with microfinance institutions will be greatly influenced by the successful partnership between Water.org, BNB and INEC by virtue of BNB having the largest microfinance program in Brazil. Since INEC is a resource partner for BNB, there is risk of non-renewal of Water.org’s current grant agreement with INEC if BNB decides not to renew their partnership with INEC. However, Water.org is confident the agreement will be extended due to the nature of BNB and INEC’s relationship. Water.org’s current contract, which ends in December 2022, aligns with the contractual term between BNB and INEC by design. BNB has been contracting INEC as their resource partner to implement their Crediamigo and Agroamigo microfinance programs since 2003 and 2005 respectively, and the contract is always structured as a two-year renewable term. BNB’s current contract ends December 31, 2022. To align with BNB and INEC’s contractual arrangements, Water.org signed a contract with INEC and will be signing an MOU with BNB that will end on December 31, 2022, with every intention to renew. Water.org is confident of the extension for two reasons: 1) INEC holds the monopoly on supplying BNB with operational staff. They are the only institution operating in the Northeast region of Brazil that can supply the volume of loan officers Banco do Nordeste requires to maintain their microcredit operations for both the Agroamigo and Crediamigo

programs, and 2) INEC has been partnering with BNB since 2003 and are fully immersed in BNB's operations. In the event that BNB and INEC do not renew their contract at the end of the December 2022, the strategy to mitigate this risk is to sign a grant agreement by Water.org with the agency that BNB would bring on board to replace INEC; this eventuality has also been addressed in Water.org's non-financial technical cooperation agreement with BNB.

5.3 Another risk may include potential delays and instability during the changes in national and subnational governments in the following elections which will be mitigated prioritizing the projects with government actors in early stages.

5.4 Other risk is related with the long-term sustainability of the activities of the TC. To mitigate this risk, the WaterCredit model and the blockchain platform will be transferred to the partners in the countries so that they can continue deploying credits and improving processes when this project finalizes. The WaterCredit model has shown to be a sustainable model when absorbed by the microfinance institution in their business model, as a new product that covers a demand in the line of housing credits.

VI. Exceptions to Bank policy

6.1 There are no exceptions to the Bank Policy.

VII. Environmental and Social Strategy

7.1 This TC will finance consultancy products, studies, and plans and, as such, does not require the implementation of specific environmental or social safeguard policies. It is therefore classified as C.

Required Annexes:

Results Matrix - RG-T3806

Terms of Reference - RG-T3806

Procurement Plan - RG-T3806