



## Climate Resilient Wash Analysis: Innovating the WASH BAT in Ecuador

### SUMMARY

The impacts of climate change in Ecuador challenge the achievement of universal access to safely managed water, sanitation and hygiene (WASH) services. To contribute towards sustainable and climate resilient WASH services, UNICEF and Sector partners implemented the WASH Bottleneck Analysis Tool (WASH BAT) with a focus on climate change. The tool allows a structured diagnosis of the sector; identifying and costing main bottlenecks and governance areas in need of further support and articulating prioritized plans. With support from the Stockholm International Water Institute (SIWI) and key stakeholders, it was adapted to integrate a climate perspective and a new dimension on the “Rights of Nature” (as per the Ecuadorian Constitution). In November 2019, the new criteria were tested during a 3-day workshop that brought together WASH sector, climate, risk and resource management stakeholders, with excellent results that lead to the inclusion of environment and climate change related activities in the so-called “Puembo Declaration” and its Roadmap.

### Introduction

Access to safe drinking water and sanitation is a human right and it is critical for socioeconomic development, food security and healthy ecosystems. However, the global climate change crisis is increasing variability in the water cycle.

In Ecuador, it is estimated that the impacts of climate change on water will not be the same throughout the national territory due to, among other reasons, the varied geographical and climatic conditions of the country. Some regions, such as the Amazon, have abundance of water resources, while some other areas such as the Andean Highlands (*Sierra*) and the upper parts of the Coast and Amazon regions are facing greater impacts due to the accelerated retreating of glaciers, variations of melting seasons, and increased water demand (Third National Communication, Ecuador, 2017). Stronger precipitations are leading to a higher frequency of floods and water contamination across the

country, with the increase of associated water borne diseases and epidemics. The most vulnerable settlements and populations, often living in drought and flood prone areas, and who lack access to adequate and resilient water and sanitation services are often the most exposed and vulnerable to the impacts of climate change.



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To address this, the Government of Ecuador is developing a National Adaptation Plan (NAP) to

reduce vulnerability to the impacts of climate change, build adaptive capacity in prioritized sectors, and facilitate the coherent integration of climate change adaptation into development planning processes, policies and strategies related to food security, agriculture, aquaculture and fisheries; productive and strategic sectors; health; water resources; natural heritage; and human settlements.

The development of Ecuador's NAP follows the directives of the National Strategy for Climate Change (NSCC) and form an integral part of the country's Nationally Determined Contribution (NDC) to the Paris Agreement, as well as efforts to reach the goals outlined in the 2030 Agenda for Sustainable Development and Sendai Framework for Disaster Risk Reduction.

UNICEF Ecuador is determined to support the NAP process, starting with the identification of bottlenecks for water and sanitation to feature prominently in national adaptation (and mitigation) processes, as well as identifying bottlenecks that prevent water and sanitation

from fully embracing climate resilience in respective sector policies, strategies and plans.

This Field Note describes the collaborative process between UNICEF Headquarters, UNICEF Ecuador and SIWI of adapting the WASH Bottleneck Analysis Tool (WASH BAT) to incorporate climate change criteria, the steps taken for the implementation of the bottleneck analysis, as well as the results and lessons learned.



## KEY POINTS

- *The Water, Sanitation, and Hygiene Bottleneck Analysis Tool (WASH BAT) represents a great opportunity to identify bottlenecks related to WASH climate resilience with the introduction of specific criteria that were thoroughly tested in Ecuador for the first time.*
- *Slight modifications on the way that WASH BAT is facilitated allow for a space in which climate, sector, risk and resource management stakeholders interact to agree on climate action that inform both national climate processes and WASH strategies and plans.*
- *The implementation of a WASH BAT with climate change focus is a great entry point for UNICEF's support to climate resilient WASH services both with WASH sector actors and with climate change actors, enabling UNICEF to position itself for integration of climate resilience in the WASH sector and for the development of climate finance proposals.*

## Description of Intervention

The water, sanitation and hygiene bottleneck analysis tool (WASH BAT) allows for a sectoral in-depth review through the evaluation of multiple criteria organized in building blocks and associated sector functions, by means of preparatory work and the implementation of national and subnational workshops ([www.washbat.org](http://www.washbat.org)). While the tool does not integrate climate change criteria in its original version, its implementation in Ecuador was considered as an opportunity to build in new specific criteria that would help a wider bottleneck analysis in the country.

Implemented in Puenbo, Ecuador, in November 2019, the national WASH BAT workshop focussed on the quality, sustainability and climate resilience of water, sanitation and hygiene services in rural areas and schools and was the first to comprehensively address climate change in its analysis. The exercise was organized by the National Water Secretary (SENAGUA) with the technical assistance of UNICEF, Stockholm International Water Institute (SIWI), Fundación

Avina, PROTOS Ecuador and WaterStep. A working group of 10 specialists were in charge of the preparation, facilitation and reporting during and after the workshop.

### 1. Methodological preparatory process

The integration of a climate change dimension into the WASH sectoral review in Ecuador required an innovative methodological process. The main challenge was to find the appropriate mechanism to ensure a specific focus on climate change aspects, while integrating it into each of the subsectors to be analyzed (water, sanitation-hygiene, and WASH in schools).

For the introduction of new climate change perspective in WASH BAT, a series of criteria that had been previously developed by UNICEF Headquarters in coordination with the WASH Cluster, which covers humanitarian aspects of water and sanitation related to climate change, were used as a reference. While these criteria were a solid basis, they were considered by UNICEF and SIWI's working group to be more focused on WASH programming in emergencies. For this reason, a new list of criteria was developed to cover issues related to the country's adherence to the United Nations Framework Convention on Climate Change (UNFCCC), as well as to the Paris Climate Agreement. The new criteria developed were also intended to cover aspects related to global and national adaptation and mitigation planning processes. For this purpose, a literature review was conducted that included existing national policies on climate change, references to climate change in the constitution of Ecuador, as well as in water and sanitation sectoral laws and regulations, strategies, plans and institutional arrangements.

For the development of the new climate change criteria, the Enabling Environment Framework which structures the tool was followed. Then, the criteria were classified into respective building blocks and WASH governance functions. For each building block, the expected results were also adapted to include a climate

perspective. Subsequently, they were prioritized to balance the number of criteria among the different working tables (rural water, rural sanitation, WASH in schools, and climate change), ensuring an equal workload. The process of formulating new criteria followed several revisions and adjustments up to a final version of 42 additional criteria that were applied in the WASH BAT workshop.

Finally, the participation of climate change specialists was key to ensure an integrated and comprehensive analysis of Ecuador's climate change-related bottlenecks. These specialists are familiar with Ecuador's international commitments and the national planning processes for climate change mitigation and adaptation but do not necessarily work in the area of potable water and sanitation. To achieve an adequate representation, the WASH team in Ecuador held several preparatory meetings and extended invitations to experts working in the Ministry of Environment, national focal points for multilateral and bilateral climate funds, as well as to academia and other United Nations agencies with expertise in this area.



### 2. Implementation of WASH BAT with additional climate change criteria

Facilitation of the WASH BAT with the newly developed climate change criteria required some methodological adjustments, compared to the standard criteria. The following were the most important methodological adjustments to the facilitation of the 3-day WASH BAT workshop in Ecuador:

**(a) Establishment of a specific team to prioritize climate change criteria**

On the first day of WASH BAT criteria scoring, 6 teams working in different tables were initially established with approximately 8 members in each of them:

- 2 teams with focus on rural water (approximately 50 WASH BAT criteria were analyzed by each table)
- 2 teams with a focus on rural sanitation (approximately 50 WASH BAT criteria were analyzed by each table)
- 1 team with a focus on water, sanitation and hygiene in schools (all 60 WASH BAT criteria were analyzed by that table)
- 1 team with a focus on climate change (all new 42 criteria developed were analyzed by the table).

Each of these teams analyzed and scored which of the criteria assigned to their group were of greatest challenge and relevance in Ecuador.

**(b) Integration of climate change criteria and expertise with the sector analysis:**

Once all criteria were scored, those that were prioritized by the climate change group were distributed and integrated into the remaining groups according to the distribution of topics. Further, the climate change team was

dissolved and its members joined evenly the rest of the 5 teams to support the analysis with their expertise. The intersectoral teams continued with the identification of sectoral bottlenecks, and the identification of appropriate actions to eliminate them, as Figure 1 shows.

The same teams were maintained to carry out an accountability mapping exercise. One team on water and another on sanitation addressed the accountability mapping methodology adapted for a climate change analysis (see box page 5).

**(c) Inclusion in roadmap**

On the third day of the workshop, the actions to remove bottlenecks were consolidated into a roadmap that included a detail of sub-activities, responsible agencies and estimated costs. The members of the climate change group accompanied this process to ensure consistency of the proposed activities and to help identify the stakeholders that should lead on the different climate change related aspects of the agreed roadmap activities.

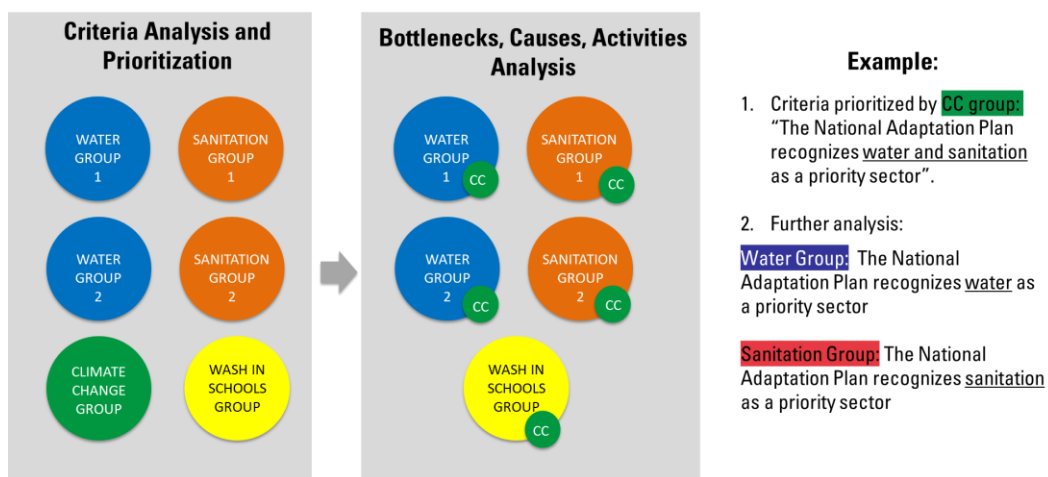


Figure 1. Methodology for climate change analysis

**BOX 1. ADAPTATION OF THE WASH ACCOUNTABILITY TRIANGLE EXERCISE WITH CLIMATE CHANGE**



The accountability triangle mapping is a tool that has been used to reinforce the WASH BAT analysis and helps to see more clearly who the key actors are in the provision of water and sanitation services, and the relationships between them.

For the WASH BAT workshop in Ecuador, the methodology was adapted to include an analysis related to the climate change actors and their roles and relationships between each other and in relation to the WASH sector. The following questions are the result of this adaptation.

Step 1: Climate-resilient services - the actors	Step 2: Resilient climate change services - relationships between actors
Who are the actors performing functions at the three vertices of the triangle?	How do water/sanitation actors interact with environmental and risk management actors?
In relation to climate change, which other actors are key to ensuring resilient service provision?	How can the policymakers ensure that the service provider will deliver a resilient service?
Does the service provider have the capacity to plan and manage the impacts of climate change? If not, how do you correct this limitation?	In extreme weather situations where the service is affected or interrupted, what kind of alternative service can the service provider launch in a matter of hours?
What management elements should the service provider integrate to ensure service during extreme weather events (flood, drought, etc.)?	Who is responsible for assisting users in climate emergencies?
In the case of extreme weather events, are there other actors involved in the provision of services?	Do users have to pay to service providers if the service is discontinued?
In a context of severe flooding or drought, do users know how to act if services are affected or disrupted?	Does the service provider have access to information related to extreme weather events and their impacts?

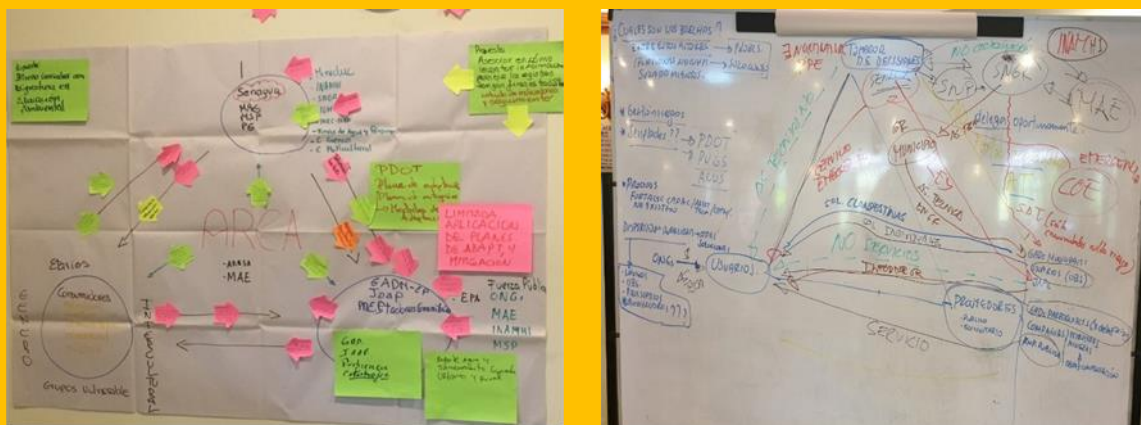


Figure 2. Drawings of water and sanitation accountability triangles with climate change perspective

## Outcomes

As a result of a harduous preparatory process and three intense workdays, a series of agreements were reached around the main priorities for a sustainable and resilient development of water and sanitation services in Ecuador. These agreements were compiled in the so-called "Puembo Declaration", which was signed by the participants of the event. The Declaration is accompanied by a Roadmap outlining the activities prioritized as a means to remove the bottlenecks.

The risks posed by climate change through the WASH BAT exercise are clearly identified and 13 out of the 20 prioritized activities of the Roadmap address climate issues, risk management or water source protection. This represents 65% of the total priority activities for sectoral interventions over the next years. A first review of the implementation of the Roadmap will take place by the end of 2020.

The following table summarizes all the Roadmap activities related to climate change, as proposed by the working groups on water, sanitation and schools.

### Water

- Promote demand from community management for the development of a rural water programme, with a vision of adapting to climate change.
- Update the water policy to integrate climate change, risk management and better definitions of resource allocation.
- Development of regulations for the establishment and application of tariffs in community water systems, factoring in source protection, incentives for its implementation, and accountability.
- Capacity building in the water sector on solutions and alternatives for climate change mitigation and adaptation.
- Consolidate a national and sub-national surveillance system for water quality, with social participation, which contributes to the protection and restoration of water sources from an intercultural vision.

- Update, adapt and improve the framework of technical and environmental standards for the design and implementation of sustainable and resilient water and rural sanitation infrastructure.

### Sanitation

- Create a thematic technical table that addresses sanitation and hygiene issues and their link to climate change.
- Provide technical assistance for the management, operation and maintenance of rural sanitation infrastructure that includes final treatment and considers administrative, technical, sustainability, cost and tariff aspects, with a climate change approach.
- Development of a Capacity Building Plan on resilient water and rural sanitation, involving academia and specific actors in the education sector.
- Generate institutional awareness mechanisms that promote action and motivate the authorities to improve resilient water and sanitation services at the rural level.
- Develop a national awareness plan on the Human Rights to Water and Sanitation and Hygiene, with a focus on the "rights of nature" and adapting to climate change.

### WASH in Schools

- Development of a cross-sectoral water, sanitation and hygiene strategy in schools that integrates climate change resilience.
- Strengthening the National Environmental Education Strategy (ENEA) to include and reinforce water, sanitation, hygiene and climate change in the curricula.

## Lessons Learned

The following section summarize a set of lessons learned through the implementation of the climate-sensitive WASH BAT in Ecuador. These considerations can be taken into account if the analysis is replicated at subnational levels in Ecuador and will be useful too when implementing WASH BAT with climate change in other countries.

- It is vital for the success of the analysis, and the identification of actions that the right

stakeholders participate in workshop. Climate change and WASH line departments often lack spaces to meet and interact amongst themselves and to dialogue with actors from subnational levels. Thus, the interaction between diverse mandates and perspectives is as enriching as the agreement of the Roadmap. In the case of Ecuador, actors responsible for climate change were present, but it would have been beneficial to also ensure participation of stakeholders working with Disaster Risk Reduction.

- During the preparation of the workshop, worries were raised as to whether climate change would be diluted or deprioritized in favour of other more urgent WASH sector issues. In the case of Ecuador this proved not to be the case. With 65% of the Roadmap's prioritized activities relating to climate change, risk management and water source protection it was demonstrated that by making the issue visible and providing expert guidance, widespread awareness was raised allowing substantial integration in all steps of the process and the results.
- Due to the extensive preparation and research carried out by the team, the climate change criteria included in the WASH BAT analysis were easily applied and facilitated the identification of bottlenecks related to the integration of climate change into sectoral water and sanitation policies and strategies. However, in order to facilitate an analysis of the integration of water and sanitation in the development of climate change cross-sectoral mitigation and adaptation planning, more time and resources would be needed to develop additional criteria that apply specifically to the planning and policy processes that govern this area. However, in

order to have a comprehensive Roadmap for this nexus, such analysis would be crucial.

- To include the climate change accountability triangle mapping exercise, additional time is needed as the establishment of the accountability triangle without including the climate change variable takes already substantial time. As a result, the time available for a deeper analysis of how climate change actors are part of accountability mechanisms was limited. Nevertheless, the exercise helped sharpen the discussions and identification of bottlenecks for climate resilience. The recommendation would be to carry out the normal steps of the accountability triangle first. Subsequently, participants should be given additional time to complete the questions related to the climate change actors.
- Finally, it is noted that the implementation of a WASH BAT with climate change focus is a great entry point for UNICEF's support to climate resilient WASH services both with WASH sector actors and with climate change actors. Based on this, UNICEF can position itself to facilitate and eventually implement the prioritized activities on issues related to the integration of climate resilience into water and sanitation policies and strategies, development of WASH risk analysis, development of proposals to multilateral climate finance funds, etc. Indeed, the implementation of WASH BAT with a climate change lens is also a powerful space to open a dialogue with new stakeholders and donors on opportunities for joint project formulation in this area.

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## Credits

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