

Monitoring Rainfall for Climate Resilience in Nicaragua



The ECT WASH (Environmentally Sound, Climate Resilient and Transformation of Humanitarian WASH) program is a global initiative aimed at strengthening climate-sensitive water, sanitation, and hygiene (WASH) services in fragile and disaster-prone regions. This program is implemented from 2023 to 2026 in across thirteen countries by the consortium of Arbeiter-Samariter-Bund, arche noVa and German Toilet Organisation, together with local partners in the countries. This program integrates climate risk

assessments, nature-based solutions, and participatory approaches to enhance community resilience. By incorporating environmental sustainability and disaster preparedness into WASH interventions, the program ensures that vulnerable communities can access safe water and sanitation while adapting to climate change. Through collaboration with local partners, governments, and humanitarian actors, the ECT WASH fosters long-term solutions that bridge humanitarian aid and sustainable development.

Project Brief: Strengthening Climate Resilience through Rainfall Monitoring in Nicaragua

Nicaragua, particularly in the Dry Corridor, faces increasing climate variability that threatens water security, agriculture, and livelihoods. The Environmentally Sound Climate Resilient Transformation of Humanitarian WASH (ECT WASH) project, implemented by Arbeiter-Samariter-Bund (ASB) in Nicaragua, enhances community resilience by strengthening local capacities in climate-sensitive WASH services, disaster preparedness, and sustainable water resource management. Through a combination of community-based climate monitoring, improved water access, and environmental conservation, the project equips vulnerable populations with the tools and knowledge to adapt to extreme weather events. By training local actors, promoting watershed conservation, and strengthening early warning systems, the initiative ensures that communities can proactively respond to climate risks and secure long-term access to clean water and sanitation.

A key component of the project is the establishment of Agroclimatic Youth Networks, where young people play a crucial role in monitoring rainfall patterns. These networks empower local communities to make informed decisions regarding water management and disaster preparedness. The integration of traditional knowledge with scientific approaches has fostered a culture of shared responsibility and resilience. This transformation is best illustrated by the story of Ashley and her family, whose daily commitment to rainfall monitoring has strengthened not only their adaptive capacity but also that of their entire community.

The ECT WASH project in Nicaragua: a snapshot up to 2024



10
communities are
intervened



in **2**
provinces



targeting **1905**
people in the areas



WASH trainings involving living in IDP Camps
and DRR trainings involving local authorities
were conducted

Ashley's Rainfall Diary: How a Family's Commitment Strengthens a Community

In the rural community of Las Chácaras, nestled in San Juan de Limay, 13-year-old Ashley begins her mornings with a unique responsibility. At 6 a.m., she carefully records rainfall measurements using a simple rain gauge installed through the ECT WASH project. This data is then shared with the Agroclimatic Youth Network via a WhatsApp group, helping her community anticipate weather patterns and better manage their water resources. What began as a small routine has now become a critical contribution to climate resilience in her village.

Ashley's family, engaged in small-scale agriculture, has embraced climate monitoring as a shared commitment. Her mother, Doña Clementina, a community leader trained through the WASH project, actively supports Ashley's efforts, while her father, Arturo, integrates the rainfall data into his farming decisions. Their participation highlights how intergenerational collaboration strengthens community adaptation to climate change. "Before, we didn't know how much it rained," Arturo explains. "Now we know when there's been significant rainfall and can act accordingly."

For Ashley and her family, the most profound transformation has been the ability to use climate knowledge for the collective good. Their focus is not just on their own survival but on how monitoring benefits the entire community. "Before, the river would rise, and I didn't know why," Ashley reflects. "Now, with the rain gauge, I understand how much it has rained and why the river swells."

The data collected has become an early warning system for the village. "When 100 millimeters of rain falls, we know the river is about to overflow," Doña Clementina explains. "Now we can alert others." Through shared information, neighboring farmers can better anticipate weather patterns, helping

them make informed decisions to protect crops and water sources.

Despite occasional challenges, such as limited phone access, the simplicity of the rain gauge makes it an effective, low-cost solution. "We don't want sophisticated equipment we can't manage," Doña Clementina says. This accessible technology has empowered the community to take action, even with limited resources.

Ashley and her family's experience demonstrates that climate monitoring is not just an individual task but a shared community responsibility. Their story highlights how accessible tools like rain gauges can foster trust, knowledge-sharing, and collaboration. By engaging youth in real-world climate action, the ECT WASH project has enabled communities to shape their own climate resilience strategies.

Ashley's daily commitment, supported by her family and community, underscores the power of collective efforts in addressing climate challenges. Their experience serves as a model for how simple actions, when sustained and shared, can lead to long-term impact.

