



UNC
WATER INSTITUTE



WORLD VISION AND THE WATER INSTITUTE AT UNC

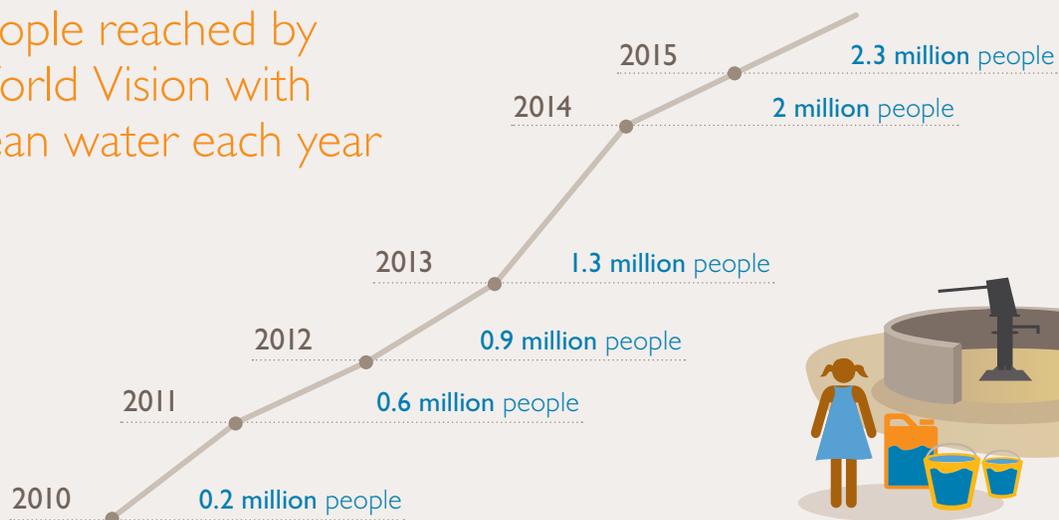
Collaboration



The Water Institute at the University of North Carolina-Chapel Hill (UNC-CH) and World Vision have established an innovative partnership to improve water, sanitation, and hygiene (WASH) interventions in low- and middle-income countries with the ultimate goal of helping solve the global water and sanitation crisis by 2030, in support of our shared belief that every child deserves clean water.



People reached by World Vision with clean water each year



This partnership is quite unique as few partnerships exist between nongovernmental organizations (NGOs) and research institutes to use data and evidence at this scale to inform program improvements.

Innovative Learning Approach

World Vision is a leader in community-based and child-focused water, sanitation, and hygiene (WASH) program implementation, and the Water Institute at UNC is a leader in WASH monitoring, evaluation, and continuous quality improvement. This partnership is productive and beneficial for both partners and for the broader global WASH sector, producing lessons with the potential to inform evidence-based decision-making and policy at many levels.

This collaborative approach and commitment to learning will strengthen World Vision's efforts in working with communities and local governments to provide access to clean water as well as dignified sanitation and proper hygiene training. By conducting rigorous WASH evaluations in 10 countries—and more countries going forward—World Vision is investing in building an evidence base and measuring results.

This partnership between World Vision and the Water Institute is quite unique as few partnerships exist between nongovernmental organizations (NGOs) and research institutes to use data and evidence at this scale to inform program improvements. World Vision and the Water Institute have committed to a six-year collaboration that includes two completed studies and five current and future studies, summarized below.

COMPLETED STUDIES

- » *Hilton Foundation-Funded Study on Sustainable Water Services Delivery*
- » *WASH Baseline Evaluation in 10 Sub-Saharan African Countries in 2014*

CURRENT AND FUTURE STUDIES

- » *WASH Midline Evaluation in 2017*
- » *Processes for Sustainability in Community-Managed Water Supply Systems*
- » *Solar-Powered Water System Sustainability*
- » *WASH Monitoring, Evaluation, and Learning—Continuous Quality Improvement*
- » *WASH Final Evaluation in 2020*

COMPLETED STUDIES

The study showed that nearly 80 percent of wells drilled by World Vision in Ghana's Greater Afram Plains were still operational after more than two decades.

Hilton Foundation-Funded Study on Sustainable Water Services Delivery

The Water Institute at UNC and Water and Sanitation for Africa (WSA) completed and published a study funded by the Conrad N. Hilton Foundation to determine the long-term functionality of water points.

In rural sub-Saharan Africa, millions of households depend on boreholes with hand pumps for drinking water, yet 30 to 50 percent of these hand pumps may not be functional at any given time. This study examined 1,470 wells in the Greater Afram Plains region of Ghana. A total of 898 (61 percent) of those wells were drilled by World Vision.

The study showed that nearly 80 percent of wells drilled by World Vision—which integrates local water and sanitation committees, user fees, and repair teams into its model of delivering clean water—were still operational after more than two decades. The study found that wells were significantly more likely to be functioning if the community had both a local water committee and a fee collection system in place. For water sources installed by World Vision, functionality did not decrease substantively with age.

Reference: Fisher, M. B. et al. (2015), Understanding handpump sustainability: Determinants of rural water source functionality in the Greater Afram Plains region of Ghana. *Water Resources Research*, doi:10.1002/2014WR016770



WASH Baseline Evaluation in 10 Sub-Saharan African Countries in 2014

The Water Institute recently completed the largest known population-based multi-country WASH evaluation in sub-Saharan Africa by conducting household, school, health clinic, and water point surveys in 10 countries where World Vision implements WASH programs.

The evaluation surveyed 26,851 households, 1,193 water points, 2,568 schools, and 1,453 health facilities, and gathered 7,561 microbiological water quality samples. The study was conducted in Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Niger, Rwanda, Uganda, and Zambia.

The main value of this effort was to create a baseline from which future progress and achievement can be rigorously measured in World Vision program areas.

The results showed:

- » On average, **62 percent** of households in the World Vision program areas had **year-round access to an improved water source**, and 62 percent of households had access to water of **low to intermediate risk** as measured by microbiological quality.
- » On average, **76 percent of schools and 86 percent of health facilities had access to an improved source of water.**
- » Furthermore, **67 percent of households in World Vision program areas had access to some type of sanitation**, although only **26 percent of households had access to improved sanitation** (including a slab on the latrine pit for better hygiene), indicating a need for greater focus on helping households to move up the sanitation ladder.

The study also identified opportunities to strengthen programming by improving access to handwashing in schools and health clinics, improving the sustainability and quality of water points by increasing the number of water committees, increasing the number of latrines in schools, and providing better means for girls to hygienically manage menstruation needs.



WASH Midline Evaluation in 2017

This evaluation will compare outcomes to the above baseline evaluation **to determine the areas in which World Vision has made progress, relative to comparison areas where World Vision does not work, and where there is need for additional improvement.** Because World Vision's global WASH program is expanding to incorporate additional countries, the midline will take place in the 10 countries where the baseline occurred and a baseline evaluation will take place in up to four additional countries.

Processes for Sustainability in Community-Managed Water Supply Systems

Results from the previously summarized Hilton Foundation-funded study on sustainable water service delivery identified the critical roles of the local water committee and fee collection. The Water Institute has been working with World Vision **on a qualitative study to better understand what leads to successful water committees.**

To date, the Water Institute team has collected 321 recordings totaling 237 hours from three countries (Kenya, Ghana, and Zambia), 18 communities, and dozens of water sector actors.

This deep dive into community-managed water systems has shown that a medium level of support from World Vision facilitates ownership, helps build social capital and mobilize resources, and provides an opportunity for WASH committees to effectively manage their water systems. Additional analysis will yield insights that are of high value to World Vision and to the global WASH sector in general.



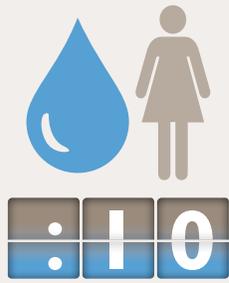
Solar-Powered Water System Sustainability

The Water Institute at UNC will conduct a three-year/three-country research effort to identify factors leading to sustainability of solar-powered systems. This is part of an effort by World Vision to diversify the types of water points provided in communities to ensure the most appropriate, efficient, reliable, and continuous delivery of water.

World Vision has partnered with Grundfos, one of the world's leading pump manufacturers, to provide 1,000 mechanized systems to reach 2 million people by 2020. In 2015, traditional boreholes or shallow wells constituted less than 40 percent of the water points, with large increases in the use of mechanized solar-powered water systems. These solar-powered mechanized systems use renewable energy to pump water into an overhead storage tank, from which it flows by gravity to multiple locations throughout a community.

The Water Institute research team will assess World Vision's solar-powered systems to identify the institutional, technical, social, and financial factors that promote sustainability. Study findings will be used to understand how project implementation, monitoring, and management can be structured to ensure long-term viability of solar projects.

WORLD VISION COMMITMENT »



We are scaling up our efforts to reach **ONE NEW PERSON** with **CLEAN WATER** and sanitation **EVERY 10 SECONDS BY 2020.**



Continuing at this pace for another 10 years will mean that **EVERYONE, EVERYWHERE WE WORK**, has **CLEAN WATER** and sanitation **BY 2030.**

WASH Monitoring, Evaluation, and Learning—Continuous Quality Improvement

World Vision is working with the Water Institute to expand implementation of the WASH monitoring, evaluation, and learning approach, including the first-ever WASH Continuous Quality Improvement (CQI) program, in five countries. UNC researchers have trained World Vision personnel on (CQI) methods, using adaptive, data-driven cycles to rapidly improve program results.

This approach leverages high-quality monitoring and evaluation data to systematically drive rapid improvement in WASH programs. CQI methods have a proven track record, transforming the manufacturing, service, and healthcare industries over the past 50 years, but have never before been applied in the WASH sector.

This systematic approach has already demonstrated dramatic results in Ghana, through projects to improve household water quality and water point functionality. This first-ever application of CQI to WASH programming was funded by the Hilton Foundation. The results and approach are now being scaled to West Africa and beyond.

WASH Final Evaluation in 2020

This final evaluation will compare outcomes to the previous midline and baseline evaluations in order to measure the outcomes and impacts of World Vision's WASH programming, and identify areas for improvement.

Data and lessons learned will help shape efforts through 2030, by which time World Vision expects that in collaboration with their partners they will have provided universal access to water and sanitation in all program areas globally.



DEVELOPMENT OF WASH LEADERS

As part of the collaboration between World Vision and the Water Institute at UNC, a World Vision Fellowship has been created to support specific research for master's and doctoral students. The first recipient of the Fellowship will lead research on solar-powered water system sustainability.

In addition, the Water Institute at UNC is leveraging financial support from partnerships including the Wallace Genetic Foundation, the Conrad N. Hilton Foundation, and the American Water Works Association, and from UNC graduate and undergraduate scholarships such as those funded by the Morehead-Cain Foundation, to support research.

Importantly, this effort will also significantly increase the capacity of World Vision WASH staff through direct collaboration with world-class UNC research personnel.



WASH PROGRAMS

EAST AFRICA

- Burundi
- Ethiopia
- Kenya
- Rwanda
- Somalia
- South Sudan
- Sudan
- Tanzania
- Uganda

WEST AFRICA

- Chad
- Ghana
- Mali
- Mauritania
- Niger
- Senegal
- Sierra Leone

SOUTHERN AFRICA

- Angola
- DR Congo
- Lesotho
- Malawi
- Mozambique
- South Africa
- Swaziland
- Zambia
- Zimbabwe

ASIA

- India

LATIN AMERICA

- Bolivia
- Haiti
- Honduras
- Mexico
- Nicaragua



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