

•Groundwork Institute

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Welcome to **Groundwork Institute Quarterly** where we bring you news about our U.S.-based nonprofit in our mission to provide architectural solutions to disadvantaged communities worldwide.

Founded in 1979, Groundwork Institute has worked in Cuba, Nicaragua, Liberia, China, and more recently, Besongabang, Cameroon, where we have been working to provide clean water, improved sanitation, smoke free kitchens and low- cost, high quality housing.

CAMEROON: Lessons and Accomplishments

We began work in Cameroon with the idea of building a demonstration house using local resources and labor. With construction expertise on site, people would have the tools and guidance needed to help build their own house.



Carrying firewood to the village. It is a 20-30 minute walk.

But upon discovering the widespread contamination of drinking water sources, our goals were refocused on improving access to safe water. This presented challenges. As Carybeth Reddy, a



TEAM MEMBER
SPOTLIGHT: Pearly Wong

Pearly was born in Melaka, Malaysia. In 2008, she graduated from the University of Malaya with a B.S., Biological Science. Traveling across Europe, Northern Africa and Southeast Asia, she discovered her passion in humanities and international development. She received an M.A. in Sustainability, Development and Peace from the United Nations University, Institute of Sustainability and Peace in 2013. Pearly volunteered for over 6 months in Cameroon and contributed her time and extraordinary work ethic to the Besongabang project through her detailed reports on land use, resources, and culture. To view her reports on local resources

[CLICK HERE](#)

Peace Corps volunteer working in Cameroon pointed out: “How do I convince someone who has been drinking straight from their well for 60 years that he needs to start disinfecting that water?”

Urbanization of Cameroon has not led to improved drinking water access for all. In areas where urbanization has taken place, systems are often unreliable and open to contamination.

Besongabang is a rural village with no municipal water system.



In Cary's water sanitation class a student uses 3M Petrifilm to test for coliform and E. coli.

Groundwork collected data on water wells and sanitation systems, conducted water quality tests, and created a complete map of all the systems within the village. Data of this type are rare for rural villages despite the known problems of contaminated water and the prevalence of related diseases.

In a study done in Yaounde, the capital city of Cameroon, they found a prevalence of 14.4% for children under the age of five suffering from diarrhea¹. One of the main risk factors is unsafe drinking water.

The project Groundwork undertook - providing safe drinking water to the village – is a difficult task. With one staff member, two full-time volunteers, village members, and numerous experts donating time and resources, we accomplished a significant amount with very limited funds. ARUP – a leading international engineering firm – helped solve technical problems we encountered and donated water test kits. With these partners and volunteers, the Groundwork team has provided an opportunity for significant improvement of clean water availability and sanitation systems.

After finding water contamination and mapping water sources, we moved to education through a water class designed by Carybeth Reddy. The kids were enthusiastic about learning water sanitation techniques. The interactive lessons were a welcome change from the normal lecture format, and while they were shy to talk at first, they soon became fully engaged. View the complete report [here](#).



A student practices disinfecting water using household bleach.

“It was probably one of the most rewarding parts of the water project for me.” Cary says. “I did trainings for two women's groups on water disinfection ...Women from both of the groups assured me that they were disinfecting their water how I taught them” More follow-up would be needed to know the lasting effects of this.

Since our project began, other groups have taken interest in the village water systems. Several months ago, work began on a water project funded by the

African Development Bank which would dig a bore hole and have 10-20 standing taps throughout the village. This addition may bring the water systems in Besongabang to a community-wide level and simplify access to clean water.

The story of Groundwork's involvement in Cameroon ends with the implementation of a water sanitation class, detailed reports on local resources, maps, and an understanding of how difficult structural and behavioral changes can be. But our goal was not to do something easy it was to do something useful and sustainable. And we have in part achieved that.

If you have ideas for projects that would continue this work, or other projects related to the mission of Groundwork, please let us know by emailing community@groundwork.org. We are always looking for collaborators.



Participants show 3M Petrifilm tests of well water and water disinfected with bleach.

Special thanks:

- **Harold Leverenz**, Civil Engineer
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 - **Yana Waldman**, PE, LEED AP, Senior Engineer, Civil Infrastructure
 - **Jennifer de Bruijn**, EIT
 - **Kevin Chen**, Structural Engineer

References

1. Yongsi, B. (2010). Suffering for Water, Suffering from Water: Access to Drinking-water and Associated Health Risks in Cameroon. *Journal of Health and Population Nutrition*, (5). doi:October 2010

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