

EWBlast!

The Yale Student Chapter of Engineers Without Borders

Vision

EWB-USA supports community-driven development programs worldwide through the design and implementation of sustainable engineering projects, while fostering responsible leadership.

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Dear EWB friends new and old,

EWB-YSC has had a busy semester here in New Haven, Connecticut. At Yale, we've welcomed new members, held practical workshops on topics like surveying and water quality testing, hosted guest speakers, and are now planning many events for the coming year.

First and foremost, we are very excited to announce that the Kikoo water project, which was begun in 2006, **has now been completely constructed!** We plan to travel to Cameroon in March 2011 to inspect the finished system and to continue our education and health work in the community of Kikoo.

Meanwhile, we are forging ahead with a new sanitation project in Kikoo, in which EWB members and community members will work together to construct ventilated, improved latrines at Kikoo's several schools and churches. We will travel again in May 2011 to implement this initiative.

Letter to EWB-YSC and Friends, from the Kikoo Water Committee



Families celebrate the opening of the final standpipe, #14. Photo by Eugene Lenzemo.

Engineers Without Borders,

It is with great pleasure that we put down our heads today the 26th September 2010 to express our joy and happiness to our Engineers with Borders for the magnificent gift to us (water). Water being the source of life means you are our source of life.



The EWB-Yale team, 2010-2011 academic year



Kikoo community members stand atop the second storage tank, which was completed on Friday, October 1, 2010. Photograph from Eugene Lenzemo, a teacher in Kumbo, Cameroon and an active organizer in the water project.

Thank you for your continued interest in our work. Your support has allowed us to become a better, more active organization every year. We promise to continue working hard to build relationships and communities, both here at Yale and across the world, and we hope that you'll be with us every step of the way.

*Jonathan Yeh '12 and Rohan Agarwal '12,
2010 YSC Co-Presidents*

We further more acknowledge the health conditions that has changed in the village since the realization of the 14 stand Pipes in the village. To think that we are witnessing a secondary thank to supply the two stand Pipes in Mbohkishay Quarter gives us yet another reason to thank you for your goodness to us. How can we repay you? For this reason, nobody can doubt the joy and feeling of satisfaction and gratitude to God reigning in our hearts.

Everybody in the village extend greetings to all of you there. Mbohkishay Quarter where the secondary tank is located express their joy, testifying their health has improved as most of the illnesses in that quarter was a result of dirty water.

In fact this year has been a year with a different as far as health is concerned. We lack words that could express our joys.

As you are planning to come over, we are here praying for God's guidance and journey mercies.

May God bless you all.

Project Secretary: Kilo Wilfred

President: Polycarp Lukong

Water project background and update

Kikoo is a village of approximately 1000 people located outside of the city of Kumbo in Northwest Province, Cameroon. Access to clean water for drinking and washing was a major problem for the community, as local streams are polluted with human and animal waste and laundry residues, fuel for boiling water is prohibitively expensive, and rainfall is abundant only in the wet season. Gastrointestinal diseases were widespread, and represented the most common cause of illness in children under five.

In 2006, Kikoo created a Water Committee to address these problems, identifying a clean water source 1.5 kilometers from the village, and building a spring catchment.

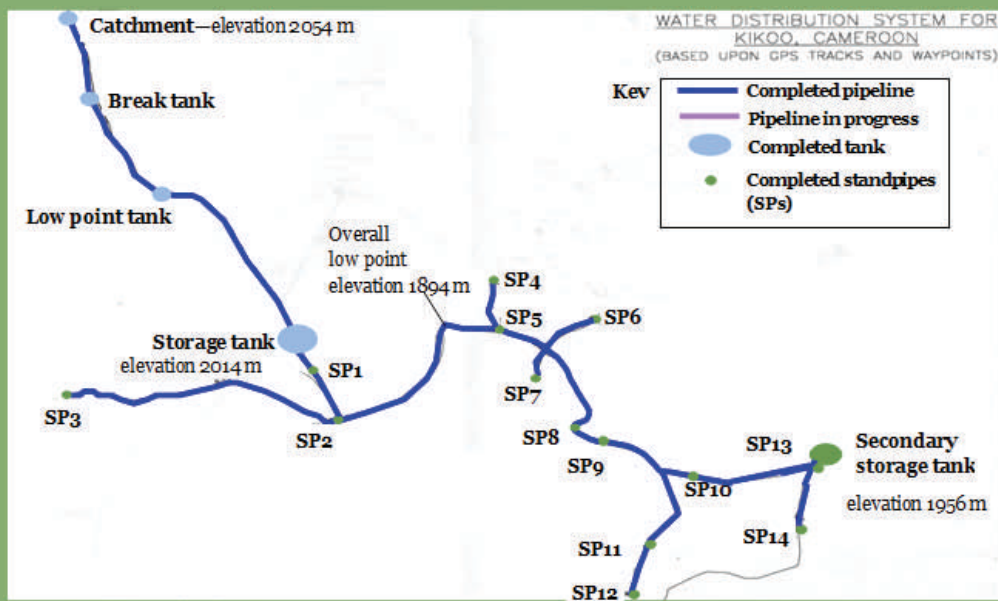
As of December 2010, the technical and financial support of EWB-Yale, combined with over 10,000 man-hours of volunteer labor and annual fundraising contributed by the Kikoo community, has resulted in the construction of a complete gravity-fed water distribution system with 2 storage tanks, 14 standpipes and over 7 kilometers of underground PVC pipeline.

Last winter, a travel team from Yale and our partners in Cameroon helped survey and excavate the site for the second storage tank, located in the eastern part of Kikoo. As planned, the completion of the storage tank was supervised by a local plumber, and it was filled with water for the first time in October 2010.



October 1, 2010: Community members from the eastern part of Kikoo eagerly watch from atop as the secondary storage tank fills for the first time (photo by Eugene Lenzemo)

Concurrently with the second storage tank's construction, pipeline was laid eastward from standpipe 7 toward the tank. In May 2010, standpipes 8, 9, and 10 began delivering to Kikoo's community meeting center and its largest school, with 200 students. Pipeline continued to be laid to the storage tank and to standpipes 11-14, which began to flow as soon as the tank was filled with water in October 2010.



**Republic of
Cameroon**

Location: West coast of Africa,
between Nigeria and Gabon

Official languages: French & English

Population: 18.8 million

**Population without access to clean
drinking water:** >50%
(United Nations Development Fund)

Visit Kikoo!

As of October 2010, the community of Kikoo is visible (but not searchable) on Google Maps.

Go to maps.google.com, search for Kumbo, Cameroon, and scroll five miles north along the N11 highway to see satellite imagery of the village from April 2008. The main storage tank of the water distribution system is visible as a small grey circle at approximately 6°16'30, 10°40'19.



EWB Freshman's Perspective: On a mission

I was on a mission. Bravely clutching a "Sorry, I'm not a singer" poster, I descended down the flight of stairs that would lead me to the deluge of student organizations offering candy, handing out friendly pamphlets, and using other ruses to catch the attention of potentially interested freshmen. So after navigating through the sea of organizations and mustering up the courage to voice polite refusals, I finally found it. I finally accomplished my mission: I found Yale's Engineers Without Borders.

But at the same time, I felt unsure about participating in the group's adventures. What if my background in the sciences and quantitative reasoning isn't enough? Could I grasp enough threads of EWB's projects? Enough that would allow me to understand the group's work?

Thankfully, I found that I could easily dispose of my insecurity. I learned that all of EWB's members are on an even playing field and, academically, are truly without borders, coming from majors as diverse as chemical, mechanical, and environmental engineering, biology, economics, math, and history. All of us can easily contribute to the projects. And the extent of these projects is indeed borderless, taking us across the Atlantic to Kikoo, where EWB has worked together with the local community for several years.

And EWB isn't just borderless academically and geographically! Not only a group that engineers, designs, and constructs, EWB also takes time to organize education programs for the Kikoo community and serves as a neutral anchor when the community must deal with complex political situations surrounding financing and development.

And to further substantiate the "borderless" aspect of EWB, we can turn towards EWB's education task group and their mission to inspire local New Haven youth, teaching them about the benefits of science, engineering, and academic achievement through presentations, engineering project demonstrations, and pen-pal letter exchanges with Kikoo's children. Perhaps they'll uncover an unexpected passion for the concepts behind EWB's projects and contemplate it as a career possibility.

So did I find what I was looking for that afternoon at the Yale Freshmen's Extracurricular Bazaar?

Yes. Definitely Mission Accomplished.

- Ana Calabano, Yale Class of 2014



Parker Collins '13, Bezawit Getachew '12, and Ana Calabano '14 speak about engineering and the Kikoo project with students at Conte West School in New Haven



New and old student members watch as Beza demonstrates the water quality test for detecting coliform bacteria, the same test currently used in Kikoo



Nathan Hardesty-Dyck '12, Ana Calabano '14, and Antonella Lisanti '12 sell homemade pumpkin pie and speak about the Kikoo project on campus during Family Weekend at Yale



Trip team and local engineering partners (in blue-green) with the Kikoo Water Committee and other community members, on the previous trip in January 2010

Our Future Plans



Members of the travel team from Cameroon and Yale meeting the Third Assistant Mayor of Kumbo, January 2010.



Bezawit Getachew '12 demonstrates a miniature gravity-fed water system on campus during National Public Health Week, April 2010

The following is an approximate timeline of activities that EWB-YSC will undertake in the coming semester and beyond:

Spring 2011:

- Based on plans developed this term, construct a prototype of a battery-powered incubator to expedite the water testing process in Kikoo
- Continue to host guest speakers, and co-sponsor events with the Public Health Coalition, including an upcoming presentation by Prof. Alessandro Gomez on biomass stoves and combustion efficiency
- Organize concrete pouring workshop
- Meet with local EWB chapters at the Connecticut Society of Civil Engineers meeting in April 2011

March 2011:

- Walkthrough and technical inspection of completed system
- Conference with Water Committee regarding all technical findings
- Train community members to conduct post-implementation health survey in conjunction with health officials from Bansa Baptist Hospital; begin post-implementation health survey
- Finalize locations of public latrines and conduct additional soil and groundwater tests
- Continue education programs, letter exchange for schoolchildren, and training in system maintenance and water testing

May 2011:

- Implement model latrines
- Finish collecting and processing results of health survey
- Based on March '11 findings, potentially assess nearby community of Roh, which has expressed interest in joint development, for additional possible EWB projects
- Continue developing curriculum for incoming students in the fall

Future projects —*To be determined, based on feasibility, community involvement, group interest, mentor availability and costs*

Get involved!

Please contact us if you have questions or suggestions. We are grateful to the many people who have contributed towards our projects; as we are a non-profit organization independent from Yale University, this work would not be possible without your continued support.

Sign up to receive our newsletter by email!

Help us reduce printing costs and become more environmentally friendly. Please visit our website or email us to receive future newsletters electronically.

Our current wish list:

- Engineering professionals interested in serving as mentors
- Old car battery
- Water quality test supplies
- Tours of local power plants, water treatment plants, industrial facilities, etc.

To make a donation:

All donations are tax deductible. You will receive a tax deduction statement from EWB-USA.

By check: Please make checks payable to Engineers Without Borders—Yale Student Chapter and mail to the address at right.

By credit card: On the EWB-US website (www.ewb-usa.org), select 'Donate', 'Specific Chapter'. 'Yale University' and follow the easy online instructions.

Thank you to our most recent supporters!: James Leitner, Shirley Yeh, Humbert and Carol Sacco, Bob Pattison, Mary Carey, John Dyck, Kent Townsend, Christine and Richard Rappoport, the Julia Vance and Vince Carter Fellowship.

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