



Engineers Without Borders – Princeton University



Our Story

EWB-PU was founded in the fall of 2004 to provide opportunities for students to **apply their education to global development challenges.**

Now, the chapter has 90 active members that span diverse fields of study. Roughly **20 percent** of our members are AB students.

We have **three international projects in Sierra Leone, Peru, and Ghana**, as well as a full slate of on-campus activities to **spark awareness and dialog about international development** at Princeton and beyond.



We Believe

... that international development is a global effort requiring innovation, interdisciplinary collaboration, and cross-cultural understanding

Our Vision

... is a world in which all communities have the capacity to meet their basic needs

Our Mission

... is to implement sustainable, community-driven projects, while creating transformative learning experiences and developing responsible leaders

International Projects



Over eight years, we have implemented six projects addressing...

Sustainable energy

Health

Water & sanitation

Education

SIERRA LEONE :: community history



The Kono District of Sierra Leone witnessed a large part of the brutality of the civil wars of the 1990s. Since the end of the war in 2002, the **lack of basic infrastructure in Kono** still cripples the community's ability to recover as the rest of the country has. The community is in the need of healing, which begins with getting **access to basic services including clean water, healthcare, and electricity.**

In particular, water-borne illness is a significant issue for the local citizens. In 2003, **water sanitation coverage was only 10%.**

SIERRA LEONE :: project timeline



In 2009, a group of Princeton students installed **solar panels** on the Wellbody Alliance health clinic to allow them to run diagnostic equipment and lighting.

During the summer 2012 assessment trip, we seek to gather both community and technical data for a **water distribution project** and establish a **stronger connection** to the individual members of the community.

SIERRA LEONE :: project objectives



Our summer trip aims **to assess the current quality and sources of water** for a community near a health clinic run by Wellbody Alliance. To improve water sanitation in the area, we plan to travel to Kono, map out water sources, test water quality, and interview citizens to determine a plan to improve water quality and community health.

By **improving access to clean water**, we hope to increase opportunity and productivity in a community where time is often lost due to illness. This project will be a step towards developing stronger fundamental infrastructure for Kono.

SIERRA LEONE :: student reflections

David Newill-Smith

design lead

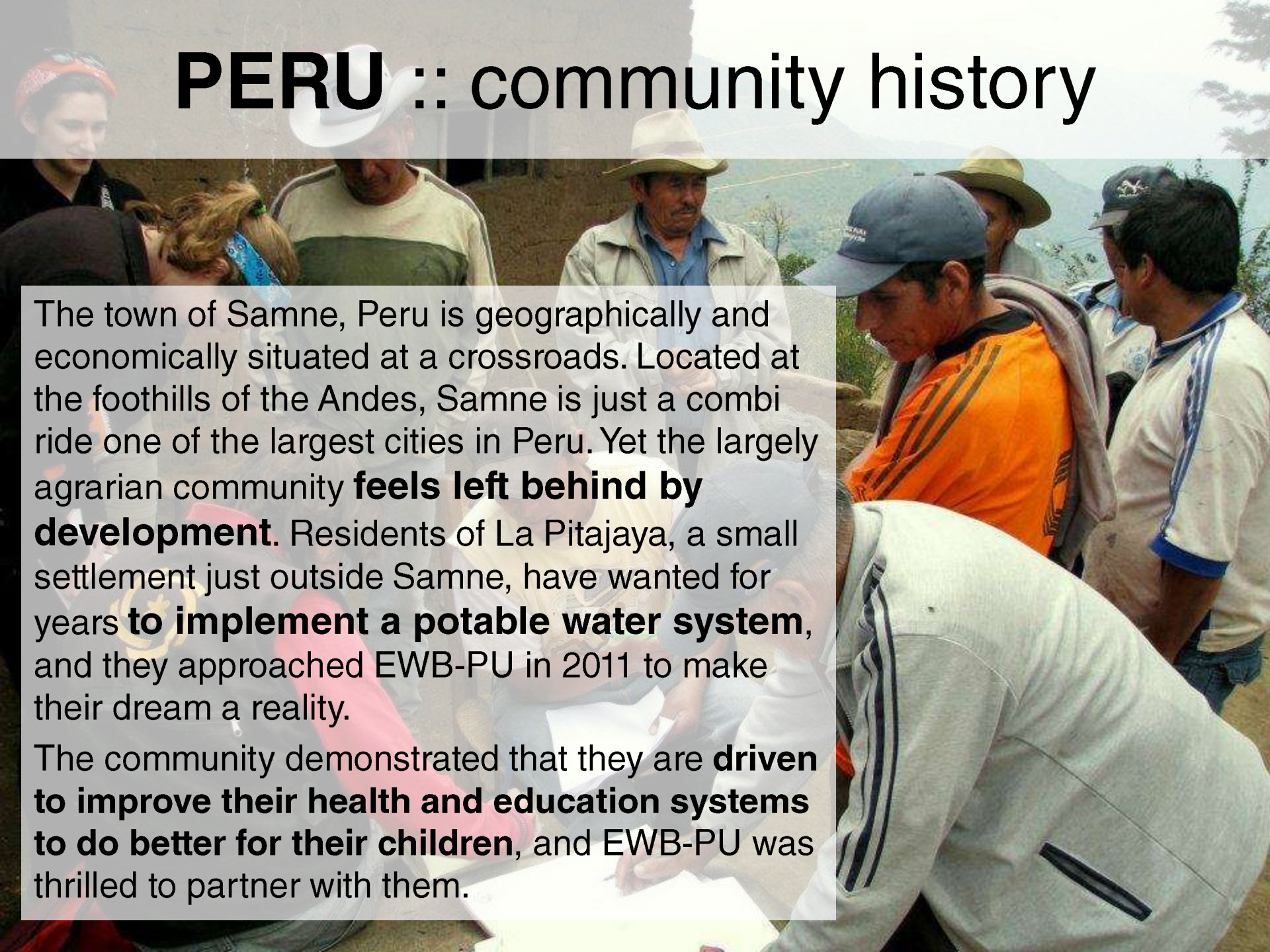
mechanical engineer | class of 2014



“This community has gone through so much. Kono has a lot of civilians, but also a huge community of amputees from the civil war. Most of the infrastructure of this region was destroyed — Kono got hit very hard. But the amputees moved back, and now they’re **trying to rebuild their lives.** Even though they’ve gone through so much and they have all these hardships, they still keep going.”

“EWB has been the single most defining factor of my time at Princeton. It made me decide which classes to take — anthropology of development, SEADS — to **learn as much as I could.** And I’ve continued to learn and take on other projects, and I’ve also started another student group which is focused on design principles for developing countries. It all started **because I joined EWB.**”

PERU :: community history



The town of Samne, Peru is geographically and economically situated at a crossroads. Located at the foothills of the Andes, Samne is just a combi ride one of the largest cities in Peru. Yet the largely agrarian community **feels left behind by development**. Residents of La Pitajaya, a small settlement just outside Samne, have wanted for years **to implement a potable water system**, and they approached EWB-PU in 2011 to make their dream a reality.

The community demonstrated that they are **driven to improve their health and education systems to do better for their children**, and EWB-PU was thrilled to partner with them.

PERU :: project timeline



In the summer of 2011, EWB-PU took a pre-assessment trip to the town of Samne, Peru to **assess the community for a new project.**

They identified a water project in the nearby settlement of La Pitajaya as a top priority of the community. In February 2012, the team sent five students and one mentor back to

collect technical data for the water system and help set up a

water committee in La Pitajaya. The team is currently working on the design, and in summer 2012, EWB-PU will return to

construct the water system.

PERU :: project objectives

We are designing a system to pipe water from a local source and distribute it to each of the 36 houses in La Pitajaya.

Preparing for our implementation trip in August, we are currently **testing water quality** in the town and creating a **community education program** to improve health and hygiene and train community members to maintain the water system.

“Clean water will have a huge influence on Pitajaya. The way it is now, everyone who can afford to live somewhere else does. It’s **not a community where people really want to live**. But the people who want the best for the community are really doing amazing things, like **building a road [by hand]** with pickaxes, carving it out a mountain so their children can go to school. They’re working really well with us to get a potable water system.” —Emily Moder '13

PERU :: student reflections



Emily Moder

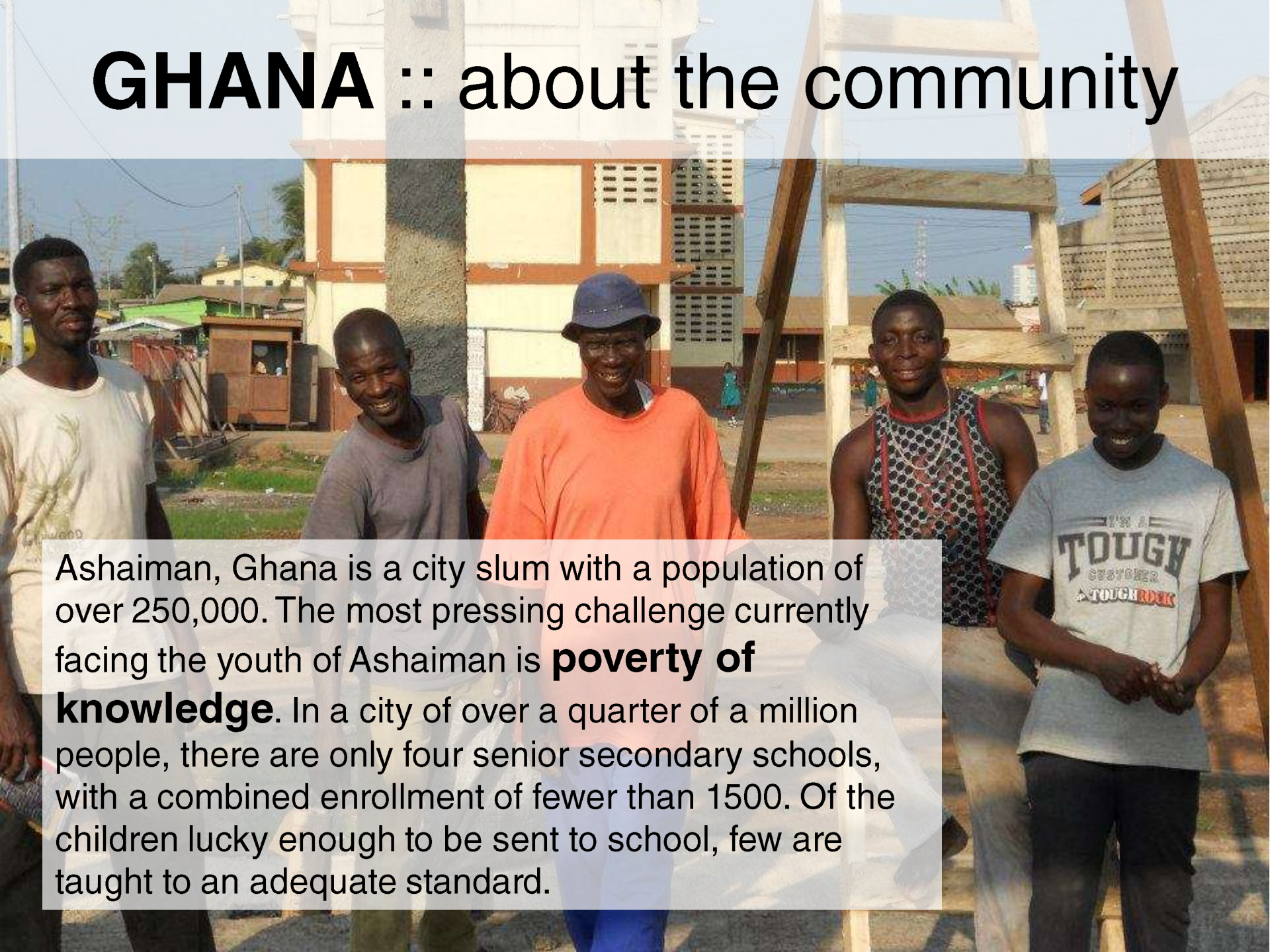
co-project manager

environmental engineer | class of 2013

“The people we know in Pitajaya are not just our contacts, **they are our friends**. Nobody else in college gets this experience of working with a community that’s so different from yours, but that you’re **working with towards a common goal**, so you become legitimate friends.”

“I get the impression that the community [of La Pitajaya] is not used to follow-through. In general they’re promised things that never come through, and though this might not be as tangible, **the fact that we keep coming back really matters**. Last time we were there, they asked us, ‘What percent chance do you think this will actually happen?’ And we told them this project is our priority and we will be here. **We will be coming back.**”

GHANA :: about the community

A photograph of five men standing in a slum in Ashaiman, Ghana. The men are dressed in casual clothing, including t-shirts and a bucket hat. The background shows a dense urban environment with multi-story buildings and a wooden structure. The text is overlaid on a semi-transparent white box at the bottom of the image.

Ashaiman, Ghana is a city slum with a population of over 250,000. The most pressing challenge currently facing the youth of Ashaiman is **poverty of knowledge**. In a city of over a quarter of a million people, there are only four senior secondary schools, with a combined enrollment of fewer than 1500. Of the children lucky enough to be sent to school, few are taught to an adequate standard.

GHANA :: project timeline

A photograph showing two construction workers on a wooden structure under construction. The workers are positioned on a wooden beam, with one worker leaning over and the other standing. The background is a clear sky. A semi-transparent text box is overlaid on the right side of the image, containing the project timeline text.

In 2008, EWB-PU began a community library project in an effort to increase English literacy and digital fluency. In summer of 2009, EWB-PU sent a team of four students and two professional mentors to Ashaiman to construct the superstructure of the library. And in 2011, the team finished construction on the **Achieving Greater Heights Community Library.**

GHANA :: project objectives

The background image shows a bright, open-plan library. The ceiling is decorated with long, flowing strips of fabric in shades of purple, yellow, and green. In the background, there are long wooden bookshelves filled with books. A group of people, including men and women of various ages, are gathered in the library, some looking at books and others talking. The lighting is bright, likely from large windows on the left side of the frame.

Our goal is that the library will become a self-sustaining and integral part of both the EP Basic School and the Ashaiman community. While we understand that long-lasting educational improvements in the community will be a multigenerational endeavor, we believe that our project will make an **immediate and substantial impact on education in Ashaiman.** In the summer of 2012, EWB-PU will return to Ashaiman to develop further lesson plans for the library, install netbooks, and work closely with the community to **ensure the future sustainability of the library.**

GHANA :: student reflections

Buse Aktas

2010 travel team member

mechanical engineer | class of 2014



“I want to work in international development because of EWB. One of the most important things that affected this decision was [EWB-USA founder] Bernard Amadei’s keynote at our Collective Motion Conference this year. He said **90% of the engineering done today only benefits 10% of the population.** I knew it was something like that before but hearing the numbers really made me think, ‘Oh, my god.’ I don’t want to be one of that 90% of engineers. I want to use my engineering skills to make things people need.”

“What sets EWB apart is that it’s so much fun, and you can do **things that actually matter, where the effects your work go way beyond the ‘Orange Bubble’** ... The opportunities that EWB showed me are so much more than I could have asked for.”

COLLECTIVE MOTION :: conference

Collective Motion is the chapter's **annual conference on international development**, conceived and started in 2010 by EWB-PU leadership.

Past themes include “**Mainstreaming Sustainability in Development**,” and “**Developing Empowered Communities**,” which focused on the anthropology of development.

Attendees include **100+ professionals, faculty, and students** from around the Northeast, meeting for two days each November. The conference seeks to contribute in a significant way to Princeton's **campus dialog on development**.



SEADS :: seminar program



The **Sustainable Engineering and Development Scholars (SEADS)** program, launched in October 2010, brings together a group of motivated and passionate students for a **12-week, seminar-style course on sustainable development**. The weekly seminars consist of case studies, community outreach projects, guest-speaker-led seminars, skill-building workshops, and hands-on technical experience. Through these seminars, our Scholars attempt to untangle what exactly sustainability means in today's world and become **leaders who are aware of the complexity of both the anthropological and the technical aspects of sustainable engineering.**

CAMPUS INITIATIVES :: student reflections

“What makes our chapter unique is the **variety of programming** we offer. EWB-PU hosts internal events for **membership development and networking**, but also serves to inform the **campus at large** with several events each year open to all Princeton students.”



Stephanie Teeple *[right]*

EWB-PU vice president

woodrow wilson school of public and international affairs | class of 2014

“This year I am excited to step up our campus involvement with movie screenings, lecturers, and partnerships with other student groups that address the **multifaceted issues of development.**”



EWB-PU :: impacts

EWB Princeton projects and initiatives have...

Improved living standards in 5 communities internationally.

Given students with no development experience the opportunity to **effectively implement** international projects.

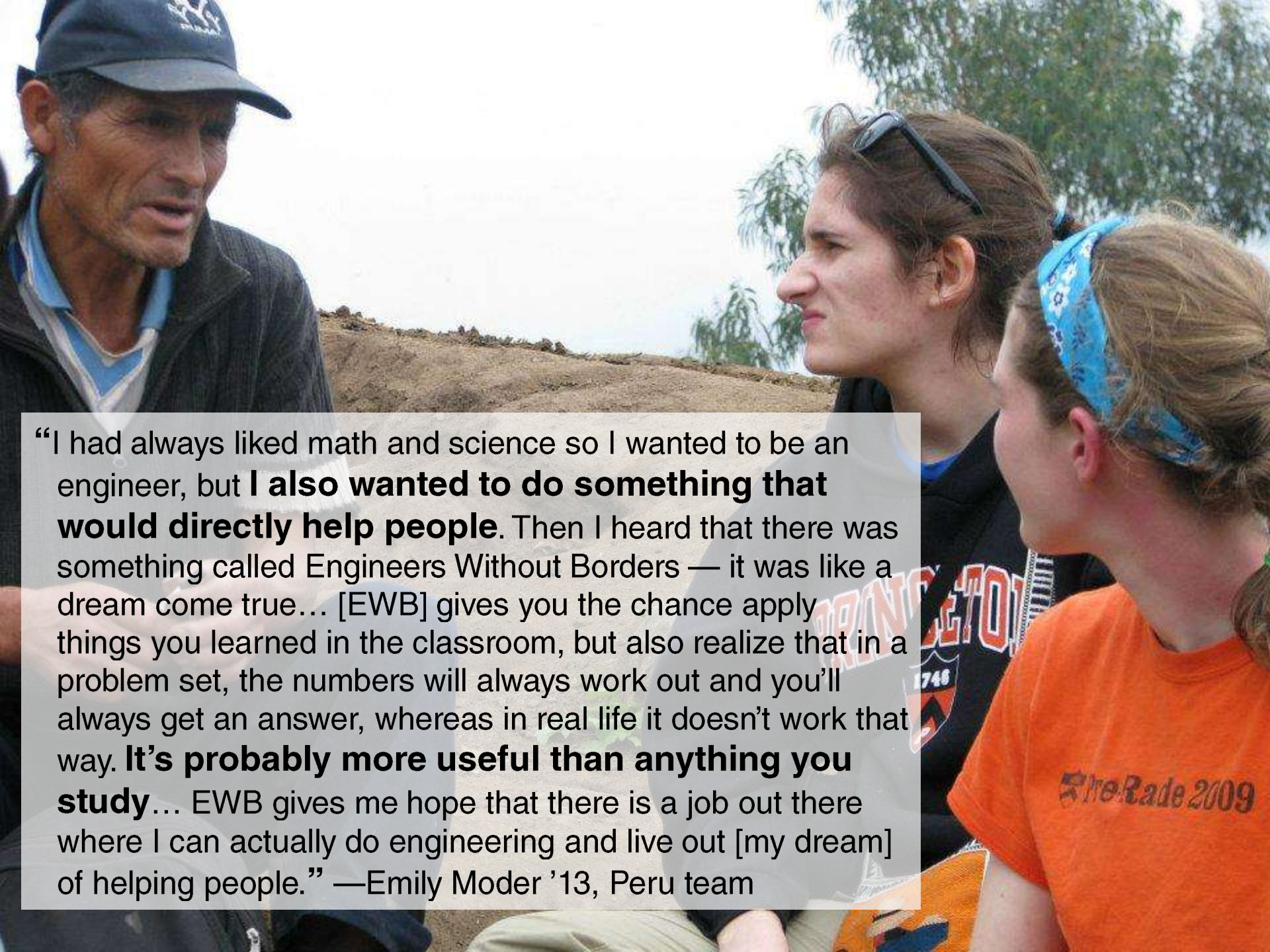
Ensured **sustainable development** that lasts many years past our direct involvement.

Built a platform allowing students to consider and experience **non-traditional career paths**.

Grown from 1 project and 10 students to **3 projects with 90 dedicated students** over 8 years.

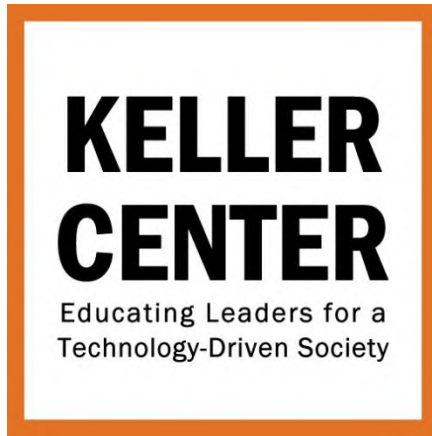
Presented the Princeton community with enlightening seminars and conferences about the **importance of and obstacles in international development**.

Allowed graduate and undergraduate students to **work together in reducing poverty** through sanitation, energy, water and education improvements.



“I had always liked math and science so I wanted to be an engineer, but **I also wanted to do something that would directly help people.** Then I heard that there was something called Engineers Without Borders — it was like a dream come true... [EWB] gives you the chance apply things you learned in the classroom, but also realize that in a problem set, the numbers will always work out and you’ll always get an answer, whereas in real life it doesn’t work that way. **It’s probably more useful than anything you study...** EWB gives me hope that there is a job out there where I can actually do engineering and live out [my dream] of helping people.” —Emily Moder ’13, Peru team

THANK YOU to our sponsors



Mr. James Leitner, High Meadows Foundation,
Ms. Carol Krauss, and Mr. Anil Kumar Reddy.



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