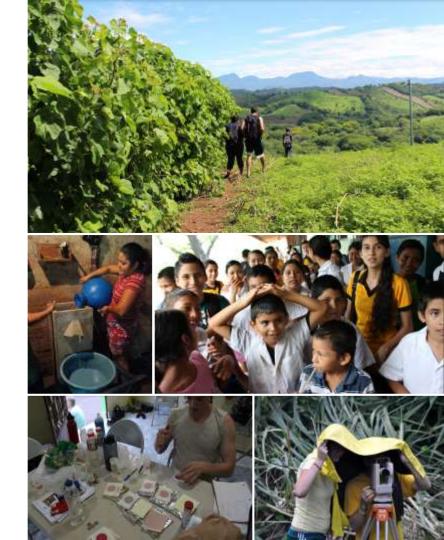
Engineers Without Borders USA: Drexel University Chapter

American Water Works Association (AWWA) Conference

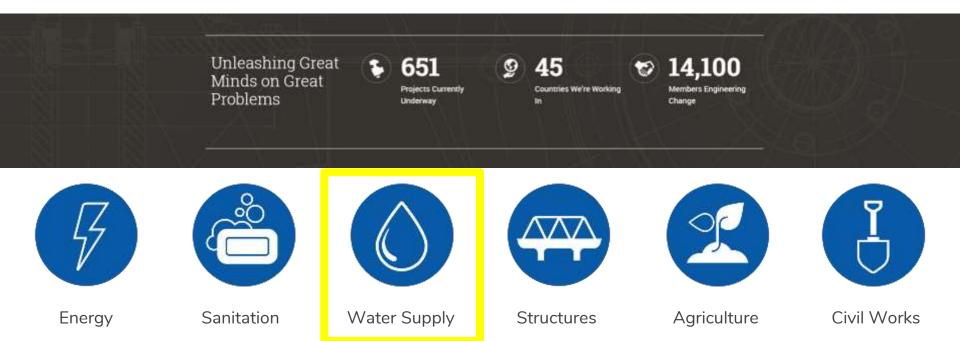
Presentation Content:

- Who we are
- What we do
- Where we're going
 - El Salvador Project
 - History & Current Status
 - New Ecuador Project





Engineers Without Borders USA: Who We Are



EWB-USA: Drexel University Chapter



• What We Do:

Serve people locally in Philadelphia and internationally through engineering projects to meet their basic needs

• How We Do It:

Community engagement, sustainable design, long-term relationships

• Why We Do It:

Opportunity to use our skills to help others

EWB-USA: Drexel University Chapter

- Our current work:
 - Domestic Engineering Projects
 - Fundraising and Events
 - International Engineering Projects











EWB-USA: Drexel University Chapter

- Domestic Engineering Projects
 - Dornsife Center at Drexel: Neighborhood resource center
 - Designing community composting system
 - Sanctuary Farms:
 - Community garden
 - Irrigation system with solar pump

Sanctuary Farms



Dornsife Center



Fundraising

EWB-USA: Drexel University Chapter

- Fundraising
 - $\circ \quad \text{Grant writing} \quad$
 - Fundraising Campaigns
 - Selling merchandise
 - Corporate sponsorships
 - University resources

• Events

- University tabling events
- Annual Meet and Greets & Senior Send-Offs
- Quarterly social events
 - Game night, movie night, trivia night, and more
- Weekly department and General Body meetings



Events



El Salvador

EWB-USA: Drexel University Chapter

- International Engineering Projects
 - El Salvador Project
 - History & Current Status
 - New Ecuador Project
 - First steps



Ecuador



Project: Miramar, El Salvador Adopted 2017

- Project Type: Water Supply
 - **Established:** 25 biosand filters 0 installed, each at a residency
 - **Needed:** 5 biosand filters, repairs for existing filters, and continued education for community of operation and maintenance



Project: Miramar, El Salvador Background

- Community consists of 200 people displaced during El Salvadoran Civil War
- 35 households with around \$10 a day income
- 2 public and 10 private hand-dug wells

- Water shortage due to dry season and hilltop conditions
- Water contamination due to livestock and open wells
- Water management and education lacking



Project: Miramar, El Salvador Our approach & progress



- Project:
 - Concrete filters based on CAWST design
- Accomplished:
 - Local contractor partnership & community collaboration
 - 25 out of 34 filters installed
- Remaining:
 - Build 5 filters
 - Repair existing filters
 - Educate households on O&P

- Rainwater Catchment System:
 - Catch and store rainwater during rainy season for supply during dry season
 - Gutter system attached to roofs of houses
- Accomplished:
 - Topographic info gathered
 - Researched alternatives and costs
- Objectives:
 - Determine catchment potential, optimal design
 - Gather community feedback



New Project:San Luis De Yacupungo, Ecuador

- Adopted November 2018
- Project Type: Water Supply
 - Established: Water tanks & distribution system
 - Needed: Water purification, slight extension of distribution system, and protection of water source

New Project: San Luis De Yacupungo, Ecuador Background

- Community consists of 258 people
- 58 households
- Has water distribution system with chlorine but water is contaminated
- Some households are not connected to distribution system

- Located near Cotopaxi Volcano and suffered from ash contamination during 2015 eruption
 - Many were without clean water for months and all livestock and crops were lost

New Project: San Luis De Yacupungo, Ecuador Our Plan

- Project:
 - Protection of water source, make water potable, extension of distribution system
- Next Steps:
 - Define final parameters and specific scope, develop solutions
 - Assessment trip March 23rd-31st, 2019
 - Survey site, investigate current state of water supply, establish in-country project contacts and relationships

- Water Testing
 - Testing for pathogens, pH, chlorine, metals, and more
- Drone surveying
 - \circ ~ Community layout photo and video footage
 - Elevation data collection
 - Altimeters used for data comparison
 - Topographic analysis
 - Record of surrounding geographical features, communities, and alternative water sources
- Interviewing of community members



Contact Us

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