

### The Syrian Refugee Water Crisis

Chris Engel (RBE), Yohanes Limasalle (CS), Milap Patel (ME), Scott Weber (CS) Advisors: Professor Derren Rosbach (CE&ENV) and Professor Elisabeth Stoddard (SSPS)

## Problem



With the Syrian War, millions of families have fled to neighboring countries

Many seek refuge in refugee camps in neighboring countries, like the Zaatari Camp in Jordan



Due to conditions in these camps, refugees are not receiving enough potable water

On average, a refugee receives 30 liters of water a day in Zaatari

Actigee

Refugee

Average US Citizen

Americans use up to 10 times that amount, averaging 300 liters a day

Desperate need to conserve water has led to problematic consequences such as:

- Unsafe Communal Bathrooms
- Inequitable Water Distribution
- Disease-ridden Cesspools

Specific problems include raping and kidnapping, tension between refugees, and skin infections

Our goal is to increase the potable water supply of refugees in these camps



Pictured: Children collecting water from the camp's water tank

# Solutions



More = More beneficial

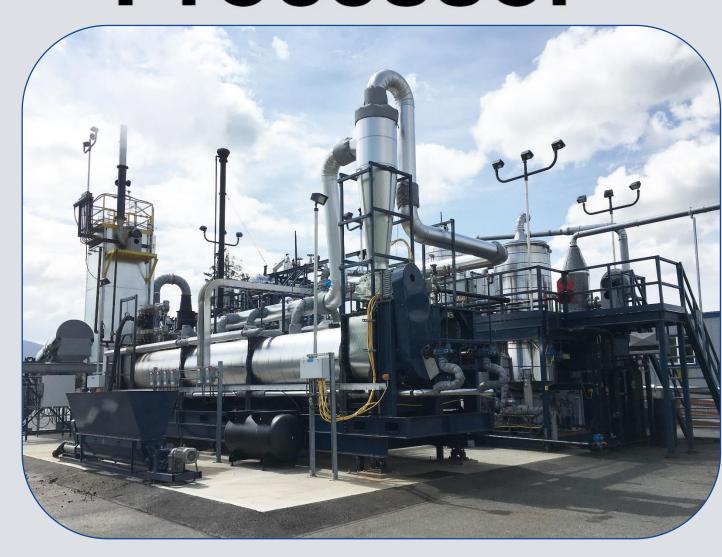
# Composting Toilet



#### Dry-Flush Toilet



Omni-Processor









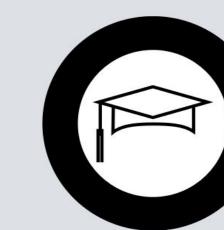


















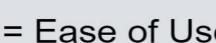






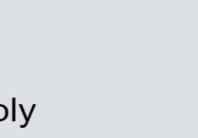








Additional Benefits



- Casial Banafita

Perlman, U.H. (2016, December 2). How much water does the average person use at home per day? Retrieved December 07, 2016, from <a href="https://upload.wikimedia.org/wikipedia/commons/b/b5/IJANICKI\_OMNI\_PROCESSOR.http://water.usgs.gov/edu/qa-home-percapita.html">https://upload.wikimedia.org/wikipedia/commons/b/b5/IJANICKI\_OMNI\_PROCESSOR.https://water.usgs.gov/edu/qa-home-percapita.html</a>
<a href="https://upload.wikimedia.org/wikipedia/commons/d/dc/Dry\_toilet\_made\_of\_glas\_fiber\_reir\_edd\_plastic\_for\_connection\_to\_a\_container\_(@211340852).ipg\_https://upload.wikimedia.org/wikipedia/commons/e/e5/Dry\_toilet\_building\_%22BBT%22\_student\_dormitory\_at\_Valley\_View\_University\_Acera, Ghana, facility\_in\_use\_(@211334200).https://upload.wikimedia.org/wikipedia/commons/5/5f/Children\_filling\_water\_in\_Al-Zaatari\_Camp.ipg\_https://nonprofitquarterly.org/wp-content/blogs.dir/56/files/2015/11/Syrian-refugees-train.j</a>