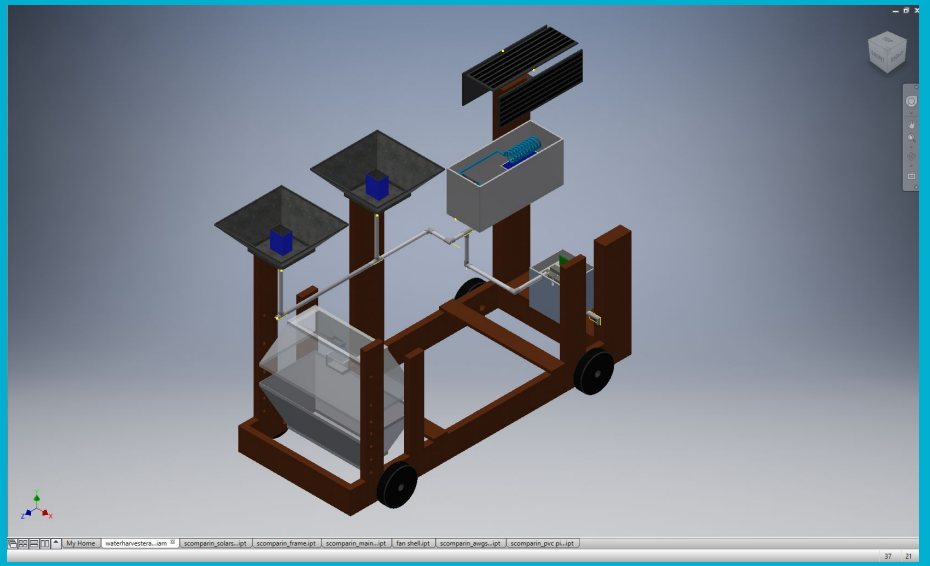
AquaHarvester



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IED 2*, 3*, CSE 2015-16

AquaHarvester Site

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Problem Statement

- Lack of clean water
- Expensive
- No way to produce clean water
- Contaminated/Polluted

Main Client: Humanitarian organizations that give to people who need this product in developing countries.

Target Consumers: mainly people without access to clean water, but also anyone who wants to produce their own water

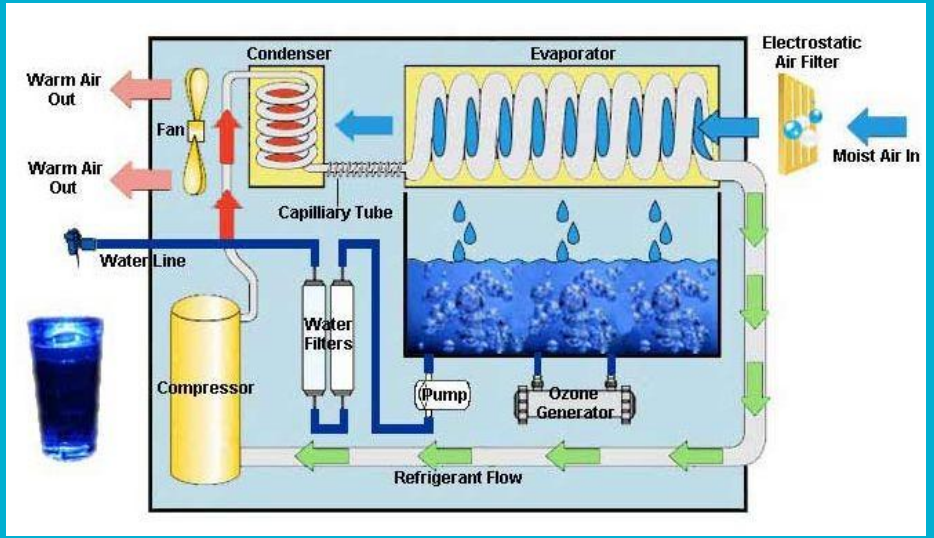
Prior Solutions

Solar Still (aka Seawater Still)

1. Water in tank
2. Evaporation
3. Condensation
4. Clean water

AWG(Atmospheric Water Generator)

1. Extracts water vapor
2. Refrigerant coil cools the water vapor
3. Condenses and collected

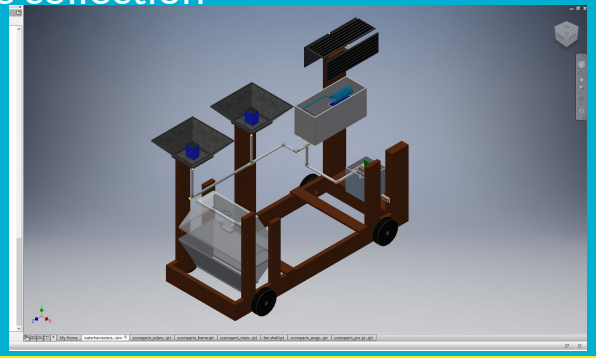


Rainwater Harvesting

1. Collected in barrel
2. Filtered/Boiled
    a. Carbon
    b. Charcoal/Gravel/Sand
3. Filtered water

Solution Summary

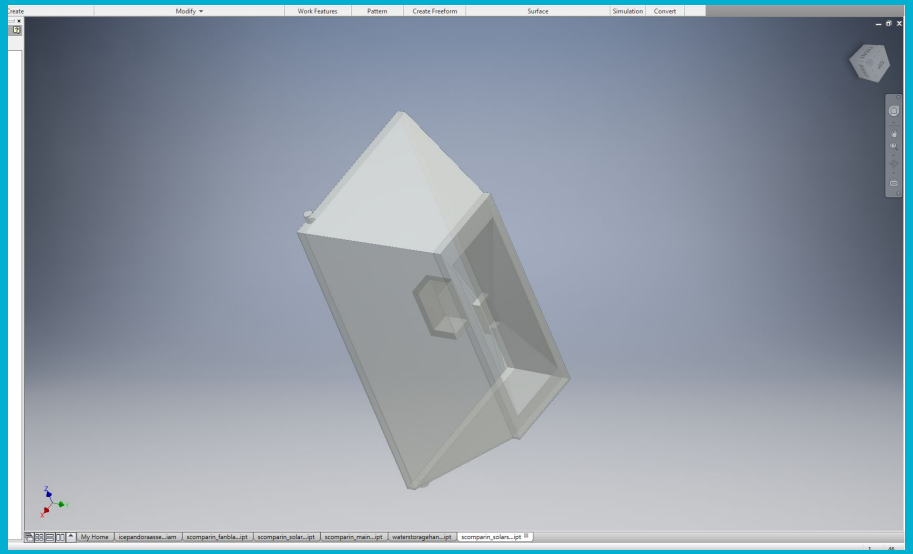
- AquaHarvester is an improvement because it is a combination of the solar still, traditional condensation/rain collector, and atmospheric water generator together into one portable, efficient, and easy to use product.
- Several collection methods means no-fail water production
- Solar still can be used on soil/ground, or with a bottom receptacle
- Storage container with filter and spigot delivers water from all sources
- Captures liquid and gas forms of water
- Reusable ice containers added to increase condensate collection
- AWG made of recycled products
- Green system, AWG runs on solar panels
- Cost estimate around $300, but variable

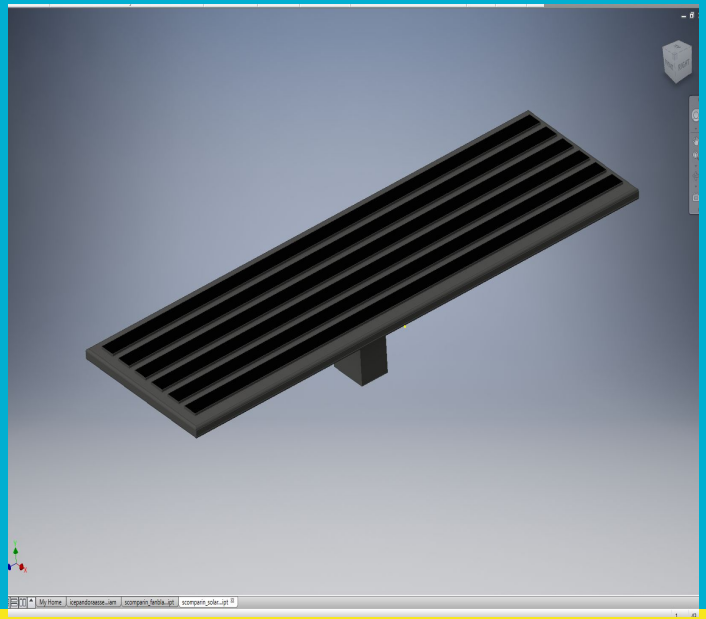


Solution: The Parts

Solar Still Top and Bottom

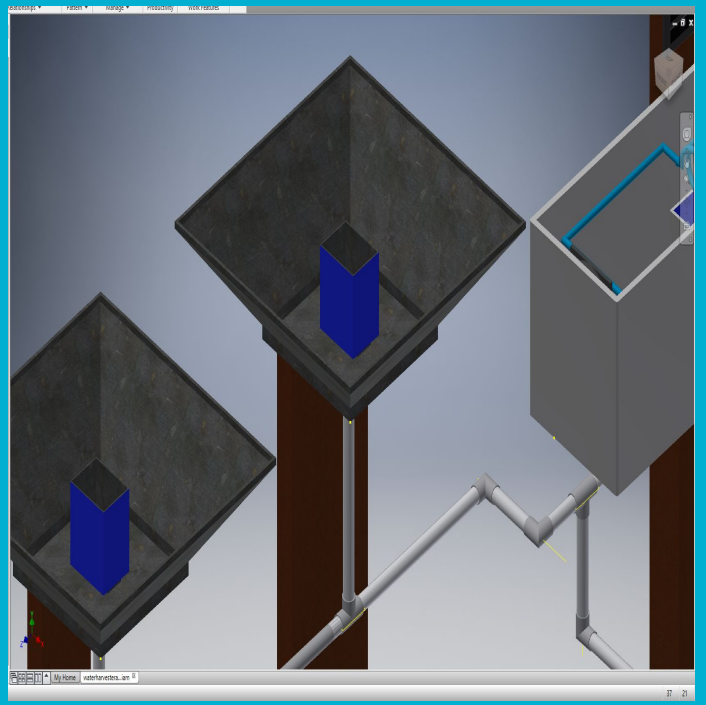
- Top can be placed on bottom half or directly on soil
- Bottom half holds soil





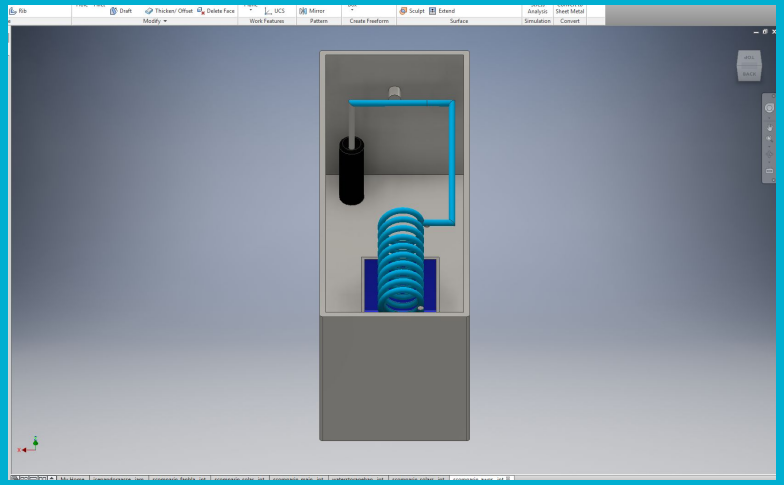
Condensate collectors

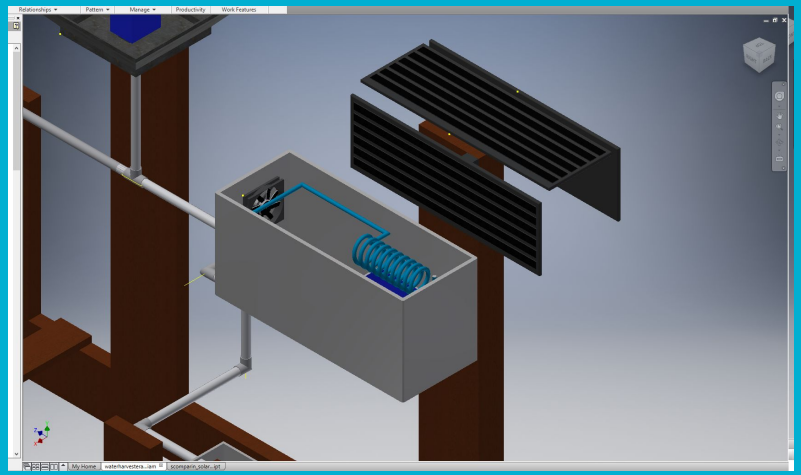
- Collects dew overnight
- Made of thin steel sheets
- Condenses
- Ice block for daytime condensation, cools steel down



AWG(atmospheric water generator)

- Recycled parts
- Condensates water vapor blown in by fan
- Powered by solar panels

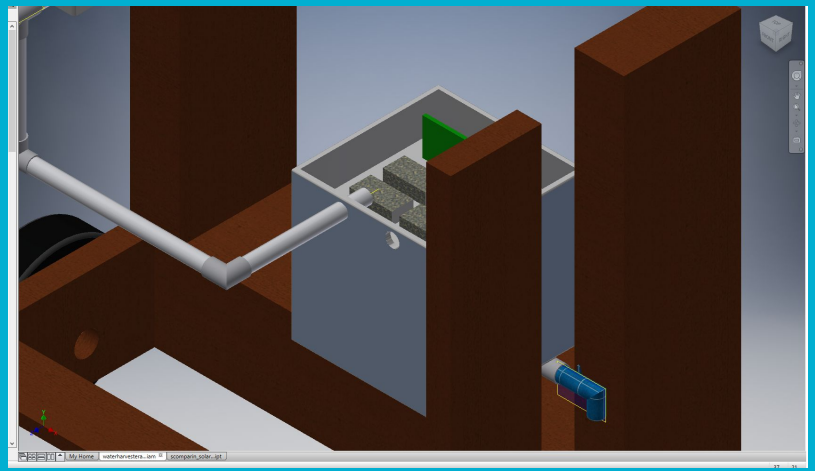




The frame

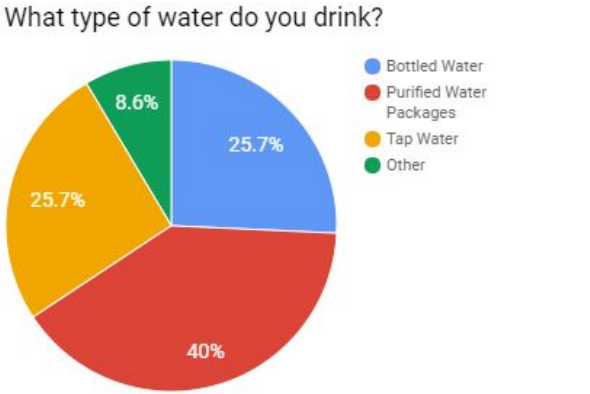
made of strong wood such as oak

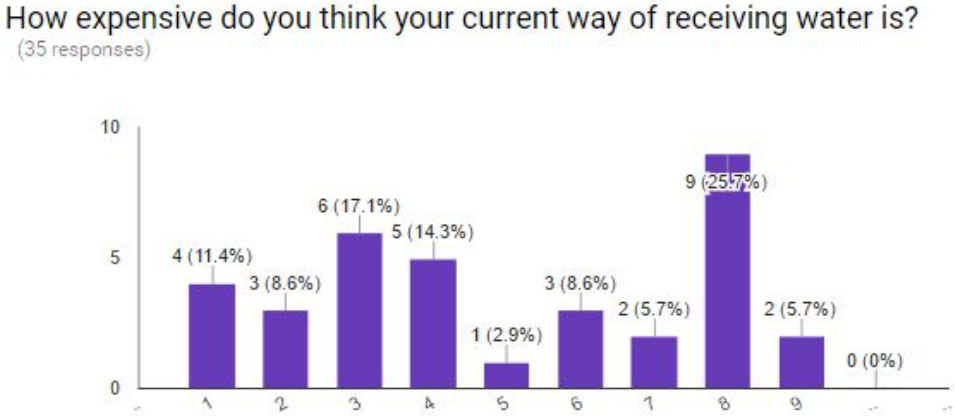
- Supports everything
- Mounted on wheels
- Has holes to place solar still pegs, so still height can be adjusted
- The water storage container is also visible here



Survey

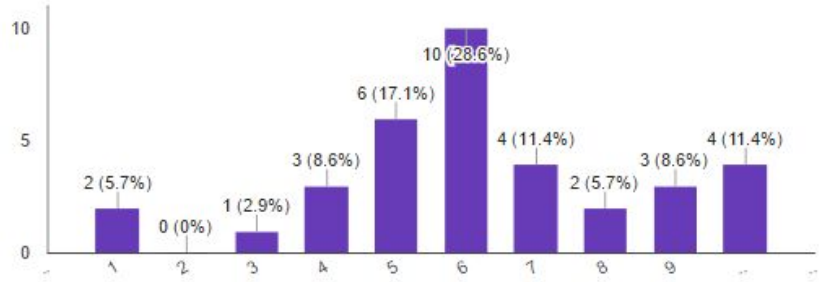
https://docs.google.com/forms/d/1e_P3h9en8eRbo4xMs6gh6urVyNTv3Ys9Gmt7u8daLW0/viewform



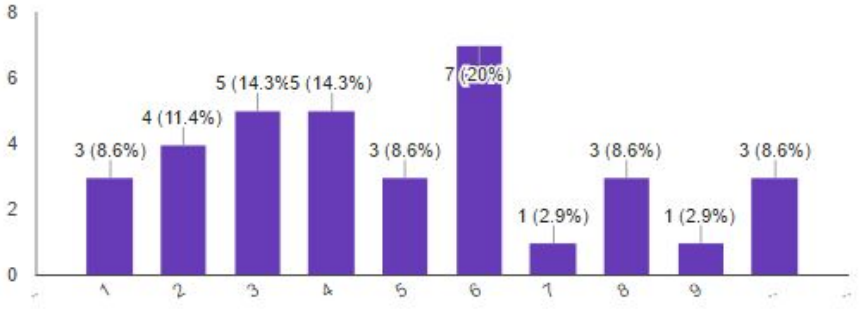


How much would you be interested in a device that would be able to harvest water for drinking needs that could be placed in your house?

(35 responses)



How sanitary do you think is your current water option? (35 responses)



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