Migrants crossing the Sonoran Desert perish from dehydration and hyperthermia. Our goal is to provide an alternative approach to water portability and treatment.

3280 human remains were recovered since 2009.

**SOL STILL**

Adjustable straps to attach to backpack

Straw filter to drink distilled urine

Casing holds distilling system and extra storage space

Straw filter layers

- A. Two charcoal layers for removing chlorine, volatile organic compounds, and odors.
- B. Ammonium reducer for when urine is distilled.

**Process of the Sol Still**

**Fill**

**Carry**

**Empty**

**Distill**

**The Distilling Process**

The sun heats up the contaminated water, the water turns into a vapor, condenses back into a liquid and drips into a clean bottle.

**Sources of Water:**

1. Monsoon Rain
2. Cattle Tanks
3. Urine and Sweat

**Carrying the Sol Still**

Bubble wrap allows sunlight to pass through while insulating.

Black stainless steel bottle coated with spectrally selective absorber to absorb sunlight.

Copper condenser allows easy transfer of heat.