



EDUCATE - EMPOWER - EQUIP

"If you empower a child in India, you empower the Family, the Village and the Community - Forever"



Bio-Sand - How It Works



Building Filter Mold

Global Helps Network has produced 25 bio-sand water filter units in partnership with the Center for Affordable Water and Sanitation Technology (CAWST) and we are looking to build more this coming year. Each filter is constructed of typical materials found in every country and can serve a household.

Through this ministry, we are not only preserving lives but also showing the love of Jesus to every villager who comes to our clean water trainings. Our classes teach about bacteria, water-borne diseases and modern hygiene practices. Most rural villages in India are unaware of the dangers of contaminated water. Just learning about how diseases spread through bacteria, and the best methods to avoid and limit exposure, saves countless lives in the villages. As we prepare for another training set for the fall, we want to explain a little more in depth about how these filters work. You can also hop online and watch a short video series created by CAWST for YouTube.

The first layer of the bio-sand water filter is the 'biolayer.' This layer attracts and contains good microorganisms that eat and destroy the majority of the

pathogens in the water. This layer becomes more effective over time as the microorganisms multiply. When a bio-sand water filter is first created, the number of good microorganisms in the biolayer is small. It takes time for them to increase to their most effective levels, but this is where the sand layer comes in.

The few pathogens that make it through the biolayer get stuck between the fine grains of sand or attached to the sand itself as the water filters through. These eventually die from lack of food and remain in the sand layer while the water soaks through the sand and gravel layers and out through the filter. The process effectively removes up to 100% of helminths (worms) and protozoa, up to 98.5% of bacteria, and 70-99% of viruses. (See more here: <https://www.cawst.org/services/expertise/biosand-filter/more-information>)

CAWST bio-sand water filters are used across the world and are some of the most effective. They are constructed from materials commonly



Stagnant Well

found in every country rich or poor: sand, concrete, and gravel. This makes producing them relatively easy, and each filter lasts a family for years or even decades. They are very durable, being difficult to break and fairly simple to maintain. Their basic design, and the ease of access to the materials needed to construct them, make bio-sand water filters ideal for reaching the rural poor. Often, villagers are forced to drink from polluted rivers or wells that have been sitting stagnant for months.



CAWST Clean Water Training Session

Our partners in India, together with Friendly Water to the World, successfully facilitated three clean water trainings. We reached several rural villages and taught about bacteria, water-borne diseases, and hygiene, along with the care and maintenance of bio-sand water filters. We're now gearing up for another training to be led by our in-country partners in September. Please keep the upcoming project in your prayers as we move forward.

Written by, Michael Eash