

# An Innovative Solution for Water Filtration in Third World Countries

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Worldwide 1, out of every 5 deaths of children under 5 is due to a water-related disease. 1 in 9 people world wide do not have access to safe and clean drinking water. The purpose of my experiment is to create safe drinking water for people within third world countries, by developing a low cost water filtration system. The system created is designed to protect against harmful pathogens in the water and arsenic, by filtering them out. Another goal of the experiment was to create a special design that will improve the flow rate for water filters. To create the water filtration system, gather materials that can be easily found in third world countries at limited or no cost. To test the efficiency of the created water filtration system, take samples of contaminated water containing pathogens and arsenic. Conduct tests checking for coli-form, organic matter, and arsenic, before and after going through the constructed water filter. Also conduct the tests with an available ceramic water filter that is found in third world countries, in order to compare the results obtained with my constructed water filter. The results showed that my water filtration system was efficient, faster, and cheaper than an available ceramic water filter that is found in third world countries. My results also showed that my water filtration system could successfully filter out arsenic within the collected water sample, and had a faster flow rate than current available water filters in third world countries.

**Awards Won:**

