

## SONO® ARSENIC FILTER FROM BANGLADESH - 1



This is how we started. The three pitcher arsenic filtration system (known as 3-Kolshi) containing zero-valent iron as the active component was first developed in 1999. The filtration system was mass produced and used by many people. The instrument in the background, a computer controlled electrochemical analyzer for trace arsenic measurement was developed by the authors team. The inventors published 10 papers on arsenic and its mitigation in peer reviewed international journals (e.g., J. Environ. Sci. and Health, [A35 \(7\)](#), 1021-1041, 2000 and Talanta, [58\(1\)](#), 33-43, 2002 etc.)



The Sono Filter was developed by a team led by Prof. Hussam and Dr. Munir in 2001 using composite iron matrix (CIM) as the active arsenic removal component. It retains all the excellent features of a 3-Kolshi system with stability and long life use. Both 3-Kolshi and bucket systems were extensively tested by the inventors and by the Bangladesh Govt Environmental Technology Verification Arsenic Mitigation project. It is approved for home use. It was shown that CIM is the only system where arsenic removal efficiency increases with increased volume of groundwater filtered.

SONO® by SDC/MSUK Kushtia, Bangladesh



Thousands of these arsenic filters are in regular use. Shown here are the village primary school children collecting arsenic free water from Sono filter. The filters are made from indigenous materials. It is estimated that about a Billion liters of clean water was filtered through 15000 such filters.



This arsenic filter is used in authors home (Kushtia, Bangladesh). These filters can produce 120 liters (at 30 liters/hour) of clean water for drinking and cooking. For about US \$35 they can last at least 5 years without a toxic waste disposal hazard. New models are developed for community scale use with flow rate exceeding 100 L per hour.