Excerpt- Brief explanation of ceramic paperclay filtration: two pages from my recent book

Water Filtration

The pores in ceramic filters from sawdust, rice, et. alia, are *too big* to physically trap bacteria. So, after the firing, all of these need soaking in a bath of disinfectant, such as silver nitrate. It's likely that voids of "tip ends" of cellulose fiber could be aligned and compressed in a certain way to be delicate enough to do the job on their own. (See detail on pages 80-81 and Chapter 5.) With a paperclay water filtration system, each filter could come out of the kiln fire sanitized and ready to use. After voids clog, exchange the filter for a cleaned one, like a bottle is recycled.

Dozens of sizes and shapes and designs can be made- large and small.

Models on right for water filters by author. Submerge kitchen friendly hand sized filter in a bucket of unclean water. Use a foot pedal vacuum pump to suck water in through the bottom and side of the filter walls. Drinking straws show how cleaned water would exit through a hose to fill cups, etc. The manufacture can be more efficient because cast and /or extruded parts are assembled bone dried.

I had a hunch that a viable ceramic paperclay filter could be made efficiently, even in a "low tech" village situation. It was confirmed in 2006. I teamed up with Jon Williams and Ron Rivera of Potters for Peace to create paperclay fired water filters in a Nicaraguan village factory using only recycled Managua City newsprint and local terra cotta clay. Initial tests for flow rate were conducted successfully. The process could be adapted almost anywhere in the world. Detailed research is needed.

The cost of domestic filtration to the average family in many developing countries, particularly in the rural areas is still beyond reach. Locally managed manufacture, distribution, and small business service networks are not near what they could be. The development of an efficient production technology ideally ought be funded in such a way that democratic access to the technical results fosters a network of local fair trade for the service. Diplomats, linguists, and teachers will also be needed.

Access to clean drinking water and filtration is a human right that not just rich people deserve. Please join the effort to *end this world health problem* as soon as possible.