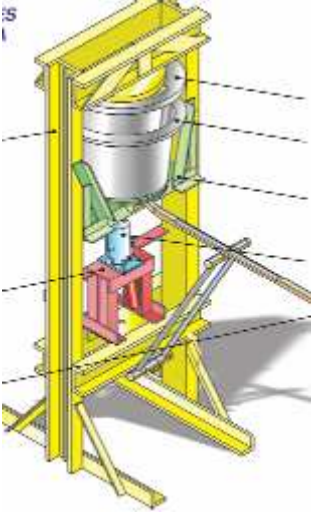






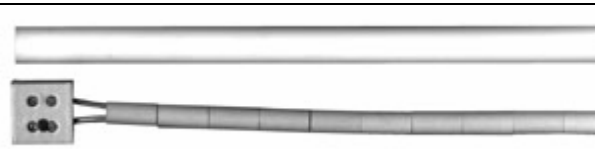











Recommended Machinery, equipment and supplies and materials for small scale ceramic Filter Production (800-1000 filters a month) to be installed in an existing pottery with trained potters




	<p>Manual hydraulic press. We recommend the initial press be purchased in Nicaragua, Holland or Cambodia. Once the press is in place (an material prepared) the production of prototypes can begin immediately</p> <p>More presses can be copied and improved on once the filter factory is generating income. Up grades to electric/Hydraulic is the next step. An electric hydraulic press can be purchased in Cambodia for about US 2,100.00 plus shipping. Or PFP can supply RDI plans for construction</p> <p>At least 50 round flat sheet metal plates are required to be placed on the bottom of the female mold (see production video)</p> <p>A 15-20 ton Manual hydraulic truck jack is required and can usually be bought locally. A spare jack, hydraulic fluid and oil for lubrication should be handy at all times.</p> <p>The press will work 6-8 hours a day</p>
	<p>Small Hammer Mill with interchangeable sieves</p> <p>Powered by a 2-3 hp or more electric motor (electric motor makes allot less noise than a internal combustion motor) .</p> <p>You will not use the hammer mill daily.</p>





	<p>A Motor mixer like the one in the Picture should be acquired with an electric motor. The RPM's that the mortar mixer normally runs at for cement mixes is too fast for our purposes (because mortar is more liquid) and must be changed to work at 40-50 RPMs for the filter mix which is much more dense and "sticky".</p> <p>The mixer will work from 6-8 hours a day.</p> <p>If these cannot be found in the local market we can provide plans for its construction (from the RDI filter Project)</p>
	<p>Potters</p> <p>A filter production facility at an existing pottery production facility could start up with a minimum of two potters and contract more as sales increase.</p> <p>Face masks and gloves should be used when producing filters.</p>
	<p>OPTIONAL :</p> <p>A Pug mill to better standardize the damp mix . To date only the factory in Ghana uses one. To work 6-8 hours a day</p>



	<p>A large enough Kiln</p> <p>Most all of the kilns used for the filter production world wide are Mani kilns which usually can load 40-60 filters at a time.</p> <p>Most kilns are fired with wood but some have been fired with oil (Thailand) and sawdust (Ghana)</p> <p>The kiln will be used about 4 times a week for 8-12 hours and requires about 1500 bricks to construct.</p> <p>Smaller kiln sizes can be use for prototypes but will increase the costs of the filter.</p>
	<p>Pyro metric cones are required to help assure that the correct temperature is attained.</p> <p>In some cases these cones must be either imported or brought in by the sponsoring organization.</p> <p>Three batteries of 3 cones each are placed in the kiln at different heights. These will be used in all firings and a kiln firing chart should be prepared.</p>
	<p>Thermo couples form part of the pyro-meters that should be used to control the rise of temperature in the kiln.</p> <p>When purchases get two with their protective sieves.</p> <p>Both are used in all the firings.</p>
	<p>Pyro meter is used to help manage the rise of temperature in the kiln . When purchasing one get one with two terminals and of the better brand like FLUKE (it will last much longer) .</p> <p>The pyrometer will be used in all the firings for 8-12 hours.</p>

	<p>Enough shelf space to store 1000 filters which the workshop will need in less than a month.</p> <p>If budget permits steel shelving is preferred; make sure that the placement and removal of the soft, damp and freshly pressed filter can be carried out with much care in a comfortable manner.</p> <p>Used daily</p>
	<p>Soaking tank and be a very large plastic tanque or one made from cement.</p> <p>Large enough to place 30 to 50 filters in for a period on no shorter than 4 hours for the pre- filtration rate tests.</p> <p>Carried out daily</p>
	<p>Plastic faucets (spigots) as the one in the picture last longer than the spring type. The threaded part must be long enough to use 2 washers and a placement nut .</p> <p>Buying in bulk will reduce the price by more than 50% . Some countries have a local production of faucets.</p>
	<p>Five gallon Plastic Receptacles with silk screened instructions on the front so they can be read easily by all..</p> <p>Note... the “normal” tops made for the 5 gallon plastic receptacle will not fit once the filter is in place. When buying plastic receptacles by bulk assure that you can also get a top (usually form another model) that will cover the filtering element once installed.</p> <p>Check to see if there is local production of this product if not we are presently sourcing Chinese made plastic receptacles and faucets..</p>

	<p>Terra cotta or high FIRE receptacles can also be made. In a few countries they can actually be purchased for less than plastic ones and can generate income for other potters.</p> <p>Benefits: studies show that most families prefer the ceramic vessels because they keep the water cooler than plastic.</p> <p>Down side: they are heavy and fragile to transport.</p> <p>Note: ceramic receptacles must also be treated with colloidal silver.</p>
	<p>A small machine to stamp each filter with its own serial number. It is hoped that once sold the name, address and community of the end user is registered for future follow-up exercises.</p> <p>Used daily</p>
	<p>Filter identification stamp. Each country should have its own stamp. These are pressed into the filter when still soft. These can be made of metal. Rubber, plaster.</p> <p>Used daily</p>
	<p>IMPORTANT</p> <p>Very good instructions in the local language on how to use and care for the filter and its components. PFP can provide a model in Corel Draw and it can be adapted but original ones are better.</p> <p>Contract professional rural health promoters with experience in popular education (adult ed) and the preparation of health Instructional material to help with this task</p>

	<p>Colloidal Silver can be purchased in powdered form and sent DHL or Fedes from : IVANIA: : i-ascaso@laboratorios-argenol.com LABORATORIOS ARGENOL S.L. Autovía de Logroño km 74, Polígono Europa 2 naves 1-11, 50.011 ,Zaragoza (Spain) Tel: + 34 976 336266 Fax: + 34 976 533659 http://www.laboratorios-argenol.com/</p> <p>Or in in a liquid form from either :</p> <p>Laboratorios Silverdyn S.A. de C.V.Maimonides No. 530,,Chapultepec Morales 11570 Miguel Hidalgo Ciudad de Mexico Distrito Federal 55 52508014 "Jose Carlos Barrenechea" jcbarren@hotmail.com</p> <p>Or in the US :</p> <p>BOUNTICO Tel. (888) 396 1893 Mr. Phil Kidish medwing@medwing.com 877 633 9464</p>
	<p>IMPORTANT Promotion and Marketing RDI/Cambodia also markets from behind a small van (optional) that visits local markets and shows entertaining videos on how the filter functions , how to use and how to care for the filter along with other hygiene messages like washing hands. The videos are oriented to children and adults alike.</p>
	<p>DRY BURN OUT MATERIALS This picture is of sawdust drying in the sun then it is sieved through a kitchen strainer. Depending on the country other materials are also used: milled rice husks, millet husks, dried and milled peanut shells and paper is being experimented with.</p>

		<p>A proven and tested source of clay. In most of the larger filter facilities re-cycled industrial unfired brick (background) is crushed and sieved.</p> <p>Screens to sieve clay and burn out material. The one in the Picture is hung from the roof and can be managed by one person.</p>
		<p>HACH Presence/Absence tests Catalog number 2610696 for preliminary water testing at the community's water source then once filtered. Laboratory tests should then also be taken periodically. Purchase on line: /www.hach.com</p>
		<p>Simple devise designed by RDI/Cambodia to measure the filtration rate of filters.</p>
		<p>Packing material for the finished filtering element.</p>

		<p>Plastic bags used for pressing the filter and for final packing</p>
<p>Training Manual for Trainers and Promoters in the Use, Maintenance, and Monitoring of Potters for Peace Colloidal Silver Impregnated Ceramic Water Filter</p>	<p>Important Includes monitoring and follow-up instructions and how to gather statistical data in the field.</p>	
	<p>Community instructional flip charts, videos, Power Point Presentations for potential customers and targeted groups. CD's with studies and other information for potential interns and researchers.</p>	