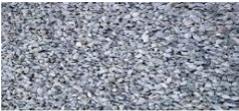


## Low cost Drinking Water treatment using locally available materials

### *Safe water for Safe Life*

Sl No	Parameter	Bureau of Indian Standards (10500-1983) for drinking water quality	Analyzed values before filtration*	Analyzed values after filtration*
1	pH	6.5-8.5	7.3	7.3
2	EC $\mu$ mhos/cm at 25°C	2250	1100	661
3	Turbidity NTU	1.0 - 5.0	12.5	2.1
4	Total Dissolved Solids, (mg/L)	500-2000	705	390
5	Hardness, (mg/L)	200-600	670	355
6	Chlorides,(mg/L)	250-1000	315	215
7	Nitrates, (mg/L)	45	2.2	2.1
8	Sulphates, (mg/L)	200- 400	245	230
9	Iron, (mg/L)	0.3-1.0	0.8	0.7
10	Fluorides, (mg/L)	1.0-1.5	1.6	1.4
11	E.coli, no/100 ml water	Nil	Nil	Nil

## Safe water for Safe Life

1	<b>Title</b>	Low cost Drinking Water treatment using locally available materials
2	<b>Objectives</b>	To improve the quality of drinking water to promote health
3	<b>Components</b>	
	Media	SIGNIFICANCE
a	<b>BAMBOO JUTE</b> 	<ul style="list-style-type: none"> <li>➤ Chlorine and chloramines make your water tastier and removes the odor.</li> <li>➤ The larger number of porous cavities in bamboo charcoal is considered to give it better filtering abilities – 3 times greater per gram than wood charcoal. As a fast-growing plant, supply is abundant and sustainable.</li> </ul>
b	<b>CHARCOAL</b> 	<ul style="list-style-type: none"> <li>➤ Ill-smelling chlorine and other unpleasant odors will be eliminated by the absorption power of the charcoal.</li> <li>➤ Microorganisms living in the many pores of the charcoal break down unhealthy organic matters in the tap water.</li> <li>➤ Ash in the charcoal (minerals) contains nutrients such as Mg, Mn, Fe &amp; Ca which dissolve easily in the water.</li> <li>➤ The minerals are essential for your healthy life. They help make strong bones and teeth.</li> </ul>
c	<b>SAND &amp; GRAVEL</b>  	<ul style="list-style-type: none"> <li>➤ Iron-removal from groundwater using sand filtration.</li> <li>➤ Suspended matter removal.</li> <li>➤ Fine sand and gravel are naturally occurring glacial deposits high in silica content and low in soluble Ca, Mg and Fe.</li> <li>➤ Granular filter media for removing microbial contaminants sand, coal are positively charged and therefore, effective for removing and retaining the negatively charged viruses and bacteria by electrostatic adsorption.</li> </ul>
d	<b>BRICK PIECES</b> 	<ul style="list-style-type: none"> <li>➤ Reduces the fluoride content by absorption process.</li> </ul>
5	<b>Social impact</b>	<ul style="list-style-type: none"> <li>➤ Materials are easily available.</li> <li>➤ Easy to maintain and low cost.</li> <li>➤ Purified water can be used for cooking, Ice making, Drinking water, Tea, coffee and alcoholic drinks.</li> <li>➤ Avoids the nuisance of mineral buildup on fixtures and poor soap and detergent performance.</li> <li>➤ Avoids dental fluorosis and skeletal fluorosis.</li> </ul>
6	<b>Project In-charge Students</b>	<ul style="list-style-type: none"> <li>➤ Ms. Shruthi.R &amp; Mr. .Mahalingegowda.H.R</li> <li>➤ Mr. Kishan S &amp; Mr. Arun</li> </ul>

