



Field testing of a magnesium oxide-lime-calcium chloride hydrochloric acid based filter

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Abstract Field trials of a MgO-Lime-CaCl₂-HCl filter has been carried out to test the operation of the filter during actual user conditions. Water quality parameters like pH, TDS, Ca, Mg hardness, total alkalinity, SO₄⁻², Cl⁻ were found to be within permissible limits in the water obtained from the filter except nitrate, whose concentration was above permissible limits in the raw ground water itself. The dosage of HCl had to be adjusted and fixed in the field trials. In comparison to the laboratory trials conducted earlier it was found that during the field trials there was on an average 6% reduction in the fluoride removal efficiency of the filter. Operational user problems of filter were found and were addressed in the village.

Keywords: magnesium oxide, water quality parameters, removal fluoride efficiency
