International J. of Engg. Research & Indu. Appls. (IJERIA).
ISSN 0974-1518, Vol.5, No. I (February 2012), pp. 255-268

REMOVAL OF TURBIDITY AND MICROORGANISMS FROM DRINKING WATER BY ADDING MATURE MORINGA OLEIFERA SEEDS AS A NATURAL COAGULANT

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Abstract

About 70% of the World population lacks safe drinking water facilities. Thousands of people die from water borne diseases every year. The advanced technologies available for wastewater treatment are utilized in urban areas only. The rural areas are short of resources for water treatment. So there is a necessity to develop sustainable water treatment systems that are low cost, robust and require minimal maintenance. Locally available materials can be exploited towards achieving sustainable safe potable water supply. In conventional drinking water treatment; coagulation is one of the most critical unit operations which determine success or failure of the entire process. Metal salts based on aluminum or iron (eg: alum) are very widely used as coagulants but they influence the pH value of water, increase the soluble residues and increase the volume and metal contents of the sludge. Organic poly electrolytes are also used as a coagulant but they are more expensive. Literature suggests that Moringa Oleifera (local name: Drumstick) seed can be used for coagulation and sludge conditioning. Hence the experiments were carried out using moringa seeds and result shows that it is good for turbidity removal.

Keywords : Moringa Oleifera seeds, Turbidity removal, Coagulants, Hard water softening, Water clarification.