Water Filtration Using Local Materials: Case Study of Clay-Sawdust Filters

J. O Babatola

Department of Civil Engineering,

Federal University of Technology, Akure, Nigeria

Email: delebabatola@yahoo.com

ABSTRACT

This project focuses on the possibility of using local materials; mixture of clay and sawdust, as a water filtration medium, clay from two different locality; Auchi and Akure were mixed with saw dust, constructed (shaped), fired and thereafter use to filter water. These filtered water which could be mainly for drinking purpose, were analysed in the laboratory and compared with criteria/ standard laid down by the various governing bodies concerned with the quality of drinking water such as Agency for Food and Drug Administration and Control (NAFDAC) and the World Health Organization (WHO). The test samples are the raw water collected from a stream located within the university campus. Testing was done for the physical, chemical and microbiological parameters of the raw and filtered samples. The results raw water did not meet most of the chemical parameter requirements for drinking water, except for the non detection of some heavy metals like arsenic and cadmium. However, some of the physical parameter requirement for drinking water was met by the raw water. A critical observation of the results obtained from the laboratory analysis indicated that none of the samples met the microbiological condition for drinking water. The results of the filtered water met all the physical and chemical requirements for drinking water.