

ASSESSMENT OF OCCURRENCE OF ESCHERICHIA COLI FROM DAMS AT THE UNIVERSITY OF EMBU

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B132/11142/2014

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Abstract

Water is a very important resource and therefore its quality should be monitored to ensure it is not contaminated. Water can be polluted by plastic material, chemical effluences and fecal matter. Fecal contamination from sewage linkage into water reservoirs like dams is a major issue that needs to be addressed because it affects important resources in our environment. Water contamination by fecal material can result in outbreaks of illness and renders contaminated water requiring extra processes to clean which may require an additional investment in capital. This study strives to identify which dams are polluted and whether they are fit for irrigation and for livestock rearing. E. coli occurrence in the dam water samples helps to in identification of fecal contamination as the bacteria is an indicator organism that helps in identification of pathogens associated with fecal matter contamination. The study involved the isolation and quantification of E. coli in the dam water at the University of Embu. Water samples from 3 dams at the University of Embu were collected and a colony count of the E. coli colonies isolated from the samples was analyzed to achieve the comparison of bacterial load among the dams to help evaluate which dam is most affected by pollution. This study addresses the need for clean and safe water from the dams for irrigation and livestock use. The study showed the level of pollution in the dams. The occurrence of E. coli in the water samples from the dams provided evidence of fecal contamination but the level of occurrence suggested only minimal contamination. This therefore implied that the dam water requires minimal disinfection in the form of chlorination before use for agricultural purposes.

Keywords: Escherichia coli, Indicator organism, fecal contamination