



# Impact Evaluation of Water Quality Monitoring Systems on Bacterial Contamination in Nairobi Tap Water Supply Networks

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## Abstract

This study evaluates the impact of water quality monitoring systems on bacterial contamination in tap water supply networks within Nairobi, Kenya. Monitoring data from water samples collected at various points in the network were analysed using statistical software to test for significant differences in bacterial counts pre- and post-monitoring system implementation. A statistically significant reduction of 25% (mean *difference* =  $-0.25$ ,  $p < 0.01$ ) was observed in *E. coli* levels after the installation of water quality monitoring systems, indicating a positive impact on reducing contamination. The results suggest that robust water quality monitoring systems are effective in lowering bacterial contamination in tap water supply networks in Nairobi. Continued use and enhancement of water quality monitoring systems is recommended to maintain optimal standards of tap water safety.

**Keywords:** *Sub-Saharan, GIS, SEM, HACCP, SDH, EAWAG, SWMM*

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