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A COMPARATIVE ASSESSMENT OF DOMESTIC WATER QUALITY IN RURAL COMMUNITIES OF SOUTHEAST NIGERIA

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Abstract

This study is a comparative assessment of domestic water quality collected from 35 sampling points in seven typical rural communities in Abia State, Southeast Nigeria. Physicochemical parameters such as pH, conductivity, turbidity and bacteriological parameters such as plate count and total coliform were analysed in the laboratory using standard World Health Organization (WHO) methodology. Results indicate that there are significant variations ($p<0.05$) in the physicochemical parameters of the water samples analysed. pH values ranged from 6.06 - 6.42 while values of turbidity ranged from 1.00 -7.60. Statistical analysis indicates no significant difference in the levels of bacteriological parameters ($P > 0.05$). In general, results from this study indicate that water sources in the villages studied are not good for drinking as most of the physicochemical parameters of the water samples were above the permissible limits of the WHO. However bacteriological result indicates that levels of parameters investigated were within the WHO limits. The main implication of this finding is that water from rural communities of Southeast Nigeria needs to be protected from the perils of contamination and in many cases do require further treatment before they could be safe for consumption.

Key words: drinking water quality, Nigeria, rural water supply, sustainable development goals, water and sanitation

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