

# Underground water quality assessment in Doko community, Niger state Nigeria

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## Abstract

Doko village in Niger State was one of the villages facing the problem of good drinking water especially during the dry season in Nigeria. Adults and children of this village were suffering from typhoid fever, skin rashes, guinea worm as the time this research was carried out due to consumption of contaminated water. This research was therefore conducted to determine the physico-chemical parameters so as evaluate the level of contamination. This was done by subjecting the collected water samples from twelve selected hand-dug wells in Doko village to comprehensive physicochemical analysis using standard analytical procedure. The results of this study showed that chloride and iron content were below the WHO limits, while chemical oxygen demand (COD) and nitrate (NO<sub>3</sub>-) values exceeded the permissible limit of WHO. Parameters like manganese, conductivity, total hardness, sulphate, phosphate, copper, magnesium, calcium, and total alkalinity were found to be within the desirable range recommended by WHO. This Low and high values obtained for some of these parameters might had their health implications, except for chemical oxygen demand and nitrate hence the need to improve upon the quality of this water source was suggested. This study therefore reveals that the selected hand dung well in Doko community, Niger State, Nigeria is safe for drinking, although water treatment plant could be built to improve the water quality.

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