

## NITRATE POLLUTION IN DUG WELLS IN THE VAVUNIYA DISTRICT

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Ground water is an important resource for domestic and agricultural purpose and water pollution is found to be a serious problems. Ground waters are generally polluted by leachates from sewage and agricultural land. The main pollutants from sewages are nitrate nitrogen and feecal coli form. Both are hazardous at high concentration in drinking water. There is no simple way to remove all nitrates from contaminated water. Finding and correcting the source of nitrate contamination is the best course of action. The objective of the study was to evaluate the nitrate nitrogen in dug wells and identify the wells that are not suitable for drinking purpose in the Vavuniya District. Thirty three dug wells were selected around the general hospital Vavuniya to measure the Nitrate Nitrogen ( $\text{NO}_3\text{-N}$ ), Electrical Conductivity (EC), pH and feecal coli form count from March 2008 to June 2008. The Nitrate Nitrogen ranged from 0.10- 14.04 mg/l with a mean value of 6.1 and 30% of the wells showed above the permissible limit of 10 mg/l in March 2008. The study reveals that nitrate nitrogen was higher in wells located in the high lands compare to the wells located in low lands (paddy lands). Feecal coli form was much higher in almost all the wells. pH and EC of all the wells were within the permissible limit for drinking water. The research shows that nitrate nitrogen and feecal coli form were high in wells located around the hospital area and this may be due to improper sewage disposal system.

**Key words:** dug wells, nitrate pollution, sewage, feecal coli form.

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