

## **Nutrient concentration in groundwater of Pondicherry region.**

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### **Abstract**

The surface and groundwater samples were collected from urban, rural areas, shallow and deep aquifers in Pondicherry region. The samples were analysed for various nutrients such as Nitrate Nitrogen, Nitrite Nitrogen, Ammonia Nitrogen, Phosphate and Dissolved silica. The elevated concentrations often fold increase against a background concentration of less than 2 mg/L of nitrates was observed in the study area. The maximum nitrate concentration (22 mg/L) in water is well within the limits of 45 mg/L prescribed by World Health Organization. The nutrients were observed about 2 to 3 times higher in groundwater of urban areas than in rural areas, indicating abundant leaching of nutrients from municipal waste and sewage effluent. The nutrients displayed a trend of higher concentration in shallow groundwater and lower in the water in deep aquifer and tank water. The higher concentrations of dissolved silica (13 mg/L to 100 mg/L) against an average concentration of 5 mg/L in the ground water of unreactive aquifers shows the presence of amorphous silica in the subsurface formations, slightly acidic to neutral nature of water in aquifers and also interaction between formation material and water.