

**ASSESSMENT OF GROUNDWATER POLLUTION IN THE VICINITY
OF MIDC INDUSTRIAL COMPLEX, NANDED DISTRICT,
MAHARASHTRA, INDIA**

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Abstract

In order to assess and evaluate the effects of industrial pollutants on groundwater quality, a study was conducted in the vicinity of Maharashtra Industrial Developmental Corporation Complex located near Tuppa village in Nanded district. 31 water samples were collected during pre-monsoon season 2002 and subjected to chemical analysis. The groundwater is of Ca-HCO₃ type, which is characteristic of basaltic rock formations, whereas the groundwater in the vicinity of industrial complex is Ca-Mg-Cl type. The concentration of dissolved solids, total hardness and Cl vary in the ranges of 327-2937 mg/L, 240-2250 mg/L and 32-1596 mg/L respectively. The groundwater in the area contains lead, cadmium and manganese beyond the permissible limits and chemical oxygen demand (COD) is up to 57 mg/L, indicating that the it is polluted due to the industrial effluents. The concentrations of dissolved solids, total hardness, Ca, Mg, Cl and SO₄ are above the desirable limit of Bureau of Indian Standards (BIS) for drinking water use affecting an area of 3.9 km². To improve the groundwater quality, rainwater harvesting and artificial recharge techniques like percolation tanks/gabion structures are proposed in the area.

Keywords: Groundwater, Industrial pollution, Background sample, Effluents.