

Ground water Pollution in Nagari town of Andhra Pradesh state , India

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Abstract

Environmental pollution caused by toxic heavy metals and dyes from textile effluents has become increasingly significant in recent years. In Andhra Pradesh especially Nagari town of Chittoor District has been on the forefront of having largest number of textile dyeing and finishing plants (approx 120 units) mostly engaged in cotton and synthetic textile printing and dyeing activities. These industrial effluents contain variety of chemicals (auxillary chemicals), acids, alkalis and several other contaminants like traces of metals in dyes which may result in undesirable surface as well as ground water pollution. The main objective of this paper is to examine the pollution threat especially to the ground water resources in and around the textile dyeing and processing units of Nagari town. Five different sites were selected in different places of Nagari like Ekambarakuppam, Kothapet, Chinthalapatteda, Sathrawada and the main Nagari town and ground water samples from these sites were collected over a period of one year (i.e., 2006-2007). A comparative study was undertaken focusing on three seasons of the year like summer, winter and monsoon during which the physico - chemical analysis (by Standard methods) and heavy metal concentrations (by AAS) were carried out in the ground water samples of the selected experimental sites . Among the five site samples studied, Ekambarakuppam ground water sample was found to be highly polluted as envisaged by high heavy metal concentrations like cadmium (0.029 mg/L) and copper (0.201 mg/L) with high B.O.D values (4.7 ppm). However copper and zinc levels were high in Chintalapatteda water sample (0.038 and 0.050 mg /L respectively)