

Study of Water Quality Parameters of Wells in an Industrial Zone

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ABSTRACT

Safe reliable drinking water is a priority for public health. The facilities to treat waste water are not adequate in any city. Presently, only a small amount of waste water generated is subjected to treatment and the rest is discharged as it is, into our water bodies. Due to this, pollutants enter ground water, rivers and other water bodies. The aim of this project is to study ground water quality of vicinity to industries in the Biyagama zone (Kelani river area). For this investigation three main industries namely, Beverage processing industry I(Coca cola), International Distilleries Lanka Limited and Beverage processing industry II were selected. In this study, water samples were collected from wells situated 100 m, 500 m and 1000 m away from above industries. Furthermore industrial treated effluents were also subjected to analysis. The water quality parameters selected for this study were the potable water parameters such as trace levels of ammonia, chlorine, heavy metals, acidity, alkalinity and nitrogen as nitrites and nitrates. Additionally, total solids, turbidity, colour, odour, and taste were also determined. The degree of the organic pollution in effluents was estimated using the dissolve oxygen (DO) and the chemical oxygen demand (COD). In addition, water samples were collected from wells 200 m before and 200 m after a said industry in order to assess the actual effect of leaching by industrial effluents to ground water. Our results indicate that there is a very little leaching effect from these industries to ground water. It is clear that it is not necessary to be alarmed about having industries, as public used to claim.