

AHW015-08

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Analyzing E.coli contamination of shallow groundwaters using water hydrogen and oxygen stable isotopes in Nepal

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About 50% of total water demand in Kathmandu Valley is fulfilled from groundwater. However, the current supply is insufficient in the Valley, leading people to use shallow groundwaters. It is reported that 9.4% of shallow groundwater is contaminated with E.coli in this area (ENPHO 2005). Only 15% of household is connected to the central sewer pipe system and sewer drains directly into rivers without treatment (ICIMOD 2007), causing serious water pollution. In addition, the poor management of sewer system and leakage of waste water may increase the contamination in shallow groundwaters.

The objective of this study is to investigate the E.coli presence in shallow groundwaters and analyze the distribution influenced by groundwater recharge using water hydrogen and oxygen isotopes and major dissolved ions.

Keywords: water oxygen and hydrogen stable isotopees, groundwater, recharge, E.coli