Title: Source identification and potential health risks from elevated groundwater nitrate contamination in Sundarbans coastal aquifers, India.

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Abstract: In recent years groundwater contamination through nitrate contamination has increased rapidly in the managementof water research. In our study, fourteen nitrate conditioning factors were used, and multi-collinearity analysis is done. Among all variables, pH is crucial and ranked one, with a value of 0.77, which controls the nitrate concentration in the coastal aquifer in South 24 Parganas. The second important factor is Cl^-, the value of which is 0.71. Other factors like-As, F^-, EC and Mg^{2+} ranked third, fourth and fifth position, and their value are 0.69, 0.69, 0.67 and 0.55, respectively. Due to contaminated water, people of this district are suffering from several diseases like kidney damage (around 60%), liver (about 40%), low pressure due to salinity, fever, and headache. The applied method is for other regions to determine the nitrate concentration predictions and for the justifiable alterationof some management strategies.

Keyword: Groundwater Pollution, Nitrate Contamination, Probable Health Risk, Sundarbans.

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