Pollution of ground water has become a major environmental problem. Anthropogenic impacts on groundwater within different zones of Abeokuta, Southern Nigeria were evaluated. The study area was divided into four zones; Crowded, Market, Residential and Industrial areas and it also involved the measurement of pH, electrical conductivity (EC) and total dissolved solids (TDS). Ground water samples were randomly collected and acidified with two drops of concentrated nitric acid and determined for elemental constituent using ICP-MS. Then of Physicochemical parameters were in the range 67-649 ppm for TDS; 6.6-8.9 for pH and 103.07-984.61 (μScm⁻¹) for EC respectively. Elemental analysis revealed mean concentrations in decreasing order of Na>Ca>K>Mg>Fe>Mn>Zn>Pb>Cd>As>Cu for cations and Cl->SO₄²->NO₃⁻ for anions. Cations occurred within WHO permissible limits for groundwater except K, Pb and Ca while Cl- and NO₃- were above the limit for anions. The high values of Cl- and NO₃- were from the influence of tie and dye in the study area. The contamination factor (C.F) and geo-accumulation Index (Igeo) revealed no contamination in the cations except for Cd and Pb due to the effect of fuel combustion and quarry found behind the residential area. Conclusively, ground water from industrial and crowded zones of the study area was more contaminated than the residential zone.

Biography
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