

# International Conference on Geology

June 22-23, 2015 Florida, USA

## Impact of urban activities on ground water qualities in Abeokuta Southwestern, Nigeria

Laniyan Temitope A, Ajibade O M, Bayewu O O and Oshomoji A O  
Olabisi Onabanjo University, Nigeria

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 ( $\mu\text{Scm}^{-1}$ ) for EC respectively. Elemental analysis revealed mean concentrations in decreasing order of  $\text{Na} > \text{Ca} > \text{K} > \text{Mg} > \text{Fe} > \text{Mn} > \text{Zn} > \text{Pb} > \text{Cd} > \text{As} > \text{Cu}$  for cations and  $\text{Cl}^- > \text{SO}_4^{2-} > \text{NO}_3^-$  for anions. Cations occurred within WHO permissible limits for groundwater except K, Pb and Ca while  $\text{Cl}^-$  and  $\text{NO}_3^-$  were above the limit for anions. The high values of  $\text{Cl}^-$  and  $\text{NO}_3^-$  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

Laniyan Temitope A is a Lecturer in the Department of Earth Sciences, Olabisi Onabanjo University, Ago – Iwoye, Ogun State Nigeria. Her area of specialization is Applied Geochemistry and research interests are Applied Geochemistry, Environmental/ Medical and Economic geology.

[ttlaniyan@yahoo.com](mailto:ttlaniyan@yahoo.com)

### Notes: