madridge CONFERENCES
European
Chemistry Conference 2018
July 4-6, 2018 Rome, Italy

Heavy Metals Pollution of Surface Water and Sediment of Watari Reservoir, Kano State, Nigeria

Garba Alhaji Adamu[1]*; Muhammad Sani Sallau[1]; Sulaiman Idris[2] and **Edith Bolanle Agbaji[2]**
[1]Department of Science, Kano State Polytechnic, Nigeria
[2]Department of Chemistry, Ahmadu Bello University, Nigeria

Watari reservoir is one of the largest man made dams in Northern Nigeria. It was constructed for the purpose of irrigation, drinking water supply, recreation and limnology. To assess the pollution status of the reservoir, water and sediment samples were collected in three seasons of the year; November - February (cold season); March - June (dry season) and July - September (rainy season) from five sampling sites. The samples were analyzed for heavy metals; Cd, Cr, Co, Cu, Fe, Pb, Mn, Ni and Zn using Atomic Absorption Spectrophotometer (AAS). The result obtained was found to be comparable to those reported for tropical reservoirs. Fe recorded the highest mean values of 6.53 mg/L in water and 12.21 mg/kg in sediment which is above the acceptable limit. Cr was BDL in water and 0.79 mg/kg in sediment. Statistical analysis shows that the values obtained in sediment were higher than those of water samples with significant difference $p<0.05$ which is due to the fact that sediments serve as sink for heavy metals. The high concentration of Fe may be due to natural origin and the presence of these metals in sediments may be an indication of anthropogenic pollution. The result of HPI, 17.98, indicates that Watari reservoir has an excellent water quality and can be used for irrigation and domestic purposes.

Key words: Reservoir water, heavy metals, pollution, Watari reservoir, sediment