

ASSESSMENT OF TRACE METAL CONCENTRATION IN NATURAL SURFACE WATER CONSUMED IN UYO VILLAGE ROAD AKWA IBOM STATE, NIGERIA

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ABSTRACT

The study of the trace metals effect in the Surface water was undertaken in Uyo village road in Akwa Ibom State, Nigeria. This was done in order to ascertain the effect of trace metals concentration on surface water quality. The study was undertaken between January 2019 and May-2019. The study employed standard approved HACH as well as AOAC (Association of Applied Chemist) to determine the concentration of trace metals in the surface water samples in Uyo Village road, Akwa Ibom State, Nigeria. The findings revealed that indiscriminate disposal of the refuse at the dumpsite as well as other aerial factors had contributed significantly to trace metals load in the Uyo Village road surface water samples. The result also showed that the pollution load of Iron and copper and Manganese was higher than other metals tested within the study location. Cd, Cr, Hg as well as Pb had a lower concentration in the studied surface water samples. Also, the results of the principal component analysis revealed that the loading variances of trace metals such as cadmium, copper, Lead, and iron as well as zinc in the studied surface water were relatively higher. These trace metals therefore, are regarded as contaminants associated with mixed anthropogenic and lithogenic activities within the study surface water samples. As contaminants, these metals may accumulate in the surface water leading to trace metals toxicity in the humans that depends on such water sample for personal and domestic purposes. Therefore, in view of the results obtained coupled with the negative effect associated with trace metals load it is important that refuse handling and management should be given utmost attention in Uyo municipality so as to reduce the pollution load recorded on the surface water within the study area. Also, it is pertinent that waste recycling plant should be used instead of direct dumping experienced within the study locations so as to prevent the effect of trace metal contamination on the natural surface water within the area.

KEYWORDS: *Pollution, Recycling, Contaminants*

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