A STUDY OF HEAVY METAL POLLUTION IN LAKE VICTORIA SEDIMENTS BY ENERGY DISPERSIVE X-RAY FLUORESCENCE

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Abstract

Sources of heavy metal pollution of Lake Victoria is of interest due to its economic and domestic implication in East Africa. Sediments from the shore of Lake Victoria and from some streams flowing into the lake have been analyzed for their heavy metal content using Energy Dispersive X-Ray Fluorescence (EDXRF) analysis. The samples were collected from seventeen different locations around the Municipality of Mwanza divided into three zones according to their activities. The results show that sediments from Mwanza North, which is least in anthropogenic activities, contains Cr and Co in addition to metals of terrestrial origin (K, Ca, Ti, Mn, Fe, Rb, Sr, Y, and Zr), samples from Mwanza Central, which is the town center, contains high concentrations of V, Cu, Zn and Pb, and samples collected from Mwanza South, which is the industrial area, contains the highest concentrations of V, Cu, Zn, As and Pb. It is concluded that the industrial and sewage wastes discharged into the lake are the main sources of the heavy metal contamination of Lake Victoria. Further studies will be required to assess detriments of these pollutants to human and aquatic life before policy for the factories responsible is put in place.

Keywords

Sediments,

EDXRF,

Heavy metal,

Pollution,

Anthropogenic activities