

The objective of this work was to investigate the occurrence and fate of five heavy metals in water, sludge, and sediments from a conventional municipal wastewater treatment facility in Kisumu City, Kenya. The effluent quality was compared with the effluent quality parameters stipulated by the National Environmental Management Authority (NEMA) to assess the efficiency of the plant and potential effect of the discharged effluent on the recipient river. The levels of the heavy metals recorded in the sludge samples were significantly higher than those in the corresponding water samples. The order of the metal percentage removal efficiency (%R) from the treatment plant was Mg>Cu>Mn>Fe>Zn. It is concluded that the plant is a point source for Zn loading into the recipient waters which poses potential risk to end users downstream. The heavy metal-laden sludge was within permissible limits for utilization in agricultural lands.