

**DISTRIBUTION AND ASSESSMENT OF HEAVY METALS IN
THE TROPICAL LAKE SEDIMENTS, POOKODE, KERALA:
IMPACT OF CONTAMINATION AND POLLUTION**

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Abstract

Understanding geochemical properties of heavy metals of lake sediments is an indispensable tool to infer the ecotoxic potential of the lake basin. Pookode Lake is a freshwater monsoonal rain fed lake situated at high altitude in the Western Ghats, Kerala. There are no major industrial establishments around the lake except for the local tourism. Three short sediment cores were collected from this lake to assess the amount of heavy metals present in the sediments. Fe, Mn, Ni, Cu, Pb, Ti, Zn, Cr, and Cd content in the sediments were determined using XRF analytical instrument. Enrichment Ratio (ER), pollution load index (PLI) and contamination factor (CF) was calculated to determine the effect of pollution. The lake sediments reveal high Ni, and Cr concentration and moderate Pb content. This is attributed to the dispersal of trace elements from the mineralized and weathered zones exposed in the upper catchment area and also impact of anthropogenic activity due to tourism.

Keywords: Fresh water Lake, Geochemistry, Trace metals, Enrichment factor, Contamination