

## Assessment of Heavy Metal Contamination in Ground Water in the Coastal Part of Cauvery Deltaic Region, South India

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**Abstract :** In order to assess the heavy metal contamination totally forty five groundwater samples were collected from the coastal part of Cauvery deltaic region, South India, during monsoon season in the year of 2017. The study area lies between longitudes 79°15' to 79° 50' E and latitudes 10°10' to 11°20' N with total area of 2,569 km<sup>2</sup>. The concentration of As, Ba, Cd, Cr, Co, Cu, Ni, Pb, Se, and Zn were analyzed by Inductively Coupled Plasma Mass Spectrometry (ICP-MS). The heavy metals ranged between 0.007-117.8 µg/l for As, 8.503-1281 µg/l for Ba, 0.006-0.12 µg/l for Cd, 0.23-5.572µg/l for Cr, 0.44-17.9 µg/l for Co, 0.633-11.56 µg/l for Cu, 0.467-29.34 µg/l for Ni, 0.008-5.756 µg/l for Pb, 0.979 to 45.49 µg/l for Se, and 2.712-10480 µg/l for Zn in the groundwaters. A comparison of heavy metal concentration with WHO and BIS drinking water standards shows that Ni, Zn, As, Se, and Ba level is higher than the drinking water standards in some of the groundwater samples, and the concentrations of all the other heavy metals were lower than the drinking water standards. The present levels of heavy metal concentration in the studied area groundwaters are moderate to severe to public health and environmental concerns and need attention.

**Keywords :** cauvery delta, drinking water, groundwater, heavy metals

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