

# ABSTRACT

A study was conducted along the stretch of Hudiarra Drain to assess the pollution load on ecosystem of the area by estimating heavy metal accumulation (As, Cr, Cd, Cu, Fe, Ni and Zn) in water, its adjoining soils and the two plant species [*Oryza sativa* (rice) and *Triticum aestivum* (wheat)] physico-chemical characteristics of water including Dissolved Oxygen (D. O.), Electrical Conductivity (EC), pH, Temperature and Total Dissolved Solids (TDS) were also measured.

The heavy metal concentrations in water, soil and plants show significant variations. When compared to permissible standards issued by WHO (1998) and NEQS (2000), significantly high concentrations of heavy metals (As, Cr, Cd, Cu, Fe, Ni and Zn) are found in water, soil and plants.

In conclusion, Hudiarra Drain is highly polluted by the addition of untreated industrial effluents and city sewage and heavy metals tend to accumulate significantly in soil and crops being grown there. This situation poses a threat to the entire ecosystem including human population which can receive these pollutants directly (e. g., drinking water) or indirectly (e.g., in food chain through crops and cattle).

The consequences may be widespread as the drain dumps its polluted water in River Ravi on which many lands of the Punjab are irrigated.