

## Heavy Metal of Soil in Wastewater, Irrigated Agricultural Soil in a Surrounding Area of the Nhue River, Vietnam

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**Abstract :** Waste from industrial sources, serves as sources of water for irrigating farms. The purpose of this study is to identify the impact of waste-water irrigation on the level of heavy metals in the soils. Soil samples were collected from the different locations from upstream to downstream of the Nhue River to evaluate heavy metal pollution. The results showed that the concentrations of all heavy metals in the soil samples in the farmland area were much higher than the background level in that area (1.2-2.6 mg/kg for Cd, 42-60 mg/kg for Cr, 22-62mg/kg for Cu, 30-86 mg/kg for Pb, 119-245 mg/kg for Zn, and 26-57 mg/kg for Ni), and exceeded the level of Vietnamese standard for agricultural soil for all heavy metals Cd, Cu, Pb, and Zn except soil samples at upstream and downstream of the Nhue River.

**Keywords :** heavy metal, soil, Nhue River, wastewater irrigation

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