

Assessment of the Water Quality of the Nhue River in Vietnam and its Suitability for Irrigation Water

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Abstract : The Nhue River in Vietnam is the main source of irrigation water for suburban agricultural land and fish farm. Wastewater from the industrial plants located along these rivers has been discharged, which has degraded the water quality of the rivers. The present paper describes the chemical properties of water from the river focusing on heavy metal pollution and the suitability of water quality for irrigation. Water from the river was heavily polluted with heavy metals such as Pb, Cu, Zn, Cr, Cd, and Ni. Dissolved oxygen, COD, and total suspended solids, and the concentrations of all heavy metals exceeded the Vietnamese standard for surface water quality in all investigated sites. The concentrations of some heavy metals such as Cu, Cd, Cr and Ni were over the internationally recommended WHO maximum limits for irrigation water. A wide variation in heavy metal concentration of water due to metal types is the result of wastewater discharged from different industrial sources.

Keywords : heavy metals, stream water, irrigation, industry

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