

# The Fractionation of Chemical Forms in the soil of Yangsan riverside and Il-Kwang disused mine, and in the sediment of Høedong Reservoir

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The sequential Extraction analysis is used in this study to investigate the chemical forms of heavy metals (Cd, Pb, Zn, Fe, Mn, Cr, and Cu) in soil and sediment. The soil and sediment samples were fractionated into five forms as follows: exchangeable, bound to carbonates, bound to Fe-Mn oxides, bound to organic matter, and residual. Samples were the soil of Yangsan riverside and Il-Kwang disused mine, and the sediment of Høedong Reservoir. In comparing of the soil and sediment samples, the soil of Il-Kwang has the highest total concentration of heavy metals. Except to the content of heavy metals of residuals, heavy metals of all three sampling points were bound to mostly Fe-Mn oxide and organic matter form. Especially, in the case of Cu, Cr, Fe, Mn, and Pb of Høedong Reservoir sediment, and Cu, Cr, and Pb of Yangsan riverside soil, more than 50% of the total is bound to Fe-Mn oxide and Organic matter form.

Keyword : Soil fractionation, Heavy metal, Sequential extraction methods.