Case Study (Example): Remediation of Soil Contaminated by Heavy Metals

I. Summary of the Former Janghang Smelting Facilities

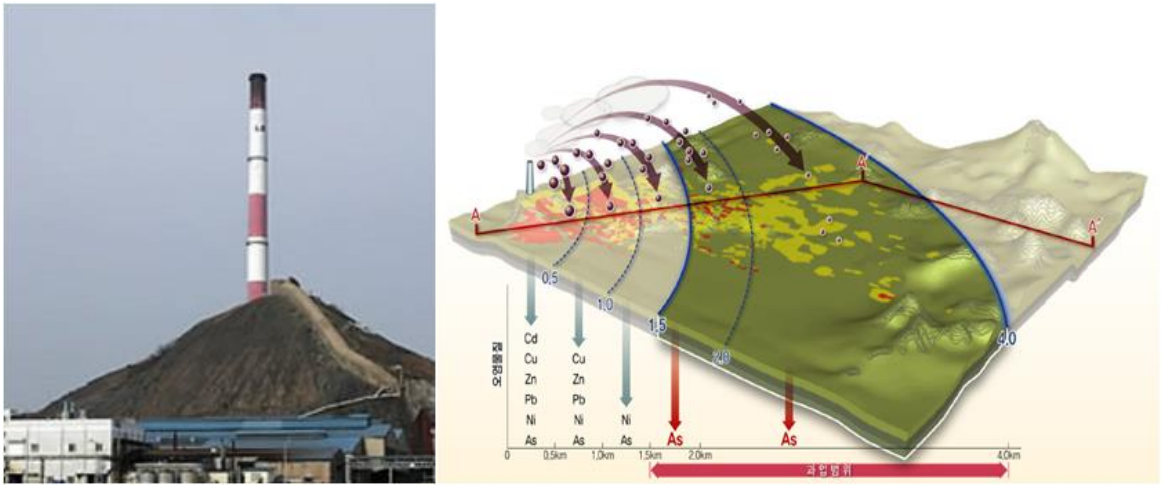
a. Copper was refined from 1936 to 1989 (as well as lead, gold and silver)
b. Productions of Copper: 634,972 ton; Lead: 38,879 ton; gold and silver: 529.7 ton

II. Current Status of Soil Pollution

a. Pollution Pathway: gas and slag emitted in the process of copper smelting spread to the neighboring areas by wind and rainfall
b. Soil and crops such as brown rice exceed the heavy metal standards
c. The areas within 4 km radius of former Janghang smelting facilities are contaminated with heavy metals such as As, Cu, Cd and Pb showing the respective maximum concentrations of 4,999mg/kg, 1,555mg/kg, 8.98mg/kg and 304mg/kg
d. Polluted Areas: 1,388,213㎡ (pasture < farmland < rice paddy)

III. Government (Ministry of Environment and other Ministries) have implemented the comprehensive remedial projects

a. Set countermeasures to improve soil contamination around the former Janghang Smelting facilities
b. Remediation project periods: 2009 - 2016
c. At present, Government purchase the contaminated land (1.5km perimeter of the refinery) and clean up the soil
d. Relocate local residents (around 372 households) and set up a Demonstration Site for remediation of the contaminated soil
e. Remediation cost: approximately US$ 300 million
f. Implementation of remediation techniques: Electro-kinetics, soil washing, thermal desorption and phytoremediation according to Soil Environment Conservation Act



(left) Views of Former Janghang Smelting Facilities and (right) Pollution Pathway

Aerial View of Soil Contamination Area