Abstract of Presentation

Presentation Title:

Climate change impact and adaptation study for coastal aquifers in selected Asian cities

Abstract:

Current trends in urbanization and continuous increase in population and demand due to economic development have put immense pressure on groundwater resources leading to undesirable consequences. Research studies conducted on the coastal aquifers of Bangkok showed that overexploitation of groundwater and subsequent lowering of piezometric levels (up to 40-50m) resulted in land subsidence (>10cm/yr) as well as quality deterioration (chloride levels >600mg/L) due to saline water intrusion . Apart from increasing demand, climate change will further exacerbate coastal aquifer problems if not properly addressed. Changes in temperature and precipitation will affect surface water availability and groundwater recharge leading to increased exploitation of deep aquifers. Sea level rise due to climate change may result in increased intrusion of saline water into fresh groundwater resources in coastal aquifers. In order to develop adaptive measures specific to coastal areas, research collaborations are proposed focusing on assessing the impacts of climate change, identifying recharge areas of deep aquifers, e.g. using isotope analysis, and understanding the mechanism of salinity intrusion in coastal aquifers. Research study areas will be identified in selected Asian countries and corresponding cooperation scheme among partners will be proposed.