



## **Health Risk Assessment of Groundwater Arsenic Pollution in Southern Taiwan**

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This study investigates the risk of arsenic (As) exposure to the residents in Pingtung Plain of Taiwan, where more than 50% of people extracts groundwater to meet the drinking purpose and monitoring groundwater shows that a considerable portion of groundwater has an As concentration of more than safe drinking water guideline of  $10\mu\text{g/L}$ . Exposure and risk assessment are carried out in accordance with the provisional daily intake (PTDI) recommended by the FAO/WHO as well as hazard quotient and cancer risk standards based on the US Environmental Protection Agency. The variability of body weights and drinking water consumption scenarios are considered in exposure and risk assessment. Results shows that daily intake exceeds  $2.1\mu\text{g day}^{-1}\text{ kg}^{-1}\text{ BW}$  for 2% of population, HQ level above unity for 20% , and can risk greater than  $10^{-6}$  for 80%. These results implies that drinking water directly from groundwater will place many people at the risk of exposure and any efforts to supply safe drinking water is imperial for governing in order to protect the human health of inhabitants in Pingtung Plain.