Millions of Vietnamese using arsenic-tainted drinking water

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Health-threatening levels of arsenic and other toxic elements may contaminate drinking water used by seven million inhabitants of Vietnam's Red River delta, according to a study. Researchers have known for more than a decade that groundwater in parts of Southeast Asia contains naturally occurring arsenic, at levels which exceed the World Health Organization's (WHO) safety standards.

Michael Berg, Lenny Winkel and colleagues of the Hanoi University of Science and the Swiss Federal Institute of Aquatic Science and Technology (Eawag) analyzed samples from 512 private wells spanning the delta region, which includes Vietnam's capitol city, Hanoi. The authors report that arsenic concentrations in 27% of the wells tested were higher than the WHO standard, and that 44% carried unsafe levels of the element manganese, which can disrupt neurological development in children. The researchers also developed a mathematical model that uses geological data to generate three-dimensional contamination "risk maps." For more than a century, Hanoi's growing population has been tapping water from deep aquifers lying beneath the arsenic-tainted groundwater. But the practice, the authors suggest, has caused arsenic to leech downward and taint the municipal water supply. The situation in Vietnam illustrates the long-term consequences of drawing clean water from deeper wells, and argues that other drinking water resources and water treatment technologies provide a more sustainable strategy, according to the authors.

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