

Source and residence time of groundwater around Battambang region in Kingdom of Cambodia

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Management of groundwater is vital for maintaining social systems under Asian monsoon climate. At Battambang, which is situated west of the Lake Tonle Sap, hydrological system is strongly related to the lake level changes. The river water level of the Sangkae River, the main river running Battambang, fluctuates up to 7 m and the water level almost drops to riverbed in dry season. Groundwater level also fluctuates seasonally. Thus, it is very important to study the relationship between surface water, i.e., river water and lake water, and groundwater for understanding the hydrological system of the area, and to propose appropriate management system. For achieving the objective, we conducted field survey on November 2011 at around Battambang. Groundwater samples were collected from 15 wells, and stable isotopes of oxygen and hydrogen, water chemistry, tritium and sulfur hexafluoride were analyzed for all samples. Based on the results, we discuss source and residence time of the groundwater around Battambang region.

Keywords: Kingdom of Cambodia, Battambang, Groudwater age, Sulfur hexafluoride, Tritium, Stable isotopes