

# **The trans-boundary management of groundwater resources in the Kumamoto area, Japan — Sustainable management of groundwater resources for over 700,000 residents —**

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The city of Kumamoto and their surrounding area, where have the population over 0.7 million, are unique in that it is the city holding prefectural government which city water is 100% supported only by their abundant groundwater. Recent expansion of the urban land-use area in and around city induces the decrease of volume of the regional groundwater resources in spite of economical water-use efforts, and the local governments try to take measures to maintain stable groundwater recharge rate. Also the groundwater contamination mainly caused by the agricultural origin N-NO<sub>3</sub> has been clearly rising their concentration recently. To maintain environmentally stable regional groundwater resources for both quantity and quality aspects, it is necessary to enlighten the people's concern about the sustainable use of the regional groundwater resources. This paper introduces the ongoing efforts conducted by the city of Kumamoto area for this purpose.

**Keywords:** trans-boundary groundwater management, volcanic aquifer, artificial recharge, abandoned paddy fields