# Improving the efficiency of groundwater resource management through cooperation mechanisms

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From 1978 to 1981, groundwater resources were extensively exploited and tended to increase continuously. The government had not taken this high level of groundwater consumption as an issue until it appeared that the land surface started subsiding. This caused national resource damages, environmental pollution, and property or public health risks; thus, the government enacted the Groundwater Act B.E. 2520. (Kriengsak Laowattanatrakul, 2004). In 2014, the Department of Groundwater Resources (DGR) divided groundwater wells into three categories: agricultural, industrious, and domestic consumption. Groundwater pumping has been controlled to maintain water balance, which will prevent problems of land subsidence and saltwater intrusion into aquifers. The DGR works cooperatively with the Provincial Office of Natural Resources and Environment (PONRE) and the Bureau of Groundwater Resources Region 1-12 (BGR 1-12) through the strengthening capacity and efficiency in the control and regulation of groundwater operations project to support the mission in controlling and regulating groundwater operations according to the Groundwater Act B.E. 2520.

The project has objectives: 1) to support groundwater resources management for available licenses of groundwater drilling and using, 2) to survey unlicensed groundwater wells and report groundwater well data to the DGR, and 3) to encourage officials, entrepreneurs, local governments, and other organizations to obtain knowledge about legal groundwater operations. In 2014-2023, the PONRE and BGR 1-12 controlled and regulated groundwater consumption from wells in the private sector. The DGR has issued over 100,000 licenses with groundwater usage of around 9 million cubic meters per day.

Moreover, DGR applies the data of groundwater quantity and quality collected from private sector wells for groundwater management and uses them to decide license issuances and strengthen the capacity of aquifers. The data is also employed to manage groundwater resources in specific areas by collaborating with the Bureau of Groundwater Conservation and Restoration; the purpose is for groundwater resource sustainability. For instance, in the groundwater critical zones, the license will not be issued to the users who withdraw the amount of groundwater that exceeds the safe yield.

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