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Groundwater policy and groundwater monitoring system of Korea

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In Korea, the Ministry of Land, Infrastructure and Transport (MOLIT) legislated Groundwater Act (GA) in 1993 for proper management and utilization of groundwater as well as for preventing groundwater pollution which is closely linked to public welfare and national economy. According to the GA, the master plan for groundwater management (MPGM) is established every ten years for nationwide management and policy of groundwater resources including analysis of the cause and preparation of countermeasures. The general groundwater monitoring networks (GGMNs) have been built for monitoring groundwater level and quality; agricultural groundwater monitoring network in agricultural areas where groundwater is highly developed and used; and special purpose monitoring network such as the saltwater intrusion monitoring network. The GGMNs are divided into the primary groundwater monitoring networks (PGMNs) and secondary groundwater monitoring network (SGMNs). The PGMNs are operated by the central government for monitoring the quantity and quality of groundwater at both national and regional scale; and consists of the national groundwater monitoring networks (NGMNs) engaged by the K-Water and the MOLIT and the national groundwater quality monitoring networks (NQMNs) by the Ministry of Environment. On the other hand, the SGMNs are operated by the central government or local governments to monitor changes in groundwater quantity and quality due to man-made influences such as groundwater pumping and pollution facilities. Besides, the rural groundwater management networks (RGMNs) and the saltwater intrusion monitoring networks (SIMNs) are operated by Korea Rural Community Corporation under the Ministry of Agriculture, Food and Rural Affairs (MAFRA). In addition, local governments operate local groundwater monitoring networks (LGMNs) to assist the NGMNs as well as local groundwater quality monitoring networks (LQMNs) for the areas of groundwater contamination concern to assist the NQMNs. This work is supported by National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (No. NRF-2017R1A2B2009033) as well as by the Korea Meteorological Administration Research and Development program under grant KMIPA 2017-9050.