

# A proposed groundwater management framework for municipalities in South Africa

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## Abstract

Groundwater is not being perceived as an important water resource and therefore has been given limited attention in South Africa. This is reflected in general statistics showing that only 13% of the nation's total water supply originates from groundwater. In contrast, most towns in arid areas depend on groundwater either as a sole supply or as an essential supply for drought management. The perception remains that groundwater is not a sustainable resource for bulk domestic supply and cannot be managed properly. Despite this, a growing number of municipalities utilise groundwater on a regular basis, and provide examples of successful management of this resource. Various guidelines for groundwater management in South Africa have been developed. These are valuable sources of information in terms of requirements and steps to protect and manage aquifers. However, an overarching groundwater management framework was still lacking. Hence, the Water Research Commission (WRC) has commissioned a project to develop a Groundwater Management Framework that incorporates all aspects of groundwater management at municipal level. The proposed Groundwater Management Framework aims to improve on the management of groundwater resources by equipping the responsible authorities with the required tools and capacity. This goes beyond data collection and monitoring, and requires human and capital resources. The framework includes a detailed description of the different functions and the relevant responsibilities, the required skills, the optimal position within the municipal structure and required communication lines. Hence, the assigned responsibilities and available tools to achieve sustainable groundwater management reflect the local level of water institutions, i.e. Water Services Authority (WSA), Water Services Provider (WSP) and Water User Associations (WUAs). However, the principles of the framework can be applied at all levels and all scales. It is recommended that this framework be rolled out and promoted at the local government level, in combination with requisite skills development at operational level, and training of municipal officials, as well as providing incentives for successful implementation and integration of groundwater management in municipal planning.

**Keywords:** groundwater management, guideline, aquifer protection, aquifer utilisation, monitoring