

## **A Sustainable Water Resource Strategy for an Arid Subregion Of South Africa, The Northern Cape.**

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The Northern Cape Province is the Republic of South Africa's largest and most arid province. Of the total 227 communities, 99 (44%) are totally reliant on ground water, while a further 9 communities are partially dependant on this resource, to supply basic needs.

Groundwater has a great advantage as a resource, over surface water as it is less susceptible to the effects of evaporation, contamination and drought.

The quantity or yield of the provinces ground water varies from some underground rivers to trickles of water, while water quality ranges from fresh to highly saline.

A complex relationship exists between groundwater quantity, quality, geology, recharge rate, climate and sustainable development.

Can water be used and managed in a sustainable way? Is sustainability a reachable possibility?

This paper aims to explain the fundamental role of earth scientists and communities in formulating strategies for efficient and effective water use which does not compromise the needs of this generation or those which will follow.

Sustainability indicators are determined as well as the economic, social and environmental costs related to groundwater use and management as well as its misuse or mismanagement.

Sustainable resource use, in this instance groundwater, remains a challenge in resource poor regions such as the more arid regions of the Northern Cape.