

# The impact of water scarcity on economic development initiatives<sup>#</sup>

**James Blignaut\* and Jan van Heerden**

*Department of Economics, University of Pretoria, Pretoria 0002, South Africa*

## Abstract

South Africa's unallocated water resources have dwindled to precariously low levels. Furthermore, it is generally recognised by the authorities and specialists alike that it is likely that water demand will outstrip water supply within the next decade. Macro-economically and strategically speaking, the question therefore is how to make best use of the country's available water resources?

We ask this question since South Africa is a country classified as having chronic water shortages, a condition exacerbated by climate change and the presence of invasive alien plant species. In this paper we address the question of sectoral water allocation by applying a macro-economic comparative static Computable General Equilibrium (CGE) Model using an integrated database comprising South Africa's Social Accounting Matrix (SAM) and sectoral water use balances. We refer to AsgiSA, the South African Government's Accelerated and Shared Growth Initiative for South Africa, and conclude that introducing the proposed programmes in a business-as-usual and water-intensive manner will strengthen the current growth in the demand for water. This will bring forward, or accelerate, the need for introducing water rationing among sectors.

The importance of this conclusion cannot be emphasised enough. Water is essential, and recognised in as much in the preamble to the National Water Act of 1998, with regards to livelihoods, health and from a socio-economic development perspective since there are no substitutes for it. While water rationing is imminent, the reality thereof has not yet led to a rethink of macro-economic policies. This delayed effect can create a degree of comfort and ill-founded complacency leading to non-action, whereas there is an urgent need for proactive measures towards water conservation.

**Keywords:** Water demand, Water supply, AsgiSA, economic development, Computable General Equilibrium (CGE) Model, water rationing