

A spatial tool to calculate the affordability of water



The affordability of water is currently not well understood by South African municipalities. A common metric for assessing affordability is the size of the water bill as a percentage of household income, and municipalities seldom have datasets that contain all of the information required to estimate this. In a previous study for the WRC, PDG had tested an approach of matching data from Census 2011 to municipal billing data spatially, at the Small Area Layer level. The WRC now commissioned PDG to develop an online calculator, based on this spatial logic, that could be used to calculate the affordability of water in South African municipalities.

Together with Webfresh, PDG developed an online tool called Tariffic. Tariffic allows a user to divide the area to be analysed into regions. The user can then either upload data on water consumption and income for each region or specify the data manually. Tariffic thus allows for a high degree of flexibility: a user can enter data from a municipal billing database or from a data set such as Census, or the user can simply apply local knowledge or theory where hard data is not available.

Tariffic can be applied at any geographic level including national (with each region defined as an individual municipality) or municipal (with the potential to disaggregate the analysis spatially within the municipal space down to Small Area Layer level).

Tariffic requires the user to enter the water tariffs to be applied. The user can enter multiple tariffs (for example, a Domestic and a Lifeline tariff) and multiple tariff sets (for example, a current approved tariff set and a proposed revised tariff set). The user can thus test the impact of



changes to the tariff structure on affordability. The user can also enter a separate tariff for each region, so if analysis is conducted at national level, the user can enter a separate tariff for each municipality.

In sum, Tariffic provides a powerful new tool for calculating water affordability that is also simple to use.

There is currently no cost associated with using Tariffic and the tool is available at www.tariffic.site.

Project Leader:

Kim Walsh
+27 21 6711402 / kim@pdg.co.za

AOWT PROJECT:

Project Profile: A spatial tool to calculate the affordability of water

Client: Water Research Commission (WRC)

Date: 2019-2020