PROJECT
OVERVIEW

Financial mechanisms and models towards economic water resiliance in the Western Cape

Between 2015 and 2018, the Western Cape experienced its worst drought in decades, which threatened its water security and had a negative impact on the provincial economy. One of the key responses to the drought has been the accelerated investment in decentralised water supply and treatment systems. Decentralised systems are those whereby individual users access water from sources other than the municipal supply. Generally purchased and installed on a voluntary basis by businesses, these systems provide water for either potable or non-potable purposes, thereby reducing the amount of water that is drawn from the centralised municipal water supply.

The critical transition from centralised municipal systems to hybrid centralised-decentralised systems has occurred in the absence of a coherent, evidence-based policy framework governing hybrid water supply systems, raising the spectre of unintended adverse impacts on, inter alia, municipal revenue, municipal water systems and a lack of control over volumes abstracted from aquifers. The Western Cape Government appointed PDG to investigate: the contexts under which a hybrid centralised-decentralised municipal water supply system could work in six municipalities; how hybrid systems will benefit or impact businesses in the Western Cape; the implications for water tariffs and water structures on municipal revenue on the one hand, and business profitability, viability and decision-making processes on the other; and what financial mechanisms could support water security/resilience in businesses.

PDG employed complex systems modelling to model the interactions of a range of climate scenarios impacting on dam levels; the subsequent impact of dam levels on water restrictions; the impact of water restrictions on consumer

demand and business productivity; and the impact of changing demand and supply patterns on municipal financial viability. A multi-criteria decision analysis was then undertaken to determine the optimal centralised-decentralised water supply arrangement in each municipality. The results pointed to a number of critical policy gaps that need to be filled to address water security and thus economic water resilience in the province

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HWSM PROJECT:

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