



South African local government perceptions of the state of water security

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ARTICLE INFO

Keywords:

Water security
Greater Sekhukhune District Municipality
eThekweni Metropolitan Municipality
Individuals
Perceptions
Policy interventions

ABSTRACT

South Africa is one of the 40 driest countries in the world with an annual average rainfall of less than 500 mm. In addition, South Africa's rate of economic development is closely linked to its level of water security, as rising water stress and increasing supply variability, flooding, inadequate access to safe drinking water and sanitation, and higher levels of water pollution could be creating a drag on economic growth. Despite the high premium placed on our water resources, there is no commonly shared understanding of water security. This paper reports on a stakeholder analysis conducted in two South African municipalities to determine their perceived state of water security. We investigated how people, from different lifestyles, perceive water security in the Greater Sekhukhune District Municipality and the eThekweni Metropolitan Municipality. We specifically asked respondents if water security had been achieved in the areas. The inland-situated Sekhukhune has a drier climate and a rural socio-economic profile as opposed to the coastal, urbanised eThekweni with its complex economy and diverse socio-economic structure. We conducted face-to-face structured interviews with a diverse stakeholder group in the municipalities and focus groups in two communities of each municipality: Leeuwfontein and Motetema (Sekhukhune) and Inanda and Ntshongweni (eThekweni). Following a qualitative analysis, we found that water security, therefore, is a state of mind based on context-specific (i.e. localised and individualised) perceptions and practices held by individuals of water-related threats and/or opportunities and how it influences them, their surroundings and their interactions with others. For instance, people perceive drought to be a water security challenge only when it affects their daily lives such as household water supply or the availability of water for livestock. We propose a number of policy interventions and response strategies based on these context-specific water security notions.

1. Introduction

There is not a dearth of water security literature in both academic and non-academic circles (e.g. Clement, 2013; Pahl-Wostl et al., 2013; Lankford et al., 2013; UN-Water, 2013; Global Water Partnership (GWP, 2014; Gober et al., 2015; Soyapi, 2017). Gey and Sadoff (2007) who popularised a definition of water security, which has been used by other researchers writing on the subject (e.g. Pahl-Wostl et al., 2013). UN-Water and the Global Water Partnership (GWP) have also developed definitions of water security. Their definitions are similar to the one that Gey and Sadoff (2007) developed where 'Water security refers to the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies.' For the GWP, '[w]ater security, at any level from the household to the global, means that every person has access to enough

safe water at affordable cost to lead a clean, healthy and productive life, while ensuring that the natural environment is protected and enhanced.' These definitions had been developed by researchers or international organisations with a view to place water security as an issue on the global agenda (e.g. UN-Water, 2013; Global Water Partnership (GWP, 2014). These definitions are to a certain extent presented in an objective way in that the definitions explain what water security is based on observations that researchers have made over the years by investigating water quantity and quality phenomenon 'from a distance'. Moreover, water security discourses have seen a very limited role for local people and communities to play in decision-making processes (Clement, 2013). Even so, water security can also be defined inter-subjectively by individuals with different lifestyles from traditional leaders to commercial farmers and mine workers to government officials. By investigating water security in such a way can bring to the fore the finer nuances of the issue that are informed by people's lived

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Fig. 1. Rural Sekhukhune.

experience and how they interact with water, other people, and the environment on a daily basis (Meissner et al., 2018). Such an approach can also give researchers and policy makers a sense of the perceived state of water security within a specific geographic area.

In this paper, we report on an investigation to ascertain people's perceptions on the perceived state of water security in the Greater Sekhukhune District Municipality (hereafter Sekhukhune) (Fig. 1) and the eThekweni Metropolitan Municipality (hereafter eThekweni) (Fig. 2), in South Africa (Fig. 3). Statistically, the two municipalities have different water security profiles (Table 1). Looking closely at Table 1, and specifically the percentage of people with access to rivers or streams as a source of water, only 0.5% of people have access to this particular source of water. For all five the local municipalities in Sekhukhune this is vastly different, with a larger proportion of the population relying on rivers or streams for a source of water. This indicates that a larger proportion of eThekweni's population has access to a municipal source of water (90%) and by default, potable water of a desirable quality than what the case is in the Greater Sekhukhune District Municipality.

Even so, for the CSIR water security project, we specifically asked

respondents if water security had been achieved in these areas to get a more nuanced view than what is presented by the statistics of access to water in the two municipalities. We gathered data from a diverse set of respondents with various lifestyles through face-to-face interviews and focus group discussions, and analysed the gathered data qualitatively by identifying water security themes. The paper contains the knowledge we generated from respondents' perceptions on whether they believe the municipalities have achieved water security and why. In the process, we are explaining and promoting a new approach to generate water security knowledge garnered from individuals' perceptions. We also present a conceptualisation of water security based on the analysed perceptions.

We outline an interpretivist view to analyse the diverse range of water security standpoints. Interpretivism denies the existence of one real world and instead argues that reality is a mental construct and perceived by people. This means that people generate methods and instruments such as theories and typologies to assist them to make sense of the worlds they live in. People, therefore socially construct reality because people develop, transmit and maintain knowledge in social situations. This, furthermore, implies that there are multiple realities



Fig. 2. Part of Durban Harbour indicating eThekweni's complex economy.

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