Water security at local government level in South Africa: a qualitative interview-based analysis

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Abstract

Background As one of the 40 driest countries in the world with an annual average rainfall of 497 mm, South Africa is a water-scarce country. Additionally, South Africa's rate of economic development is closely linked to its water security. Thus, increasing water stress, supply variability, flooding, and water pollution levels and inadequate access to safe drinking water and sanitation are slowing economic growth. Despite the high premium placed on South Africa's water resources, no commonly shared understanding of water security exists. The aim of this study was to research, using qualitative social scientific methods, how people in two South African localities understand water security.

Methods We used interviews and qualitative analyses to establish and compare how people from different lifestyles perceive water security in the Greater Sekhukhune District and the eThekwini Metropolitan Municipalities of South Africa. The inland Sekhukhune has a drier climate and more rural socioeconomic profile than the coastal, urbanised eThekwini with its complex economy and diverse socioeconomic structure. We did face-to-face structured interviews with a diverse stakeholder group consisting of community members, traditional leaders, municipal officials, researchers, business people, and farmers in each municipality and focus groups in two communities of each municipality: Leeuwfontein and Motetema (Sekhukhune) and Inanda and Ntshongweni (eThekwini). Each interview lasted 40–60 min, and focus group discussions lasted 90–120 min. We asked the respondents about their understanding of the concept of water security and whether they believe that, at the local and national level, the authorities had achieved water security for all.

Findings Following a qualitative analysis, we found that water security is a state of mind based on context-specific (ie, localised and individualised) perceptions held by an individual of water-related threats and how it influences individuals and their natural surroundings. We discovered that perceptions depend on many different factors. First, the changing state of the natural environment a person lives in—eg, one respondent from eThekwini said "When it rains in summer a lot of stuff gets washed down into the storm water drains and into the sea. The main concern here is pathogens." Second, socioeconomic status is important—one community member in Ntshongweni noted that only some community members have the financial means to buy water tanks for rain harvesting to enhance their household water security. Third, experiences relating to various interactions with local governments and members of the community can also affect perceptions—eg, some respondents were unsatisfied with responses to problems by local authorities. A respondent from eThekwini said "Sometimes when we report water leakages it takes a long time for them to get fixed", and a respondent from Sekhukhune said "Sometimes we have asked the authorities about the problem of water supply cuts, they told us about a stolen water pump and gave us inconsistent answers". Therefore, a changing natural environment, like flooding and drought, is not the only variable that influences water security perceptions; such conceptualisations also depend to varying degrees on interpersonal relationships (eg, with local authorities) and practices (eg, collecting rainwater), which are directly or indirectly related to water security enhancement.

Interpretation How people perceive water security has policy implications at the local government level in South Africa and further afield in other low-income and middle-income countries where data collection is unreliable. We established that people from diverse lifestyles hold various understandings and interpretations of water security relating mainly to the availability, access, and quality of water resources. Understanding how people perceive water security in specific localities could aid policy makers and health practitioners to develop more nuanced responses to ameliorate water insecurity and its negative effects on people's wellbeing.

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Declaration of interests
We declare no competing interests.