

WATER TENSIONS IN SUGARCANE AREAS OF THE KINGDOM OF ESWATINI  
FOLLOWING THE 2015-2016 DROUGHT: A WATER ACCESS PERSPECTIVE

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ABSTRACT

Industrial crops do not contribute significantly to local diets but can be used for other industrial uses such as fiber, oil, rubber, sugar, and tobacco. The production of industrial crops may potentially compete with food crop production for land, water, and other agricultural inputs (Wiggins, Henley, & Keats, 2015). Depending on the context, the large-scale production of such crops can have different environmental and socioeconomic impacts (Gasparatos et al, 2015; Hess et al, 2016).

Swaziland was the fourth largest producer of sugarcane in Sub-Saharan Africa in 2014-15. The sugar industry accounts for approximately 18% of the national GDP and has an especially high contribution in the agricultural and industrial sectors (Terry & Ogg, 2017). In Swaziland significant quantities of sugarcane are cultivated in areas considered as 'high' water risk (Hess et al, 2016). Irrigation consumes 90-95% of the national water resources, with sugarcane absorbing the bulk of this irrigated water (Mhalanga-Ndlovu & Nhamo, 2017). Climatic phenomena such as drought, are projected to intensify in Southern Africa putting a strain on scarce water resources (Hess et al, 2016; Masih et al, 2014). In 2014-16, Swaziland experienced what was considered its worst drought since 1992 (Swaziland Vulnerability Assessment Committee, 2016). The economic impact of this drought was equivalent to approximately 7% of national GDP, with the sugarcane sector being particularly hit, along with other agriculture and livestock sectors (Swaziland Economic Policy Analysis and Research Centre, 2017; in this study, the 2015-2016 drought will be referred to as the

Drought). However, there is a dearth of research in the Southern African sugarcane literature that looks at a combined view of water legislation, inequality, and the sugarcane smallholder developments.

The research questions of the study are:

How has the expansion of sugarcane cultivation and the recent severe drought influenced interactions over water in the sugarcane cultivation areas of

What can be learned from the tension over water to mitigate them in the future?

The research aim is to understand if, and how, sugarcane expansion and drought has influenced perceived tensions over water in the sugarcane cultivation areas of Eswatini's Komati river basin. The research objectives include to:

1. Map the formal and informal institutional landscape for the water sectors through an institutional analysis, expert interviews, and focus group discussions
2. Elucidate the perceived tensions over water and their perceived respective, underlying reasons – distributions (water for what use, through which means?), tensions (between whom?), and reasons (because of what?) – before and during the drought of 2014-2016
3. Describe the ability to benefit from water – water access – for primary water uses and permitted water uses and between involved and non-involved groups
4. Elucidate whether the 2014-2016 severe drought exacerbated these interactions over water

The research takes a water access perspective elucidating the tensions over water, also assessing the impacts of drought in this context. Ribot and Peluso's (2003) theory of access and access mechanisms are deployed in the study with the combined view of the influences and roles of formal, governmental institutions and the informal, on-the-ground rules of the

game. Semi-structured interviews and focus groups discussions with governmental representatives, government parastatals, international organizations, non-governmental organizations, and regionally informed key informants and experts within the water and agricultural sectors were conducted between August to September 2017. These governmental interviews informed the formal institutional views on tensions over water before and during the Drought. The informal institutions are derived from community focus group discussions and local key informants that composed of traditional authority representatives, sugarcane farmer association representatives, and a community appointed water sector chairperson.

The main results reveal at the local level, the prominent determinant to access water for domestic purposes was access to technology (infrastructure, electricity) and the income to maintain the technology. Social identity between those involved in the sugarcane development scheme as shareholders differed between those were not involved in the sugarcane development scheme, thus shareholders. Social identity was linked to the controlled, gained, and maintained access to water for domestic purposes through infrastructure. Social inequalities between the shareholders and non-shareholders were heightened and pulled tight during the Drought. In times of sufficient rain, the rain mitigates the tensions due to the availability of alternative water sources, though inequalities already existed. Water sharing was occurring during times of sufficient rain between those who had water and those who did not. The Drought highlighted inequalities and exacerbated the tensions over water. The water legislation system was also found to be faulty were productive uses that supplement the access to domestic water are in the grey areas in the legislation. This places them in the category of illegal water use and is also not accounted for in water output calculations.

The sugarcane developments may be viewed to have influenced the tensions over water not necessarily due to decreased water availability but due to its accumulation of other

resources and its secured means to obtain its full allocated amount of water. Weakness in the water policy are argued to play the larger factor in relation to tensions. Recommendations include further research in the social identity and the practice of water sharing as possible means to improve access to water for domestic purposes to those not involved in the original development plans.

*Key words:* Sugarcane, Water access, Inequality, Infrastructure, Tensions