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A methodological comparison for WASH-related climate vulnerability assessments

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**EQUITABLE AND SUSTAINABLE WASH SERVICES:
FUTURE CHALLENGES IN A RAPIDLY CHANGING WORLD**

**A methodological comparison for WASH-related climate
vulnerability assessments**

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South Africa

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Introduction

Access to water, sanitation, and hygiene (WASH) services are key to maintaining wellbeing, but access to WASH in low to medium-income countries like South Africa is inequitable, and in many cases, inadequate. At the same time, shifts in rain, drought and storm patterns due to climate change (with related impacts on hydrological cycles) may worsen access to WASH, a concern that is particularly heightened in already vulnerable communities. The overall aim of the project presented here, was to contribute to guidance on developing climate change and WASH vulnerability and adaptation assessments. A transdisciplinary team of researchers adopted a holistic approach to explore the needs, barriers, and vulnerabilities to WASH among selected communities in arid rural areas and small towns in South Africa. Here we report on an approach, limited by the rapid and short timeline required to deliver on this climate vulnerability assessment in the context of WASH, that was based on a pragmatic set of methods.

Aim and methods

Drawing on previous research (completed by members of the team), we chose two very different contexts (HaMauya, a rural village in the Limpopo province, and Prince Albert, a small town in the southern part of the Western Cape province), and considered natural (environment and climate), and socio-economic factors (economic, social, governance, and political) and their interplay in hampering access to WASH services to compile rapid Climate Vulnerability Assessments for each case site. Our methods for both case studies varied; this was due to time constraints and COVID restrictions, which led us to make use of data already collected. In both cases, the intertwined reality of the ways in which natural elements, history and socio-economic, and policy aspects are changing in South Africa influence WASH vulnerability in rural and peri-urban areas. While both case studies identified similar areas of concern, one case study was developed by a single author, through long-term (four years) participant observation, in-depth interviews (averaging 1 – 1.5 hours each, repeated with the same people on different topics, over time), surveys, focus groups, desk-based research and a wide-range of participatory exercises and activities. The other case study was developed out of a short-term (three day) research visit with a multi-disciplinary team, and multiple lead researchers, with limited interviews, an extended desk-based investigation and collaborative report-writing.

Findings

Case study findings

The HaMakuya case study identified 10 vulnerabilities all further magnified by the local context, particularly the harsh and unpredictable climate challenges in the area. The Prince Albert case study identified seven key vulnerabilities, also all magnified by local context (history) and climate. The paper includes a detailed comparison of these findings.

Methodological findings

Major methodological differences provide for different types of information. This paper describes and explores the various research methods and related findings while taking into account the two very different contexts from which the case-studies emerged. Our work highlights how the different research methods yield very different types of information. Showcasing how longer term research provides for more trust and rapport to be built between local residents and researcher, this research potentially provides insight into aspects of WASH that may be less often discussed, or kept quiet (i.e., lack of support from government for example). On the other hand, a team of multiple, and varied disciplinary researchers can provide an account that touches on a wider gambit of WASH related aspects as a single researcher will have blind-spots and limitations in the scope of what they can attend to. Technical knowledge of water flows and hydrology may be more nuanced through more detailed, longer-term research. Ideally, long term research, with local input, as well as the support of a multi-disciplinary team would provide the most robust insights into WASH guidelines in the context of climate change and risk assessments.

Conclusion

The case study findings highlight the importance of any WASH CRV assessments engaging in literature and practice beyond just that of the climate change discourse, as well as outside the academic sphere. Standardized methods using quick assessments can provide some information, but often miss out the finer details that are relevant and important to explain why and how WASH efforts are supported/facilitated and/or challenged. A combination of the approaches (short, multi-disciplinary team-led, and longer term, in-depth, detailed and relationship-building focused research) would work in South Africa as both types provide important perspectives, but combined, draw a more complete picture of the topics and issues at hand. This combination of approaches, together with quantitative climate vulnerability assessments like the one provided by the Green Book for example, (<https://riskprofiles.greenbook.co.za/>), provides a means of interrogating the more nuanced challenges likely experienced by those attempting to access WASH services as climate impacts intensify.

Contact details

Amber has more than 10 years experience in field research, public health policy and research, as well as many years experience teaching in higher education (with courses specific to environmental health, epidemiology and ethics, among others). Her research focus intersects public health, environmental sciences, particularly relations with water and medical anthropology.

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