Outline

• Water security project team and aims
• Setting the scene: Sekhukhune
• Water security: What do people think?
• State of water security analysis
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• Water security typology analysis
  - Policy relevance of the water security typology analysis
• Individual water security perspective
• To end
Water Security Project Team and Aims

- Inter-disciplinary team of social and natural scientists conducted the study over 4 years from 2014-2018
  - Richard Meissner, Karen Nortje, Nikki Funke, Maronel Steyn, Inga Jacobs-Mata, Elliot Moyo, Winile Masangane, Justinus Shadung, and Nina Nohayi

Aims

1. **Formulate an understanding of different interpretations of water security** in the greater South African context and in the context of two case study areas: Sekhukhune District Municipality and eThekwini Metropolitan Municipality;

2. **Identify different knowledge systems related to water security** and determine how these can support existing efforts to achieve water security in the case study areas; and ultimately,

3. **Develop impactful ways to support government institutions and other stakeholders** to better achieve water security and manage the water security-related challenges they face.
Water Security Project

- UN Water agency’s definition of water security.
- How people perceive and/or understand water security in the two municipalities.
- Most view it as the availability and quality of water.
- A more nuanced picture is in the offing.
  - Mine using bottled water.
  - Maintenance of water infrastructure.
- People base their understanding of water security on their lived-experience when they interact with water and other people and the environment when performing water-related activities.
- Olifants River and tributaries like the Steelpoort River provides water to Sekhukhune.
Setting the Scene: Sekhukhune
Water Security: What do People Think?

- Water security costs money (Municipality)
- Water security impacts human health (Clinic)
- Why are mines supplied and communities neglected? (Government official)
- Theft and vandalism of water infrastructure (Everybody)
- Communication is of vital importance in the process of water security (Community members and traditional leaders)
- A healthy environment supplies eco-system goods and services (Lodge)
- Water security helps you to attain a proper education (Clinic)
- Water security is necessary if you want to expand mining operations and provide people with job security (Mine)
- Through water security you can have a reserve during times of drought (Irrigation board)
<table>
<thead>
<tr>
<th>Respondent's Number</th>
<th>Stakeholder Type and Municipality</th>
<th>Respondent’s Motivation</th>
<th>Of what is it a case or an occurrence?</th>
<th>Nature of causal mechanism</th>
<th>Long- or Short-term</th>
<th>Positive (+) or Negative (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondent 1</strong></td>
<td>Tourism sector (eThekwini)</td>
<td>The municipality has ‘adequate infrastructure in place’ to supply their hotel with water.</td>
<td>The municipality is playing its part to deliver water to businesses.</td>
<td>Explanatory account</td>
<td>Long-term</td>
<td>+</td>
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<td></td>
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<td>They are ‘happy’ with the current water supply arrangements because the municipality timely informs them of water supply interruptions.</td>
<td>Good past experience when the municipality announced water supply interruptions.</td>
<td>Condition</td>
<td>Short-term</td>
<td>+</td>
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<tr>
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<td>‘The municipality is on the ball; there is a tanker service in case of water shortages.’</td>
<td>The municipality is playing its part to deliver water to businesses.</td>
<td>Condition Explanatory account</td>
<td>Short-term</td>
<td>+</td>
</tr>
<tr>
<td><strong>Respondent 2</strong></td>
<td>Community (Sekhukhune)</td>
<td>‘I will say in a way yes but, a very strong BUT, because some areas are still struggling here…’</td>
<td>Water supply delivery does not happen uniformly across the municipality.</td>
<td>Explanatory account</td>
<td>Long-term</td>
<td>+</td>
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<td><strong>Respondent 3</strong></td>
<td>Community (Sekhukhune) (same as respondent 3)</td>
<td>The communities experience ‘water cuts’.</td>
<td>Inadequate water supply.</td>
<td>Condition</td>
<td>Short-term</td>
<td>-</td>
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<td>When communicating with the municipality, ‘they [municipality] said they bought a new pump and a compressor. They are still struggling. 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. Secondly they said pressure was not enough.’</td>
<td>Inadequate water infrastructure and water supply. Theft of water infrastructure. A measure of distrust between these community members and the municipality.</td>
<td>Relation Process</td>
<td>Short-term</td>
<td>-</td>
</tr>
<tr>
<td><strong>Respondent 4</strong></td>
<td>Community (Sekhukhune) (same as respondents 3 and 4)</td>
<td>‘There is payment involved. You see government inspectors going into the farms to record water meter readings many times there is payment involved.’</td>
<td>Trust erosion through perceived corruption. Preferential treatment from municipal officials to irrigation farmers. Apartheid legacy of racially-based unequal treatment.</td>
<td>Relation Process</td>
<td>Short-term</td>
<td>-</td>
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### Policy Relevance of State of Water Security

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
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<tr>
<td>Short-term</td>
<td>R1eTh</td>
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<tr>
<td>Long-term</td>
<td>R2S</td>
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<tr>
<td>R4S</td>
<td>R3S</td>
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<table>
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<tr>
<th>Short-term</th>
<th>Long-term</th>
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<td>R4S</td>
<td>R3S</td>
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</table>
State of Water Security Analysis Policy Relevance

- From the table and plot we can say the following:
  - The respondents indicate that there is agency or a lack thereof on the part of the Municipality.
  - Resources or a lack thereof play their part in water security enhancement or deterioration.
    - Resources, apart from water, enable action on the part of the Municipality.
    - For instance, to minimise the impact of water disruptions the municipality might need a dedicated water tanker service and a good communication strategy to inform schools and businesses about water disruptions.
  - How can municipal water managers change short-term positive and negative actions into more longer-term and sustainable practices?
    - Allocate and use resources optimally by maintaining, for instance, tanker trucks.
    - Communicate regularly and consistently with water end users even in rural areas.
    - Communication strategies require dedicated resources like municipal spokespersons, social and popular media outlets, and off course a dedicated budget.
    - Negative perceptions could be dealt with by action and communication including feedback to citizens.
    - Commitment to the improvement of residents’ living conditions, as an attitude, is also key.
Water Security Typology Analysis

Agency in terms of actions and decisions
- Helping municipalities to help themselves
- Our water our responsibility
- The future is now
- Ignorance and criminality
- Water management as usual must fall

Balance between numbers
- Supply and demand
- Water security begins and ends with water quality
- More for some forever

Performance as catalyst
- No water security, no food, no jobs
- Operation infrastructure
- Water is life

No water security, no food, no jobs

The future is now

Water is life

Ignorance and criminality
Policy Relevance of Water Security Typology

*Ignorance and criminality:*

- This kind of water security type is from a number of perceptions about who is **responsible**.
- For example, people do not communicate, and the municipality does not listen in any case (associated with ignorance).
- People in less affluent areas are more likely to vandalise infrastructure (associated with criminality).
- Holding these perceptions can have **negative** and **positive** implications.
  - It might be very difficult to work with people who are quite negative in their view of the current situation, and they might blame a host of ‘others’ for the situation.
  - At the same time they often advocate for people doing things for themselves, which is a positive foundation to build on.

*Policy views and expressions based on this typology*

- Expect water infrastructure theft and vandalism in **less affluent areas**.
- People, and **not** the poor, commit water infrastructure theft and vandalism.
- People (citizens) can also help maintain water infrastructure.
- Communicate constantly and take **normative structures** into account.
  - *Everybody* is capable of water infrastructure theft and vandalism—not only the poor (dominant normative structure).
  - *Stereotyping* by practitioners should, therefore, be avoided.
Individual Water Security Perspective

- Emphasises the individual and not infrastructural water projects.
- Water security defined as a state of mind regarding context-specific perceptions and practices individuals have of water-related threats and/or opportunities, and how these influence them, their surrounding environments, and interaction with others when exploiting and utilising water.
- We perceive drought as a water security threat when it influence our daily lives.
- Individual water security perspective is bottom-up.
- Individual water utilisation practices are based on individual experiences when coming into contact with water.
  - Water security could be access to river water when thieves had stolen water infrastructure.
  - Access to ‘irrigation water’ for dust suppression in mining operations to safeguard against occupational health hazards.
- Water security is aligned to the daily water-related practices individuals perform when using water.
- The infrastructure is not as important as the way in which, and the purposes of why a person utilises water.
- The purpose of using water is also of central importance.
Conclusion

• What people think about water security matters.
• Water security is not an abstract concept defined by international organisations or scientists, like UN Water.
• Water security is NOT about quantity, quality, availability, reliable supply, water borne diseases…
• Water security is about individuals, and their environment—lived experience.
  - Water security begins and ends with the individual.
• Water security should be defined by individuals and not by scientists only—ownership.
• Scientists can miss the point—research in collaboration with communities can be a rich and rewarding experience.
• Local governments face many challenges regarding water security.
• The challenges can extent beyond fresh water security to include the marine environment.
• Our water security analysis capability captures these complex nuances with practical relevance to policy practitioners.
• Capability can enhance practitioners’ understanding of the state of water security at local government level.
Thank you for listening

Richard Meissner (D.Phil)
Senior Researcher: Integrated Water Solutions Research Group
CSIR - Natural Resources and the Environment Unit
PO Box 395
Room S210
Building 33
Pretoria
Meiring Naude Road
0001
Brummeria
Tel: 012 841 3696
Cell: 071 677 6262
Fax: 012 842 70311
E-mail: rmeissner@csir.co.za