

# **A focus on water use attitudes and behaviours in South Africa's metropolitan areas: A people-centric approach to urban water conservation and demand management**

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# Overview

- Status quo – What we know and don't know
- Literature Review – Drivers and Barriers to Water Conservation Behaviour
- Project Overview
- Pilot Survey and Preliminary Findings
- Pilot Survey Results
- Key Observations
- Data Gaps
- Project Way Forward – 2018/2019

# What we know and don't know

## What we **know**:

- **Average** South African suburban **family of 4** used **300 litres per person per day**.
- Recent **drought and water restrictions** have generally **not changed water use consumption behaviour patterns** at household level (excepting City of Cape Town).
- Increasing **access to water** has also led to the **increasing wastage of water**.
- Key to strategic water resource management lies in **effective demand-side management approaches**.

## What we **don't know**:

- In South Africa, **very little research** has been done on **household level water use behaviour**.

# Literature review on drivers and barriers to water conservation behaviour

- Urban water infrastructure, technologies, water use practices and culture require **social and political reform**.
- Need to start **questioning taken for granted practices** and norms re water consumption.
  - “Discretionary” outdoor vs “essential” indoor water use
- **No single catch all WDM strategy**
  - Awareness campaigns and education
  - Delegate to more localised levels of governance?

# Project overview

- Purpose is to study:
  - **Household water use** in 6 South African metros. Compare actual household water use with perceived household water use.
  - Individual perceptions on **most effective water wise behaviour**, and **main drivers** influencing **behaviour change**.
  - **Impact of water demand management** interventions
- Approach:
  - Multidisciplinary study
  - Quantitative & qualitative
  - Pilot Survey
- Case study areas:
  - City of Tshwane, City of Joburg, Ekurhuleni, Mangaung, eThekweni, City of Cape Town

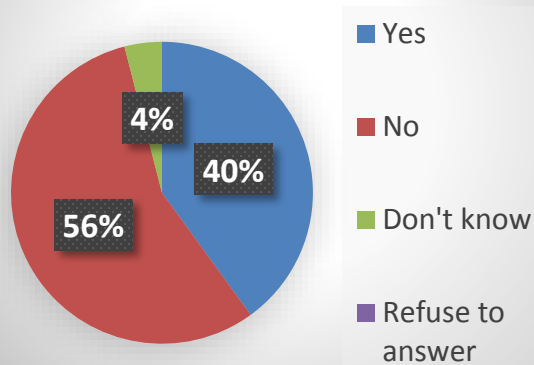
# Pilot Survey and Preliminary Findings

## Key thematic areas of the pilot survey included:

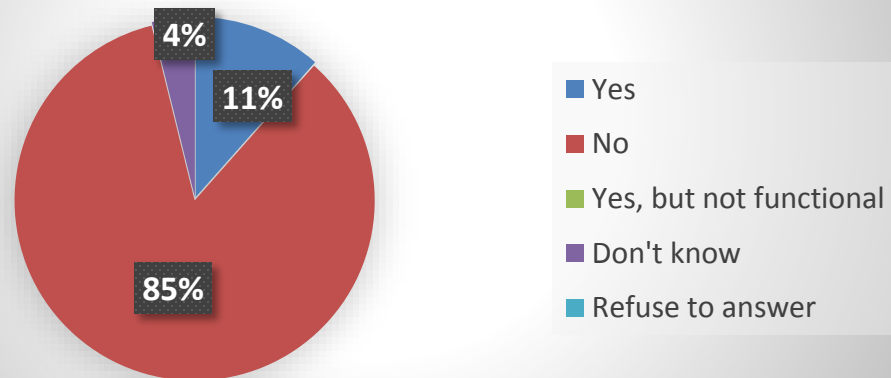
1. Access to water as well as alternative water sources,
  2. Water saving and water re-use practices and technologies that the household has in place,
  3. Awareness of water restrictions
- Piloted a 90-question survey
  - Approximately 30 individuals across the sample areas in the different metros participated, some face to face and others via email.
  - 39% from the City of Tshwane, 22% from the City of Cape Town, 18% from Ekurhuleni, 17% from eThekwinini and 2% from the City of Johannesburg.

# Pilot survey findings: Water use and alternative water supply

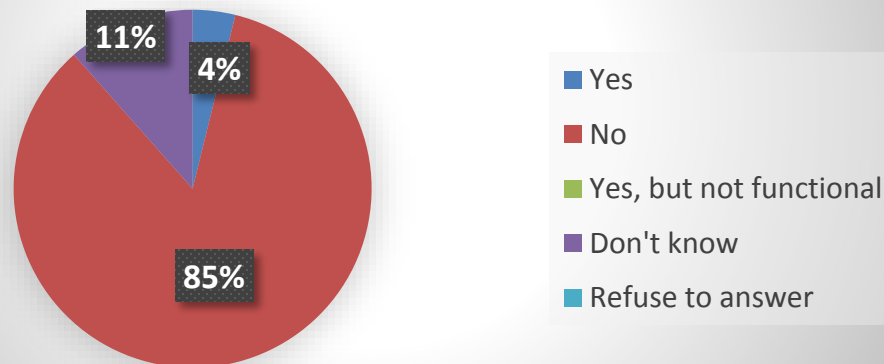
Is your garden irrigated?



Do you have a borehole on your property?

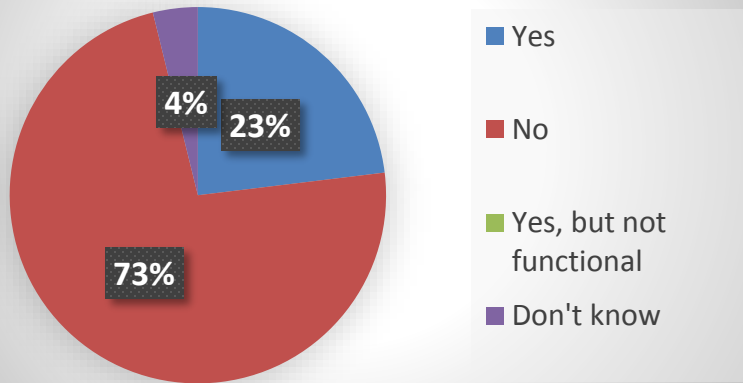


Do you have a well-point on your property?

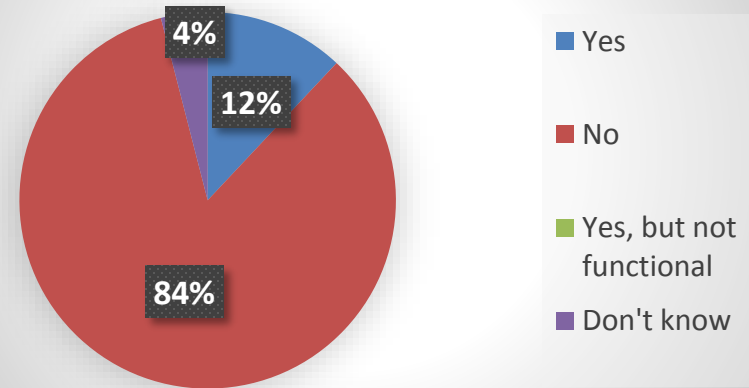


# Pilot survey findings: Water harvesting and re-use systems

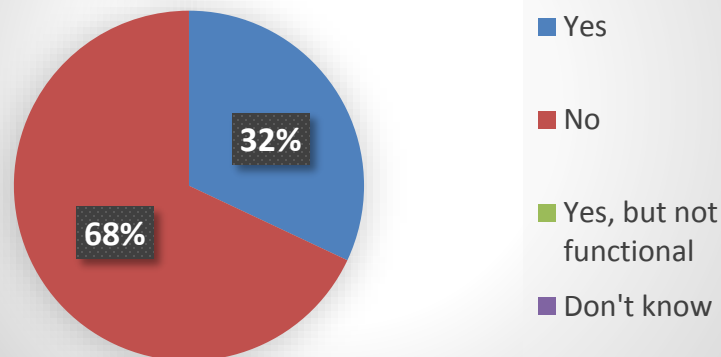
## Rain water harvest system



## Grey water system



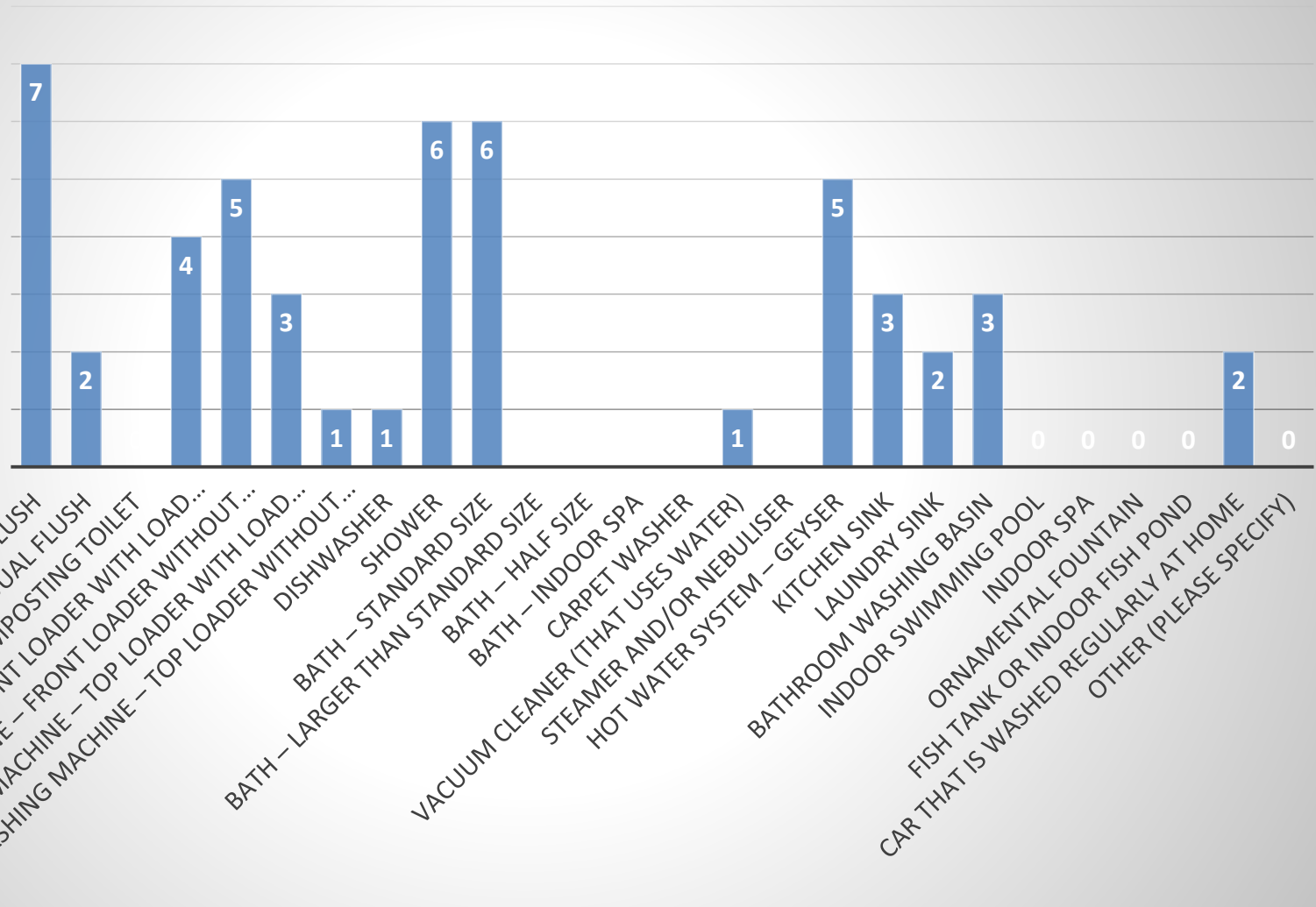
## Do you manually re-use water?





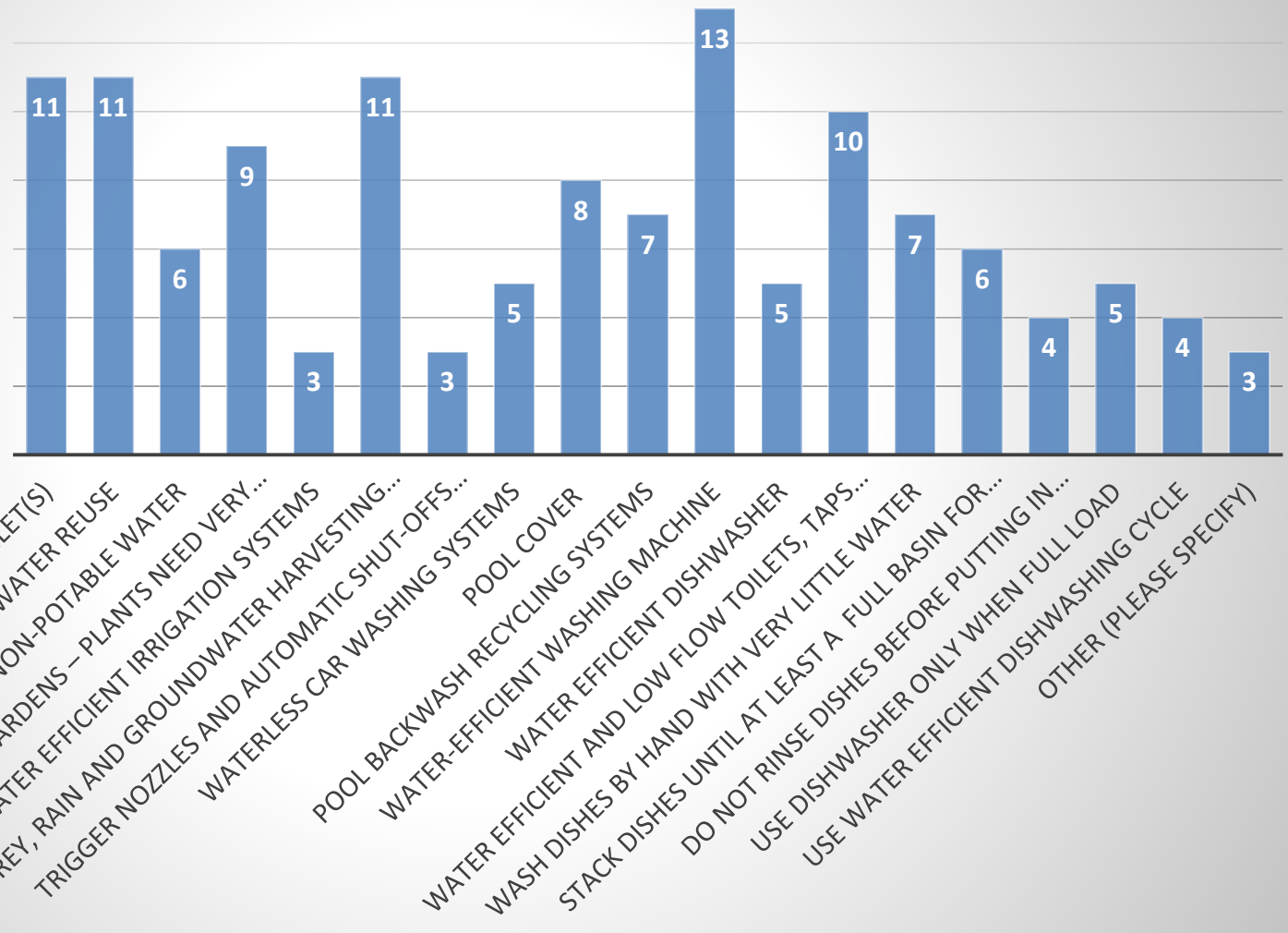
# Pilot survey findings: Appliances that use water

## Appliances using the most water



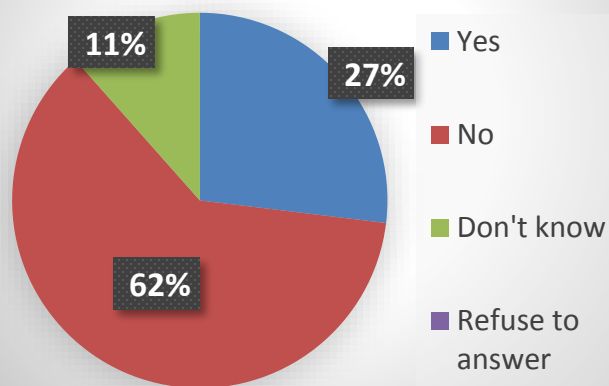
# Pilot survey findings: Practices saving the most water

## Practices saving the most water

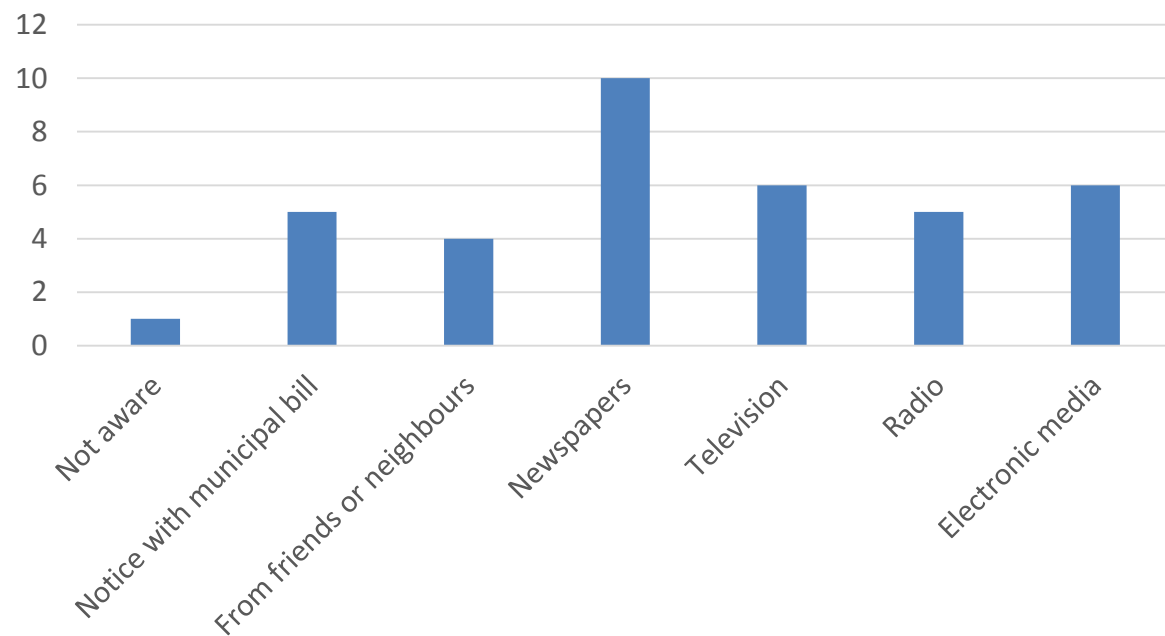


# Pilot survey findings: Knowledge of current / recent water restrictions

## Water restrictions in municipality

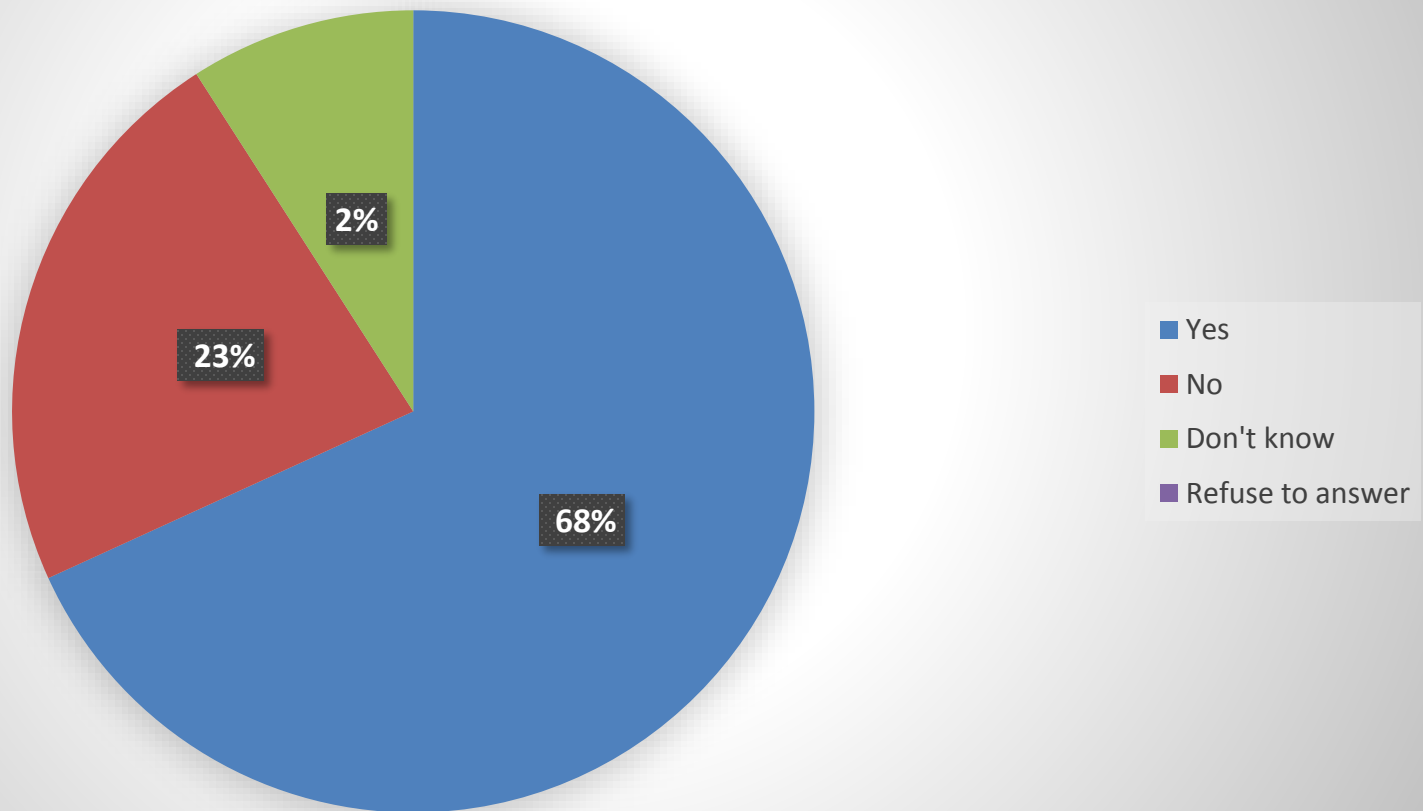


## How did you become aware of water restrictions?



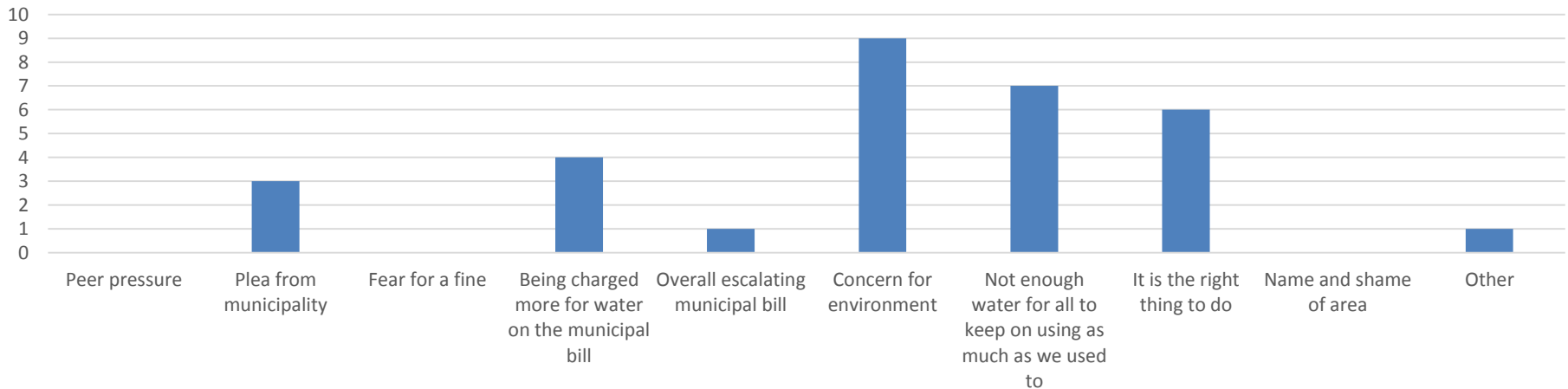
# Pilot survey findings: Water use behaviour change (1)

Household water use change after restrictions or within past two years

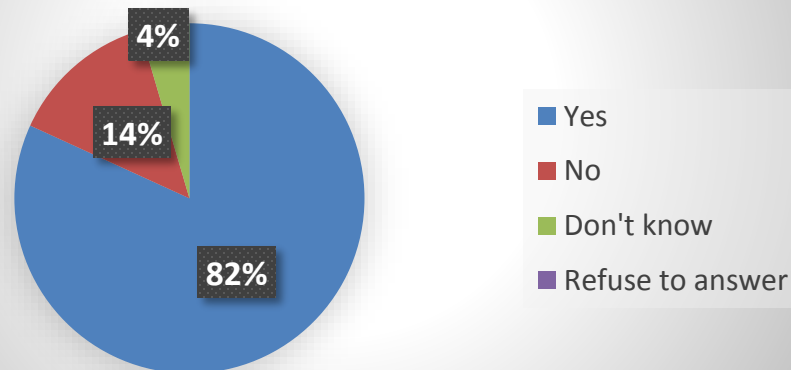


# Pilot survey findings: Water use behaviour change (2)

Main reasons for change in water use behaviour



## Would it be possible to use less water?



# Key observations

1. South African households still use significantly more water than other similar countries (rapidly developing and water scarce). Our socio-demographic profile allows for a much more diverse sample size.
2. Most households do not make use of alternative water sources such as boreholes, well points, rainwater harvesting tanks or greywater systems.
3. Despite the drought conditions in many metros, water demand is still above target points.
4. When behavioural change was confirmed, the main reasons for this as articulated by pilot survey respondents were 1). Concern for the environment; 2). Not enough for all to keep on using as much as we used to; and 3). It is the right thing to do as the main reasons.
5. Issue of water demand and water use behaviour in South Africa's urban households is a complex issue that is beginning to reveal a multiplicity of intervening and influencing factors.

# Data gaps

- Data management
- Incomparability of data across metros
- Respondent bias
- Municipal challenges (more pressing challenges to deal with)
- Sample size
- Revision of survey

# Project going forward in 2018 and 2019

- Survey to be administered to a minimum of 200 individuals in each of 6 metros.
- 28 interviews across the different metros and at least 2 focus groups per metro.
- Data gaps identified inform the way forward
- Outputs: reports, journal articles, policy briefs, infographic pamphlets, short video, national database of behavioural survey data



# Thank you

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