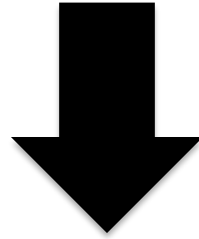




Household Drinking Water Security in Pine Creek First Nation

**Audrey Brass
Kristy Anderson
Treaty #1 & Homeland to the Metis Nation
H2O CREATE Conference
May 17-18, 2018**

Drinking Water Security



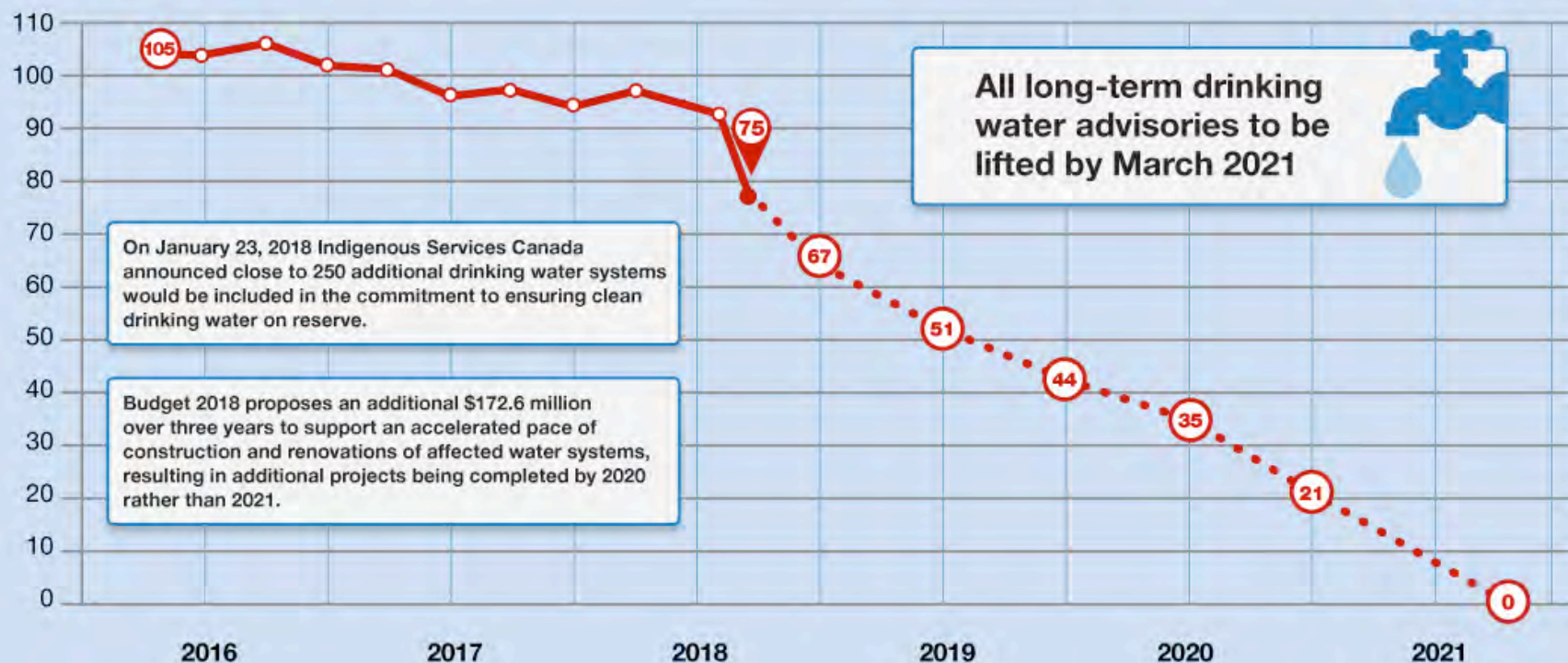
Human Right to Drinking Water

(As defined by the United Nations)

...entitles everyone, without discrimination, to have access to **sufficient, safe, acceptable, physically accessible and affordable** water for personal and domestic use and to have physical and affordable access to sanitation, in all spheres of life, that is safe, hygienic, secure, socially and culturally acceptable and that provides privacy and ensures dignity...

Long-term drinking water advisories on public systems on reserve

Last updated May 4, 2018



Current number of long-term drinking water advisories affecting public systems on reserve

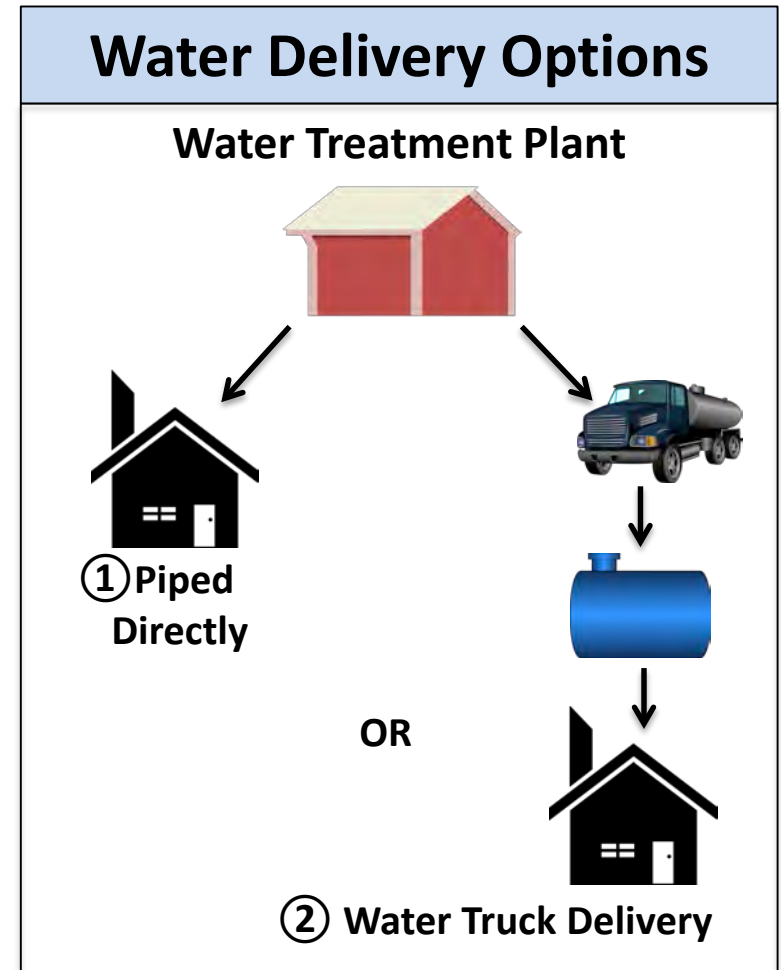
—○— Long-term drinking water advisories in place, past and forecast

Water Delivery in Pine Creek First Nation

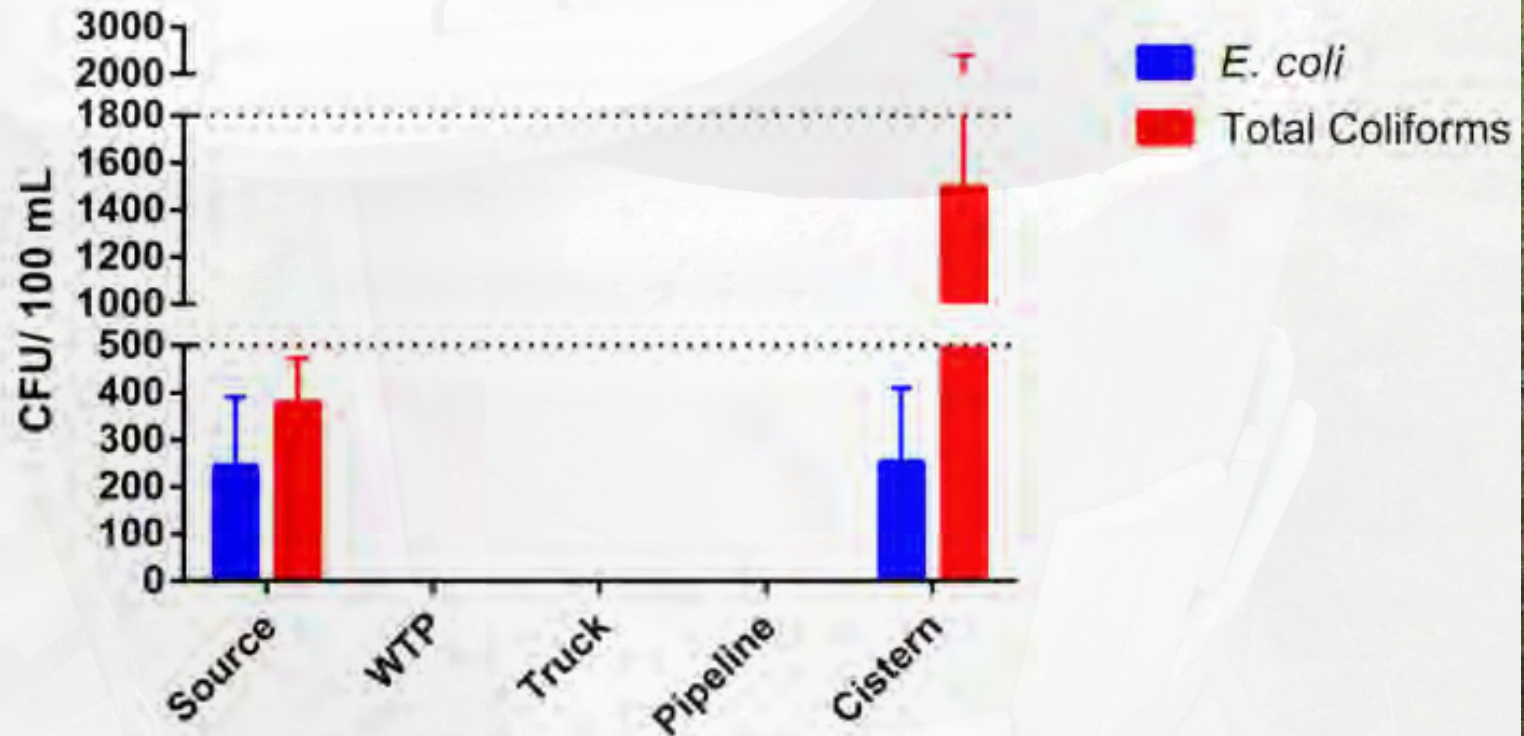
- ① Homes with **piped water** (60 homes): no total coliforms or *E. coli*

BUT

- ② Homes with **cisterns** (150 homes): unacceptable levels of total coliforms and *E. coli*



Presence of Total Coliforms and *E.coli*



Water Distribution System (2016)



Broken tanks



Dead bison



**High water
table**



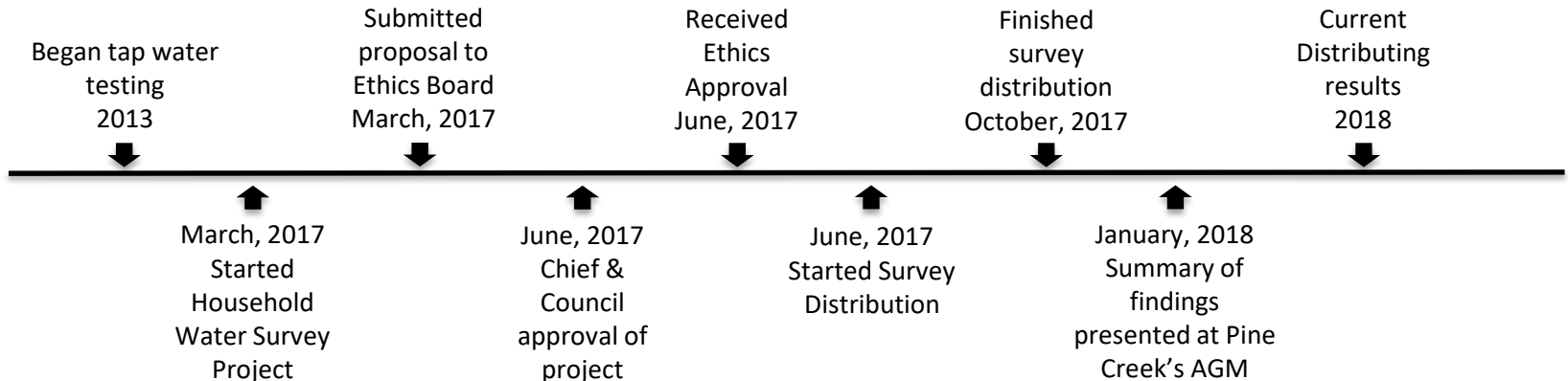
Farm runoff



**Clay rich soil expands
and shrinks**

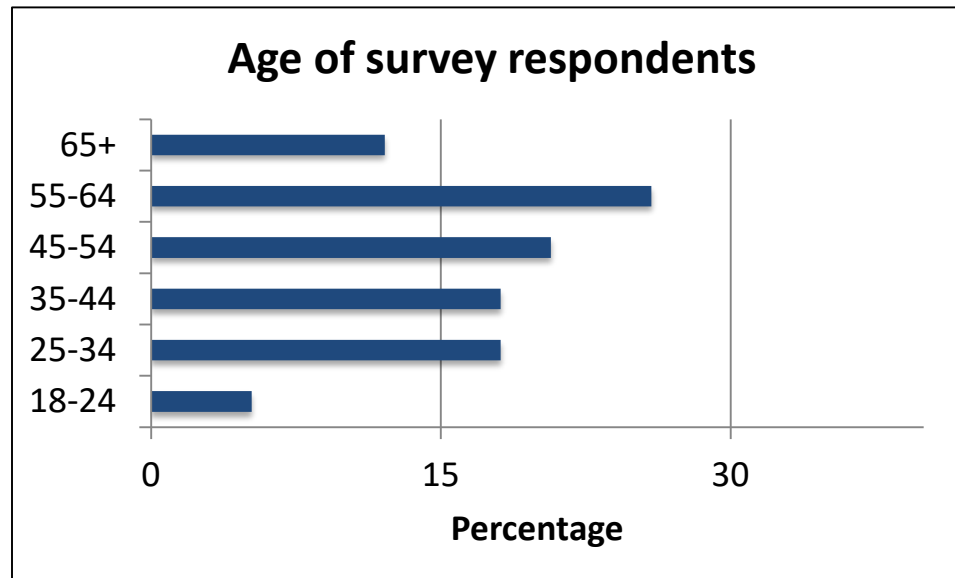
Household Water Survey

- Objectives
 - Assess the **access** to, **acceptability**, **safety**, and **affordability** of drinking water in the community.
 - Compare the differences between piped water homes and homes with cisterns.
- Methods
 - Paper survey, door-to-door



Water Survey Demographics

- 57.9% of households were surveyed
 - 62 long survey and 59 short surveys
- 61.2% female and 34.7% male



Is it safe?

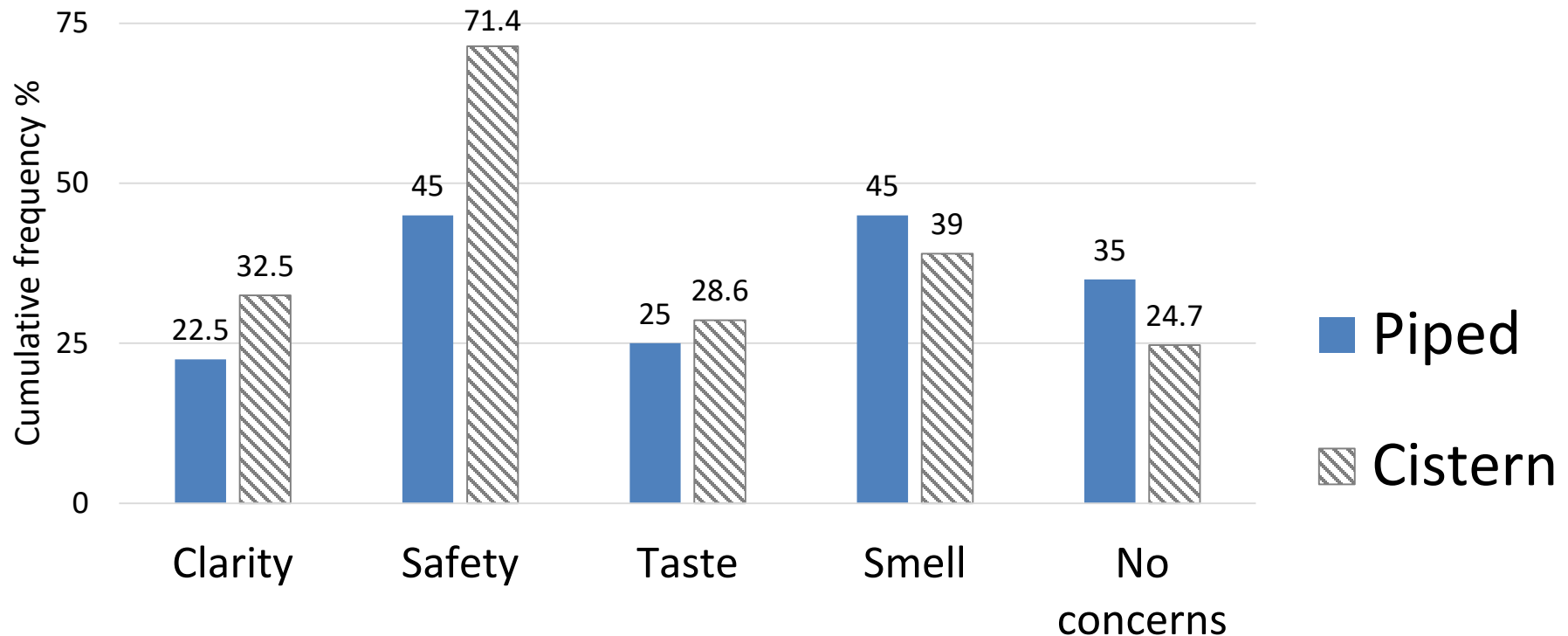
“...I’d rather drink ditch water”

40% of respondents believe their tap water to be safe

88% of non-First Nations people in small communities believe their tap water to be safe (EKOS, 2009)

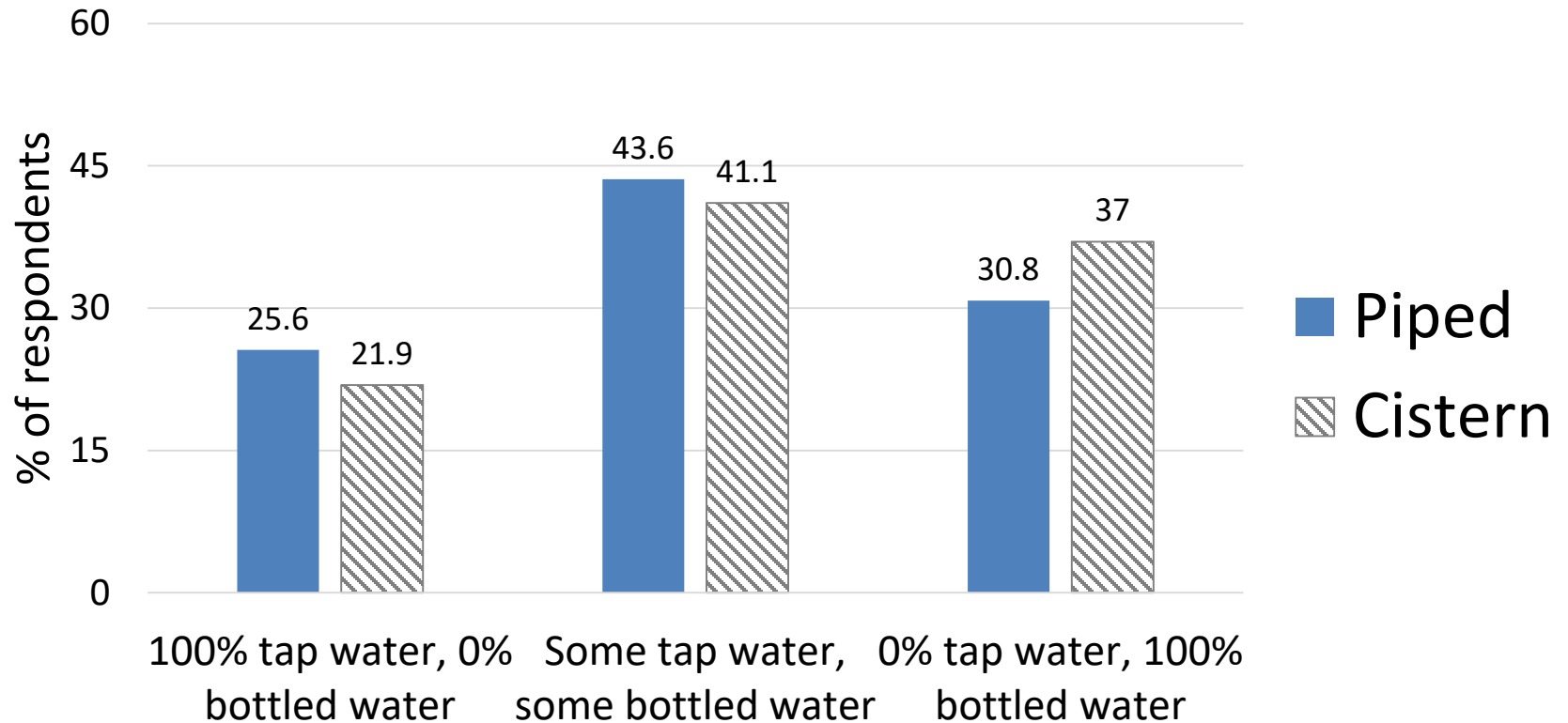


Concerns community members have with their tap water.



Safety: (χ^2 (1, $n = 117$) = 7.836, $p = .005$, Cramer's $V = .259$).

Tap water and bottled water consumption preferences



35% of respondents report drinking 100% bottled water

8% of Non-First Nations people report drinking 100% bottled water
(Dupont et. al, 2014)



3 out of 4 people regularly buy bottled water

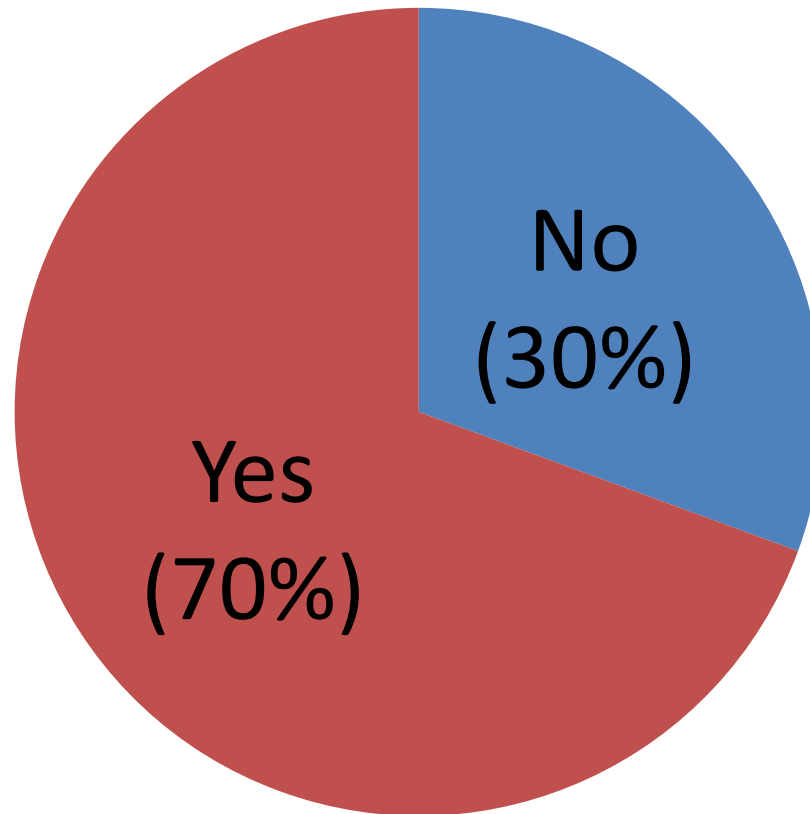
62% spend less
than \$50/month

38% spend over
\$50/month

Running out of water

- Only people with cisterns experienced this
- Many people have experienced running out of water, and now try to avoid this by rationing their water.

Do you ever run out of water?



“...the water in my home does affect me socially. I can't even have visitors because of the water in my home”

“Bullied from dirty clothes”

“I am a grandmother, aunty. I have children in my home. When there is no water, I cannot give them a bath!”

The benefits of investing in water and sanitation

- Health care savings
 - O’Gorman estimates \$102.2 million could be saved in health-care dollars if water quality was improved off-reserve.
- Productive days gained & school attendance
- Time savings gained from more convenient access to water
- Illnesses averted

CREATE 20



Acknowledgments

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Tracey Peter

Ruidong Mi



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