



# IWRA's XVII WORLD WATER CONGRESS

제 17차 IWRA 세계물총회

29 November – 3 December 2021  
EXCO, Daegu, Republic of Korea



## IWRA World Water Envoys



**Georgina**

24 years old

Zimbabwe



**ECONOMICS OF WATER  
SUPPLY IN BIG CITIES, IN THE  
CONTEXT OF A FAILING  
ECONOMY: CHITUNGWIZA,  
ZIMBABWE**



## OUTLINE

1. Introduction

1. Problem Description



# Introduction





- Serious water security challenges – primary/secondary use in CHITUNGWIZA(CZA).
- CZA – High density satellite town of Harare located 25 km from the Capital.
- Relies on water from Harare, which has been failing to meet the demand of its own suburbs.
- Prior to independence CZA was a small dormitory town, population has grown to become the third largest urban settlement. (Still relying on Harare).
- Harare's water infrastructure was last upgraded in 1994 to supply 1.5 mil people, the pop has grown to 4.5 mil (including satellite towns).



- The production plants are no longer adequate to meet demand.
- The designed capacity is 714ML/day. however. the plant currently supply around 400ML/day whereas demand is 800ML/day.
- There is an issue of rehabilitation works (some of the old systems are beyond repair) and chemical challenges.
- The quality of the raw water has declined due to domestic, agricultural and industrial activities. Sewage works are dysfunctional so raw sewage flows into the dams which has increased demand for chemicals to make the water potable. The city now uses 8 chemicals to deal with impurities at a cost of US \$3 million per month.



- CZA is supplied from Prince Edward treatment works getting its raw water from the Seke Dam, which is almost dry in the dry seasons due to the small size of the dam and climate change.
- CZA requires 35ML/day but Harare only provides 10-25ML/day, when the plant is actually operational!

# Problem Description



- Access to water has become very precarious (serious water woes).
- CZA city council fails to supply water to its residents. Some can go up to a month without receiving tap water supply.
- Residents also complain about the quality – normally they don't drink it directly.
- The problems are mainly attributed to rapid pop growth, poor institutional frameworks, and political polarity: the central government is controlled by one party and the local government by another, contributing to poor management, planning and implementation.







# Problem Description



- Climate change is undeniable and has exposed the weaknesses of the municipality, exacerbating water shortages, posing health risks of waterborne diseases (with cases recorded).
- The main supplementary source of water for households is groundwater from shallow wells.(susceptible to contamination/unsafe).
- Following the dry season groundwater is depleted .
- Only those who can afford to drill deep bores can access water all year round.
- Some sell this water to other residents
- The number of such boreholes are increasing and they are drilled unsustainably and without mapping or monitoring of their operation.
- Resulting in over-abstraction.

# Problem Description



- Fears of a future where the land is destroyed (land subsidence etc.) and where the groundwater is seriously depleted leaving households with neither groundwater nor surface water!
- This has mainly impoverished women and children, as women are the main managers of water at household level. Sometimes they have to travel for long distances to access little water, bringing to light the burden of women's work.
- A significant amount of the little water supplied from Harare, is lost in the pipes due to leakages as a result of the aging system.
- Residents are not willing to pay for the services that are not delivered well. The municipality argues that this results in low operation cost recovery, causing the ongoing cycle of poor service delivery.

# Problem Description



- An aging sewerage system result in pipes bursting and raw sewage water pollutes groundwater in households wells with serious health implications.





THANK YOU

SIYABONGA

MAITA BASA