

## S5: Smart Nature based solutions

# People, infrastructure, and Technology

Muscat, Oman, October 18th, 2022

Andile Khoza

Founder, Metsi

## NATURE:

Services that Nature provides for free:

- Mangroves protecting shorelines from storms
- Peatlands sequestering carbon
- Soil moisture retention
- Groundwater Recharge
- Wetlands filtering contaminated water
- Lakes storing large water supplies
- Riparian Buffer Strips
- Floodplain Restorations

## SMART:

Knowledge gap between legacy knowledge & new industry consumption:

Hardware, software & analytics to help water & waste water utilities solve problems:

- Leak detection system
- Smart Meter Hardware
- Smart water grids
- Digital wallets & smart prepaying
- Mobile workforce management

\*Basic deduction: There is an apparent erosion of Nature's proclivity to continue providing free services, which requires improved investments in Smart solutions to allow Nature to replenish.

But the mismanagement of water resources, dominated by human built infrastructure, is perhaps as equally important.



Poorly maintained stormwater infrastructure in KZN



Increased shortage of reinstatements after burst



City of Joburg (smallest & most densely populated province in SA) experiences over 59,000 sewer blockages per annum: 5 blockages per km



South Africa's ageing water infrastructure requires R330 billion(OMR 6,916,944,902.88) over the next 10 years

Figure 6: Number of bursts and blockages per km

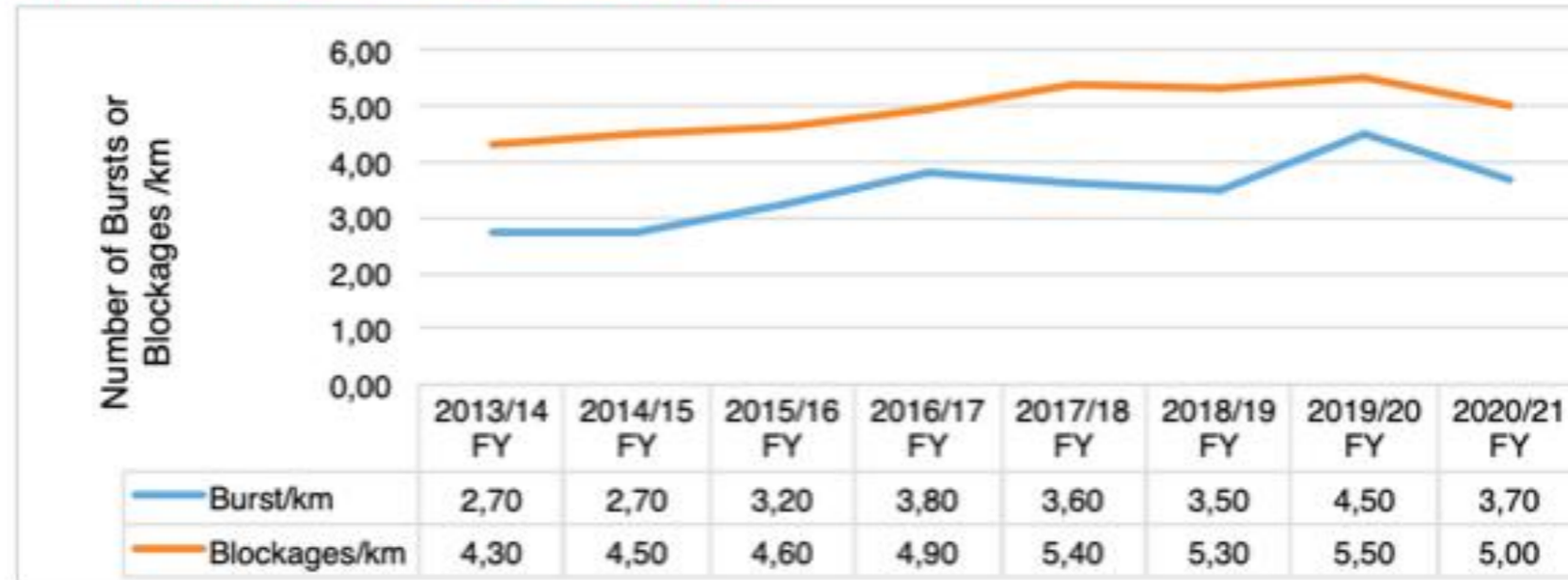


Figure 7: Bursts and blockages per year



The Proposed Metsi Software Institutional Arrangement will look to borrow the concepts of "E-Participation" which utilises the 3 pillars of: *E- Enabling*; *E- Empowering* and *E- Engaging* as its core metrics towards a participatory democracy. To truly execute the intended objectives of E-Participation, the common denominator of its 3 Pillars which this Proposed Institutional Arrangement will serve are: **People! Infrastructure! Technology!**



**PEOPLE**

The Training and Skills Development of Youth to be incorporated into their immediate Local Municipalities. A drive to source the required capacity within close proximity.

- AGSA
- EXPRESS
- LULAWAY
- GAZRIC

**INFRASTRUCTURE**

The maintenance of public infrastructure guarantees the continued delivery of services to the widespread community. Public participation is a challenge that can help align the economic, social and environmental needs of the country.

- MISA

**TECHNOLOGY**

The implementation of: Objectives, Goals, Strategies and Measures into the hourly operations of the Municipality by the Metsi Software.

"...if you cannot measure it, you cannot improve it..."

- METSI
- TABI GROUP

# SCENARIO

