

Smart City tools for People- Centred Development



Informal Settlements Case studies

World Cities Day

31 October 2025





Informal Settlements in eThekweni



- 605 informal settlements comprising nearly 333,000 households in eThekweni,
 - Comprising just over a quarter of the City's population.
 - Continued urbanization and scarcity of well located land contributes to the growing backlog.
 - Over 80 years to overcome the backlog by means of conventional housing delivery.
 - Challenging topography, high densities and many settlements within environmentally sensitive areas.
 - Budget limitation over years extend the challenges at hand.
- 60% are category B1 (incremental in-situ upgrade with essential services) - 361 settlements, over 260,000 hhs
 - Many are very dense (200+ du per hectare)
 - Less than 14% of households earmarked for relocation (due mainly to sites being unsafe for habitation)
 - 30% of land is privately owned (only 18% city-owned)

Technology-based projects in informal settlements

BEAM

ISIMS

Kobo tool

Vulnerability assessments

Smoke detectors

FEWS

Tenure security (blockchain)

Service Delivery Monitoring (KoBo) Tool – Goals

- COVID-19 technical support project under the *Futures Cities South Africa (FCSA)* programme, implemented in *eThekweni Municipality*.
- **Overall Goal:**
Strengthen data-driven coordination and service delivery for informal settlements during the COVID-19 crisis.

Coronavirus

Novel Coronavirus (2019-nCoV) is a new coronavirus strain identified in China, which has caused cases of severe pneumonia in China. Coronavirus is a family of viruses known to cause illnesses ranging from common cold to pneumonia. 2019-nCoV have been exported to other cities and countries

Symptoms include cough, runny nose, fever and shortness of breath

MONITOR
YOUR
HEALTH
CLOSELY

- 1 All travelers to monitor your health closely for 2 weeks upon returning to South Africa
- 2 If you have fever, cough or runny nose, wear a mask and seek medical attention promptly
- 3 Call the clinic ahead of your visit and inform the doctor of your symptoms and travel history

PRECAUTIONS TO TAKE



Avoid contact with live animals, poultry and birds



Avoid consumption of raw and undercooked meat



Avoid crowded places and around people who are unwell



Observe good personal hygiene at all times



Wash hands frequently with soap



Cover your mouth with a tissue paper when coughing or sneezing



See a doctor if you are unwell

REMAIN VIGILANT AND ADOPT GOOD PERSONAL HYGIENE PRACTICES

The situation is evolving, check updates on www.health.gov.za and www.nicd.ac.za

Technology and Process

- Platform: KoBo Toolbox (open-source data collection software)

How It Works:

- Field staff and community monitors capture service issues using KoBo forms on mobile devices.
- Data uploads to a cloud server and feeds into live dashboards.
- Integrated with the municipal 'Faultman' system for repairs and maintenance.

Technology Features:

- Offline data capture for low-connectivity areas.
- GPS tagging, photos, and timestamps for verification.
- Simple interface for non-technical users.

Successes

- Streamlined service reporting and improved data reliability.
- Strengthened collaboration between departments.
- Provided evidence for prioritizing repairs in informal settlements.

Key Learnings

COMMUNITIES ARE NOT EMPOWERED TO LOG FAULTS

COMMUNITY EMPOWERMENT CAN IMPROVE REPORTING EFFICIENCY

MORE REPORTING MECHANISMS SHOULD BE CONSIDERED

MUNICIPAL DATA WORKFLOWS ARE CURRENTLY QUITE COMPLEX

EXISTING SOLUTIONS SHOULD BE REVIEWED BEFORE ATTEMPTING TO IMPLEMENT NEW ONES

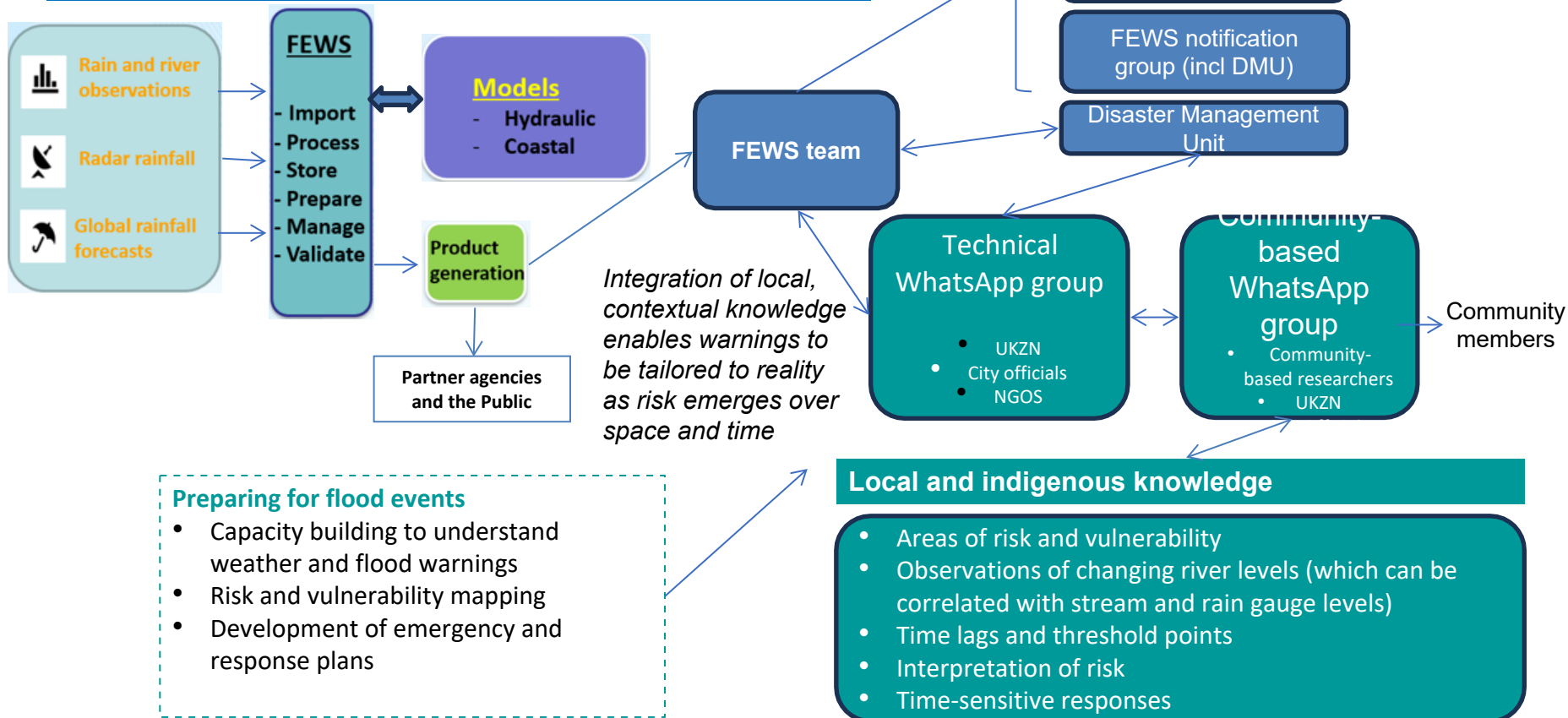
Flood Early Warning System (FEWS)





SAWS Warnings
First level warning. Alerts FEWS, technical and community whatsapp groups to monitor more closely

Technical knowledge: Forecast Early Warning System (FEWS)



Source: CLARE INACCT Resilience Project

