

Creating Affordable ICT Services: USF Useage in South Africa

ITU-Intel Digital Transformation

09 September, 2016

Rabat, Morocco

'Makhotso Moiloa, Executive Manager: Operations



USAASA

Universal Service and Access Agency of South Africa



About Us

USAASA (3a)



USAF (3a)



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USAASA

- Promote goal of Universal Service & Access
- Research, consult & advise the Minister on area & person definitions
- Report on extent of achievement of universality of ICTs
- Make recommendations to the Minister on policy matters in relation to universal service & access
- Manage & administer the Universal Service & Access Fund
- Advise ICASA on universal service & access

USAF

EXCLUSIVELY FOR THE PAYMENT OF SUBSIDIES FOR

- Assistance of needy persons towards cost of provision of ICT equipment/services.
- Construction or extension of electronic communications networks in underserved areas.
- Public & private schools & FETs: procurement of electronic communications networks.
- Other schools & FETs registered under the South African Schools Act & the FET Act
- Establishment & operation



THESE ELEMENTS ARE CRITICAL INPUTS TO THE SA NDP, SIP 15, &, SA CONNECT POLICY

Problem Statement: The Gap Analysis





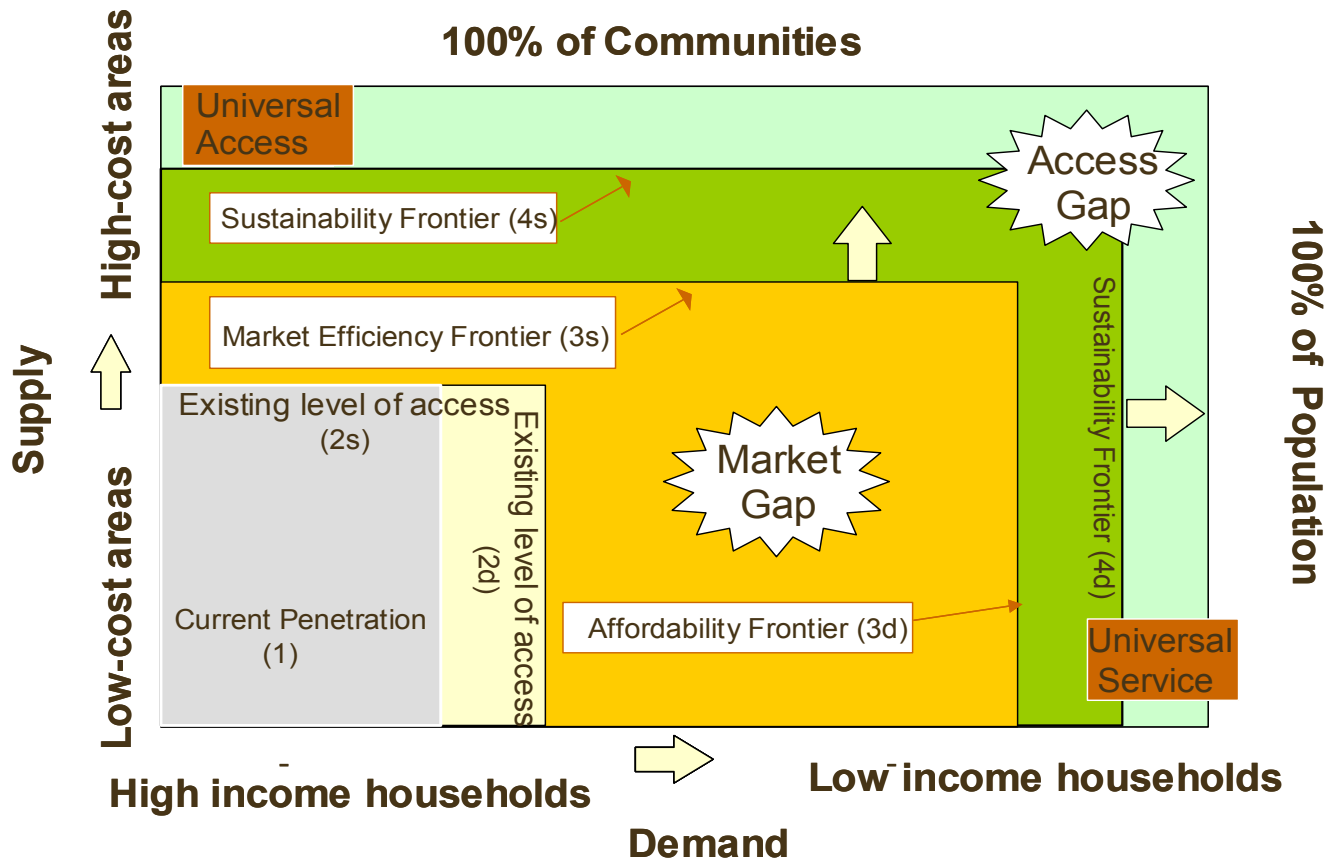
Primary Research Findings

- High Demand, but Affordability is a Challenge
- Coordination is Central to UA & S Strategy
- Monitoring and Evaluation is Critical
- Going Forward Wireless is likely to be a key Solution

| Required Interventions | Quantity |
|---|-----------------------------------|
| Under-serviced rural towns | 250 (195 local municipalities) |
| Public schools | 24 136 |
| Schools of people living with disabilities | 482 |
| Police stations | 1135 |
| Local government building [incl. health facilities] | 250 |

Market Gap Analysis Findings

Gap Analysis Model Methodology



Current Access = existing levels of service coverage and penetration

- Market Gap and Market Frontier = Locations and limits where market forces can close gaps commercially
- Economic Gap or True Access Gap = Locations where subsidy is needed to close gaps

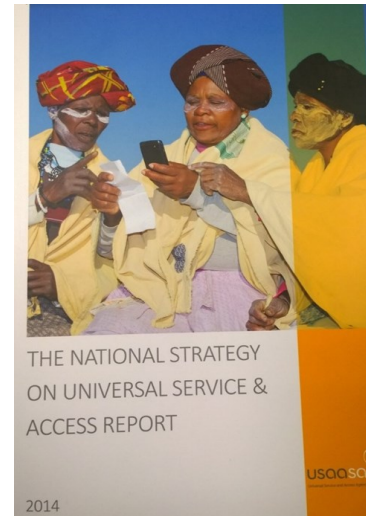


Market Gap Analysis

National Baseline Gap Findings

| Summary Results | | South Africa | | | | | | | | | | | | | | |
|-----------------|----------------|-----------------|-------------------------|------------------|-----------------|-------------------------|---------------------|-----------------|-------------------------|--|--|--|--|--|--|--|
| Region | 2G Mobile | | | Public Broadband | | | 3G Mobile Broadband | | | | | | | | | |
| | Current Access | Market Frontier | Access Gap Capital Cost | Current Access | Market Frontier | Access Gap Capital Cost | Current Access | Market Frontier | Access Gap Capital Cost | | | | | | | |
| National | 86.4% | 98.2% | \$9,236,504 | 49% | 78% | \$169,809,979 | 65% | 70% | \$604,978,928 | | | | | | | |
| Western Cape | 61.1% | 98.4% | \$0 | 82% | 99.3% | \$0 | 75% | 87.2% | \$40,854,993 | | | | | | | |
| Northern Cape | 88.0% | 95.9% | \$1,835,327 | 32% | 31.8% | \$49,331,236 | 59% | 59.0% | \$54,155,596 | | | | | | | |
| Eastern Cape | 99.7% | 100.0% | \$0 | 17% | 58.7% | \$17,959,494 | 57% | 57.4% | \$79,332,213 | | | | | | | |
| Free State | 91.8% | 98.6% | \$519,806 | 34% | 47.5% | \$14,070,878 | 61% | 61.2% | \$51,219,808 | | | | | | | |
| North West | 92.2% | 99.7% | \$0 | 35% | 85.9% | \$3,298,060 | 52% | 51.9% | \$85,309,923 | | | | | | | |
| KwaZulu-Natal | 76.5% | 99.1% | \$0 | 31% | 97.2% | \$0 | 61% | 61.3% | \$108,759,637 | | | | | | | |
| Mpumalanga | 93.2% | 99.7% | \$0 | 34% | 55.9% | \$3,619,105 | 54% | 54.4% | \$84,638,223 | | | | | | | |
| Gauteng | 98.0% | 99.9% | \$0 | 85% | 99.4% | \$0 | 79% | 96.3% | \$26,249,514 | | | | | | | |
| Limpopo | 81.3% | 88.8% | \$6,881,371 | 28% | 27.6% | \$81,531,206 | 53% | 53.2% | \$74,459,021 | | | | | | | |

National UAS Strategy



Integrated Rural Broadband Facilitation to Underserved Areas (Electronic Communications Networks): The Aggregation of Demand via Network Tenancy

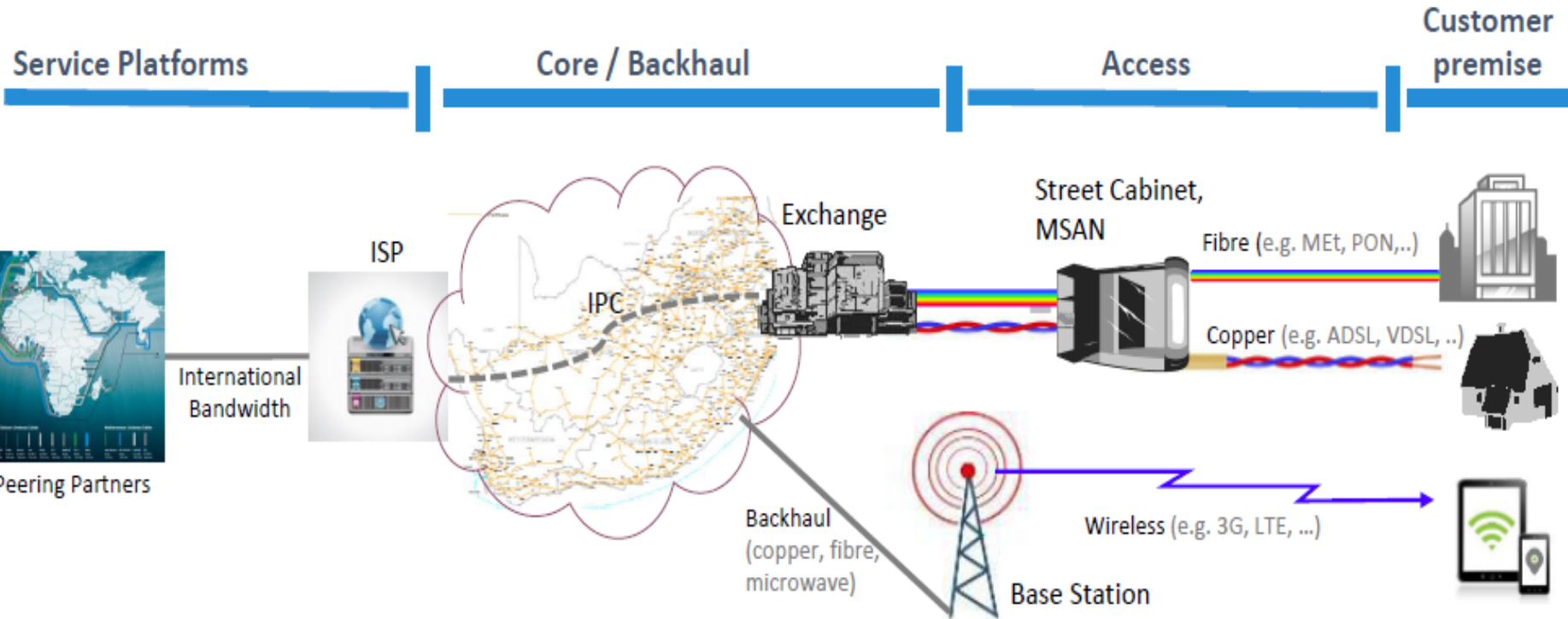


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The Electronic Communications Value Chain

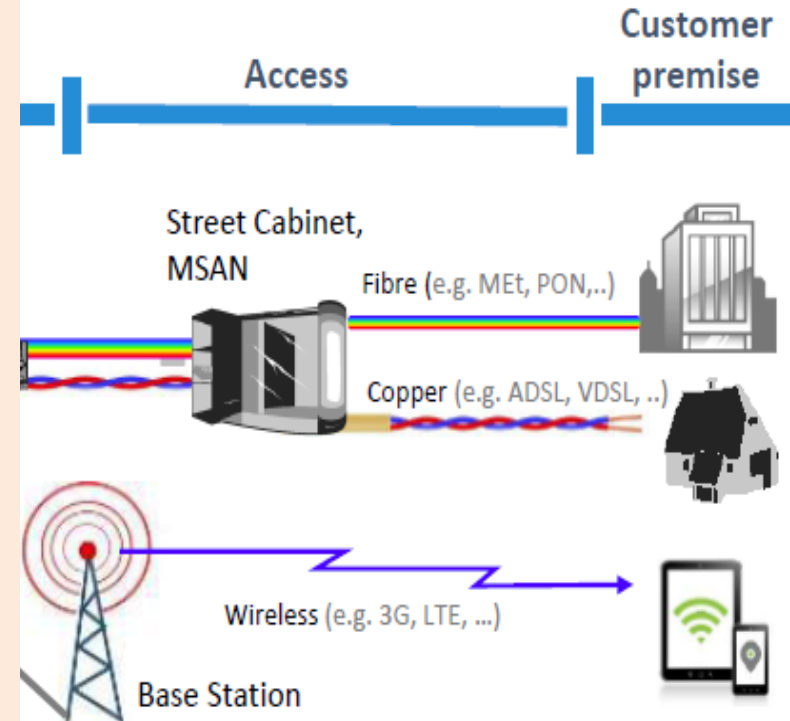


- This includes service platforms and applications to allow for product and service configuration
- Also "central" operational costs of Service Provider

- Usually based on fiber-optic technology and is the backbone that connects all the exchanges
- In SA this includes IPConnect

- This covers the last mile between the exchange and the customer premise
- This could include fibre, copper, wireless as well as equipment such as DSLAMs and MSANs

- On customer premises
- End User Devices
- Includes modems, routers, WiFi



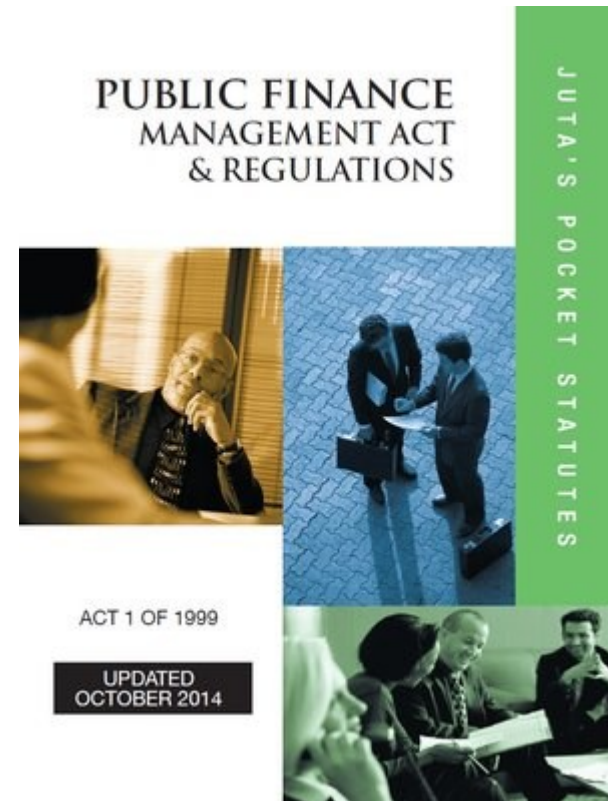
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USAASA funds (through the USAF) the construction/extension of backhaul and last mile infrastructure, inclusive of deployment of user devices (including connectivity) to schools, clinics and other government buildings

Implementation Process

National & Localised Planning

ECA Compliance = PFMA Compliance



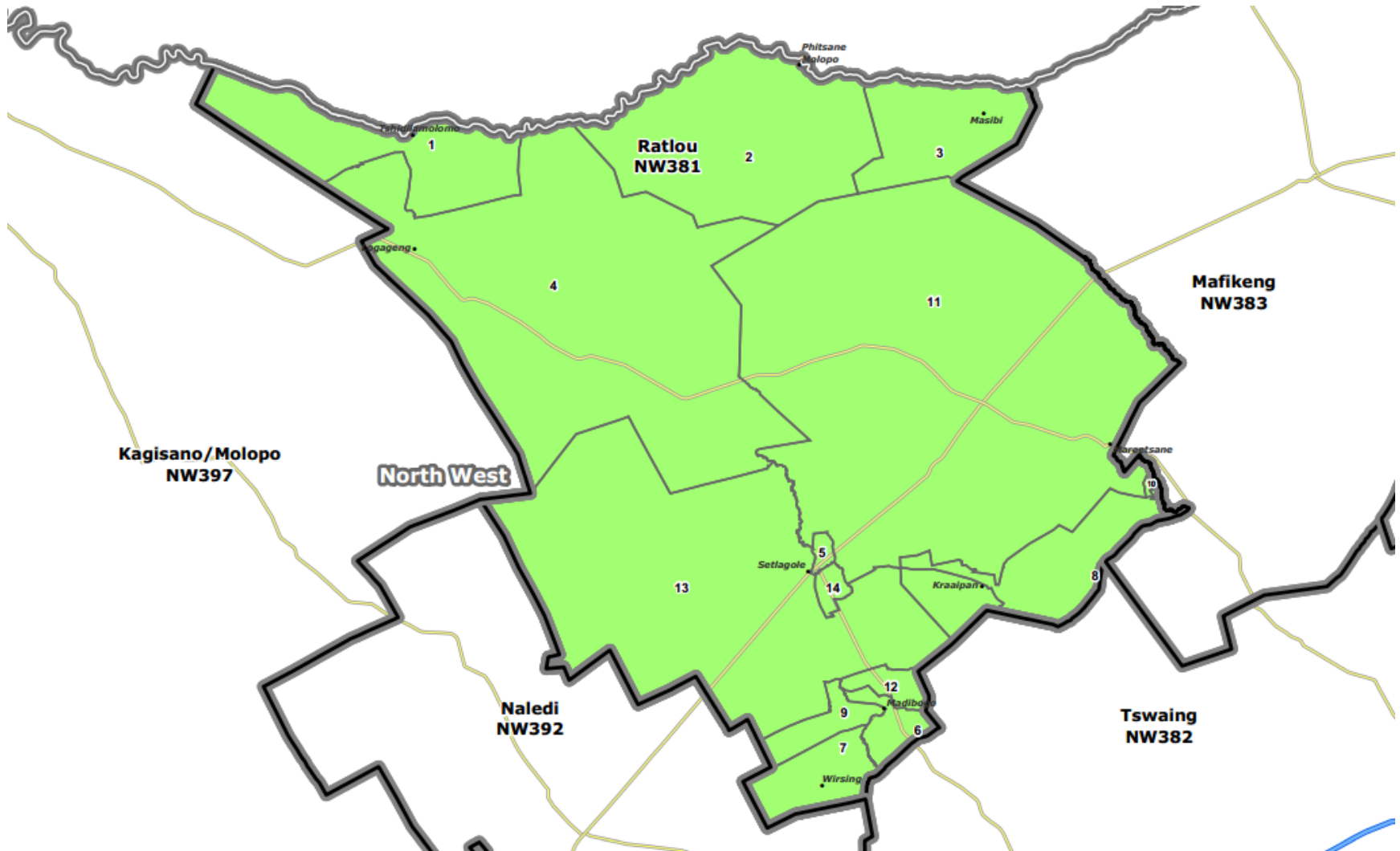
Case Study: Ratlou Local Municipality & Joe Morolong Local Municipality



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Municipal Information: Ratlou

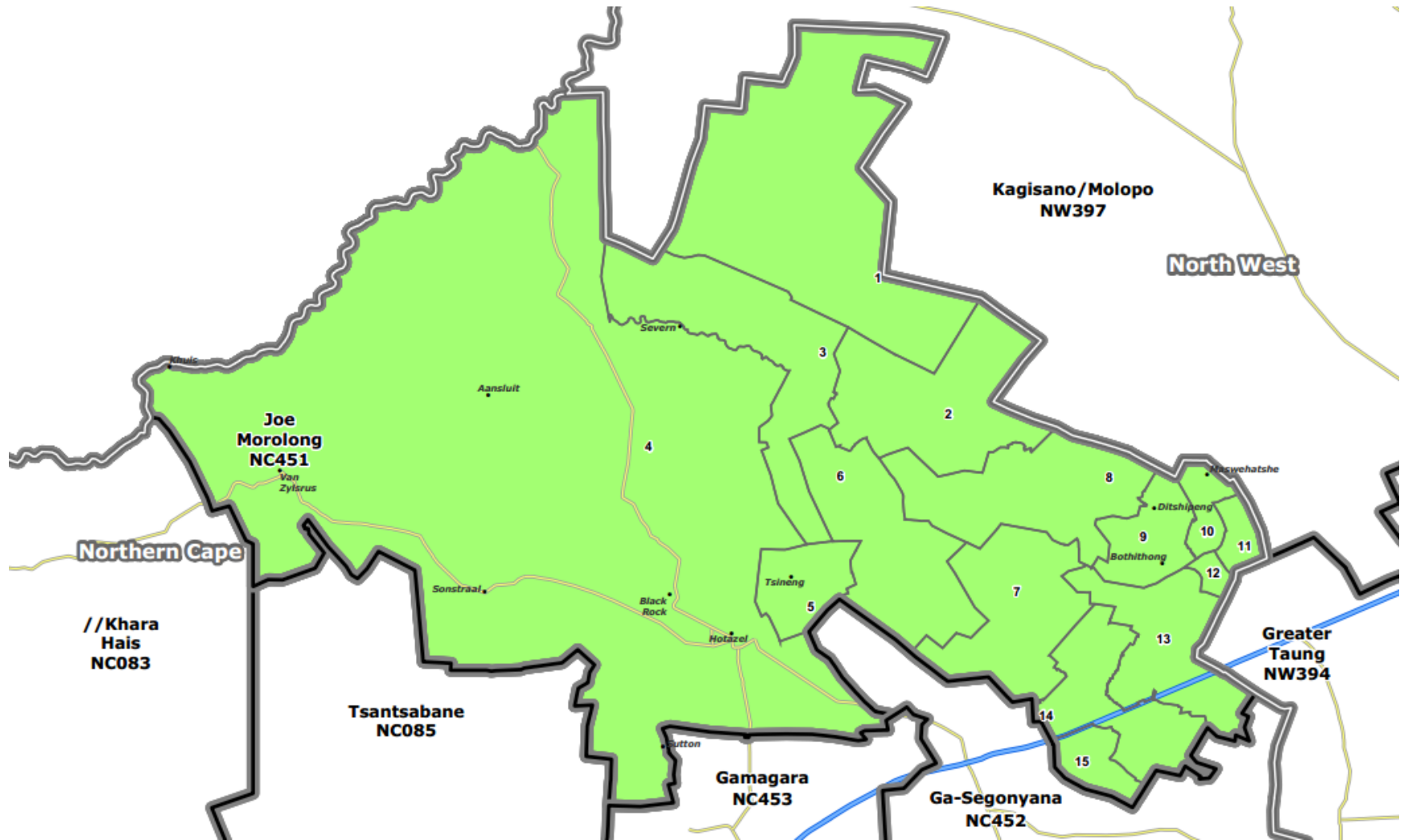
| | |
|------------------------------|---|
| Area | 4 884km ² |
| Description | Ratlou Local Municipality (Setla-Kgobi Local Municipality) is one of the local municipalities under the jurisdiction of Ngaka Modiri Molema District Municipality in the North West province. It shares its borders with three other municipalities and the Republic of Botswana . The municipality is divided into 14 wards . Owing to its nature as a rural municipality, Ratlou does not have large economic centres within its jurisdiction. Most government services are conducted from various centres that are mainly located in Setlagole. |
| Cities/Towns | Disaneng, Kraaipan, Madibogo, Setlagole |
| Main Economic Sectors | Agriculture, Mining, Tourism |

Demographic Information

| | |
|--------------------------|----------|
| Population | 107 339 |
| Households | 26 889 |
| Population Growth | 0.11% pa |
| Unemployment Rate | 43.90% |

ICT Penetration (% Households)

| | |
|----------------------------|--------|
| Access to PC | 4.47% |
| Access to Cellphone | 77.60% |
| Access to Landline | 2.12% |
| Access to Internet | 13.41% |



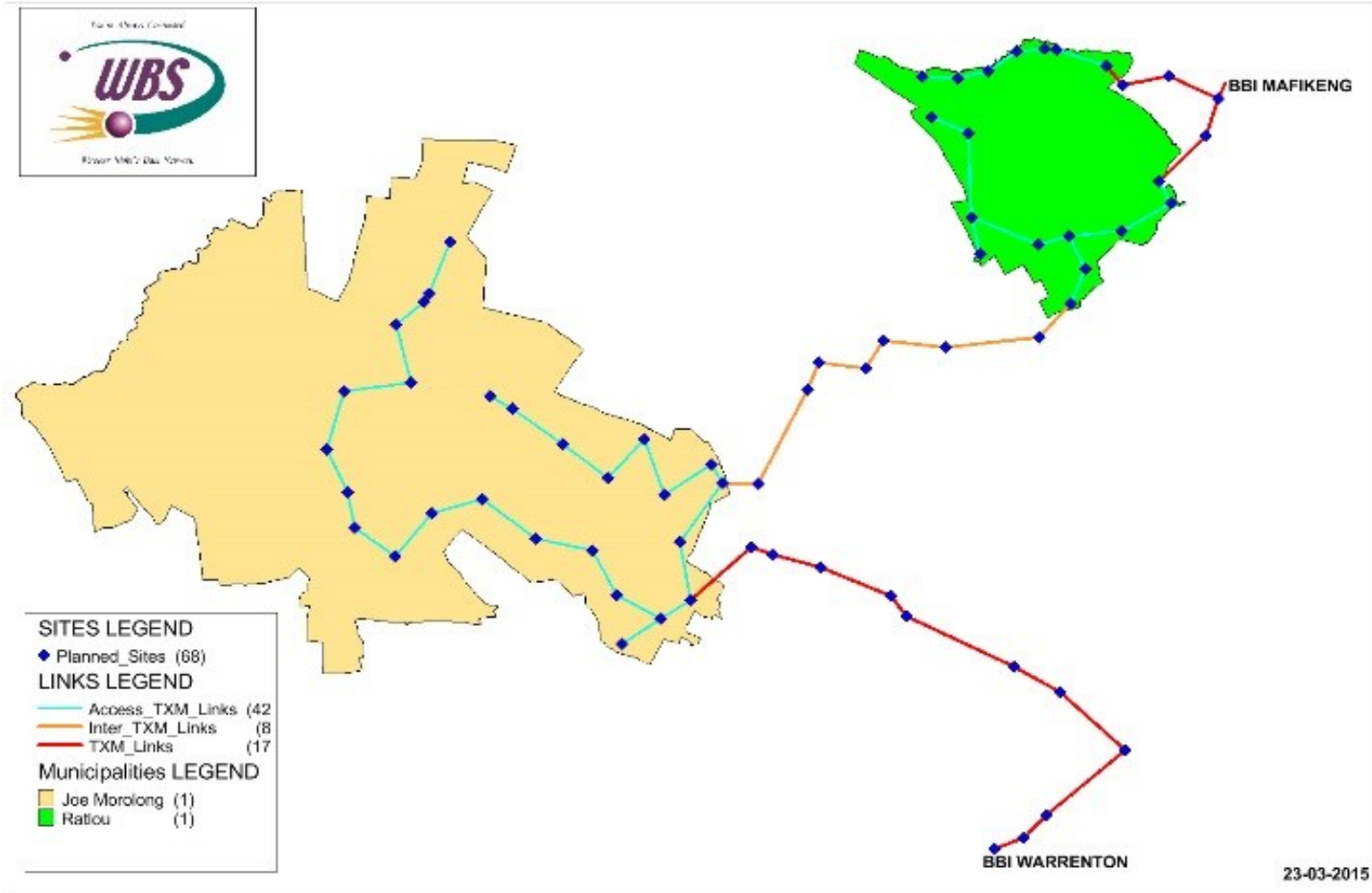


Ratlou

- 14 clinics in Ratlou
- 2 libraries in Ratlou
- 1 FET College Branch in Ratlou

Joe Morolong

- 23 clinics in Joe Morolong
- 2 libraries in Joe Morolong
- 1 FET College Branch in Joe Morolong



Source: Joe Morolong and Ratlou Local Municipality Network Infrastructure Close-Out Report, April 2015

Using the Broadband Infraco POP in Warrenton for the Northern Cape and the POP in Mafikeng, the operator successfully pulled fibre into each municipality effectively bringing competition to area covered by complacent operators

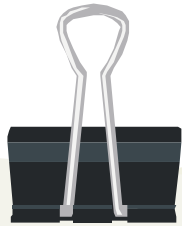
The nett result is that USAASA through USAF has through its incentive to one operator, assisted in the development of the market in the designated area, but also incentivised the assigned operator to maximise that infrastructure to cover other areas neighbouring the two local municipalities.



63 connections effected to network:

- Ratlou, North West Province: 8 schools & 18 clinics.
- Joe Morolong, Northern Cape Province: 10 schools; & 27 clinics.

Integrated Broadband Projects



Integrated Broadband Programme

5 of 6 completed broadband sites at Local Municipalities to date

Broadband

- ❑ Of the 6 designated broadband sites,
 - ❑ Msinga - complete
 - ❑ Emalahleni (EC) - complete
 - ❑ Ratlou – complete (verification by CSIR due to commence)
 - ❑ Joe Morolong - complete (verification by CSIR due to commence)
 - ❑ Mutale - complete (verification by CSIR due to commence)
 - ❑ Albert Luthuli Local Municipalities installed in full while Joe Morolong Local Municipality installed in part (network)

- ❑ 120 access facilities integrated to date comprising schools and clinics with dedicated links to enable service delivery
 - ❑ Emalahleni – 26 Clinics ; 3 schools
 - ❑ Msinga – 24 Clinics ; 4 schools
 - ❑ Ratlou – 18 Clinics ; 8 schools
 - ❑ Joe Morolong – 27 Clinics; 10 schools

The Outcome

First Model



Second Model



Current Model

Thin Client Model

The Laptop Model

The Tablet Model



- **2 servers**
- **21 thin client machines**
- **Projector**
- **Air conditioners**
- **Internet connectivity for 24 months**

- **40 laptops/ tablets**
- **School yard configured as WiFi hotspot**
- **Internet connectivity for 24 months**

So what is the Problem?





“education is the only inheritance I can give you that no one can ever take from you” ‘Mants’ekhe Moiloa

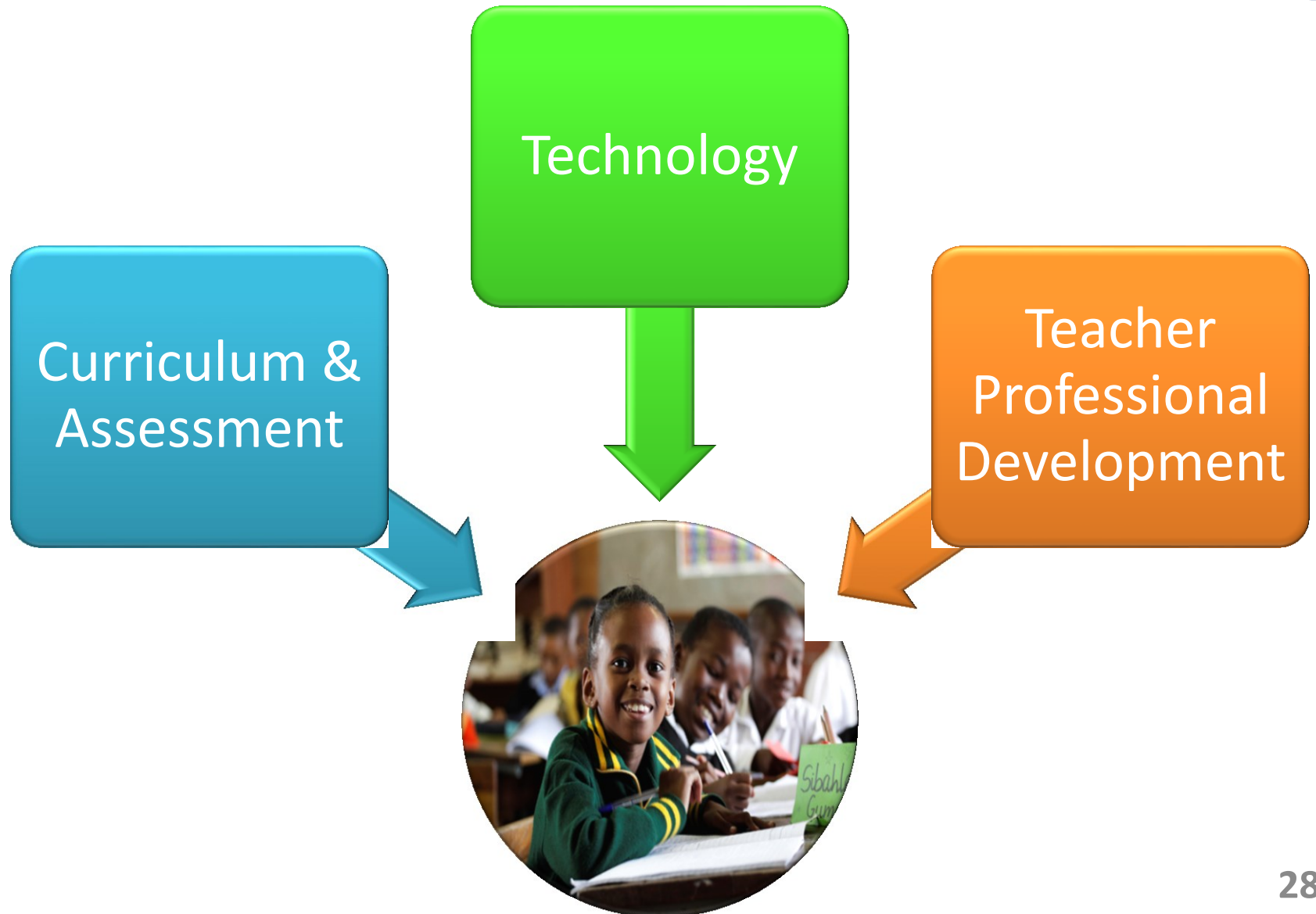


- **Technology and media literacy**
- **Effective communication**
- **Critical thinking**
- **Problem solving**
- **Collaboration**



What needs to Happen?







06 Sept - 02 Oct 2015

"Leveraging ICTs to strengthen Education in South Africa"

2015



T'bo Touch [local DJ]



#DataMustFall

www.techrends.co.zm

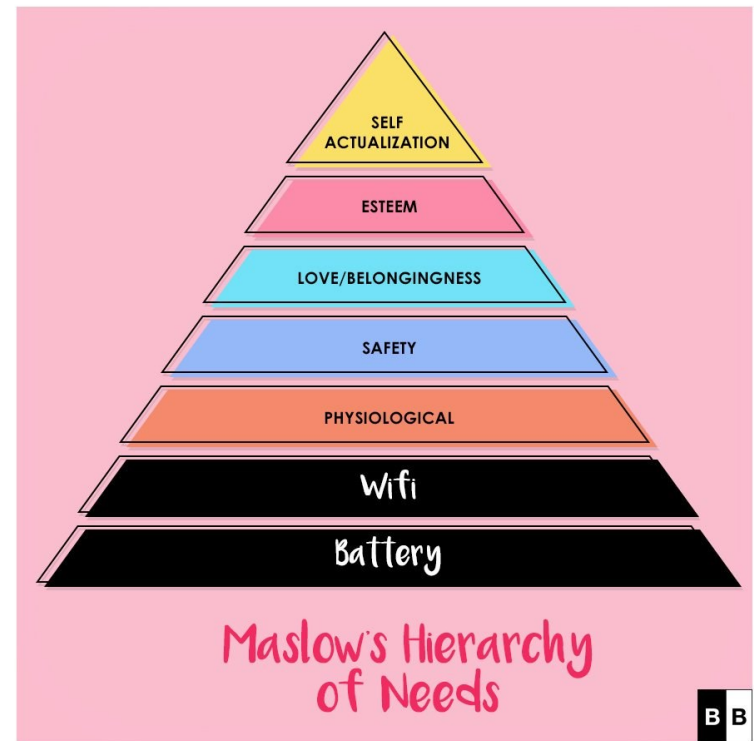
WAPA: Wireless Access Providers Association says...

Tim Genders, Chairman



- Construction of low cost national data network
- Low cost high speed data provision to schools
- Low cost high speed data provision to residents
- Locally manufactured devices, equipment etc.

I Say...





| Avenue | Progress |
|--|--|
| | |
| Amend the Electronic Communications Act | Complete. From April 2014 funds collected by ICASA must come to USAF |
| Amend the levy regulation from 0.2% to 1% | Under way in consultation with ICASA |
| Parliamentary appropriations via Treasury | In place but funding is limited |
| Third party fund management from Provinces | Complete. Awaiting internal control environment approvals |

