water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

THE STATUS OF SANITATION AND FAECAL SLUDGE MANAGEMENT IN THE WESTERN CAPE

Presented by:
Natasha Davis-Wolmarans
Water Services Regulation

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Paarl

THE SA CONSTITUTION

CHAPTER 2: BILL OF RIGHTS

Environment

24. Everyone has the right—

(a) to an environment that is not harmful to their health or wellbeing; and

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that—

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

WATER SERVICES ACT (108 OF 1997)

RIGHT OF ACCESS TO BASIC WATER SUPPLY AND BASIC SANITATION

3. (1) Everyone has a right of access to basic water supply and basic sanitation.

(2) Every water services institution must take reasonable measures to realise these rights.

(3) Every water services authority must, in its water services development plan. provide for measures to realise these rights.

(4) The rights mentioned in this section are subject to the limitations contained in this Act.

2003: **Strategic Framework for Water Services**

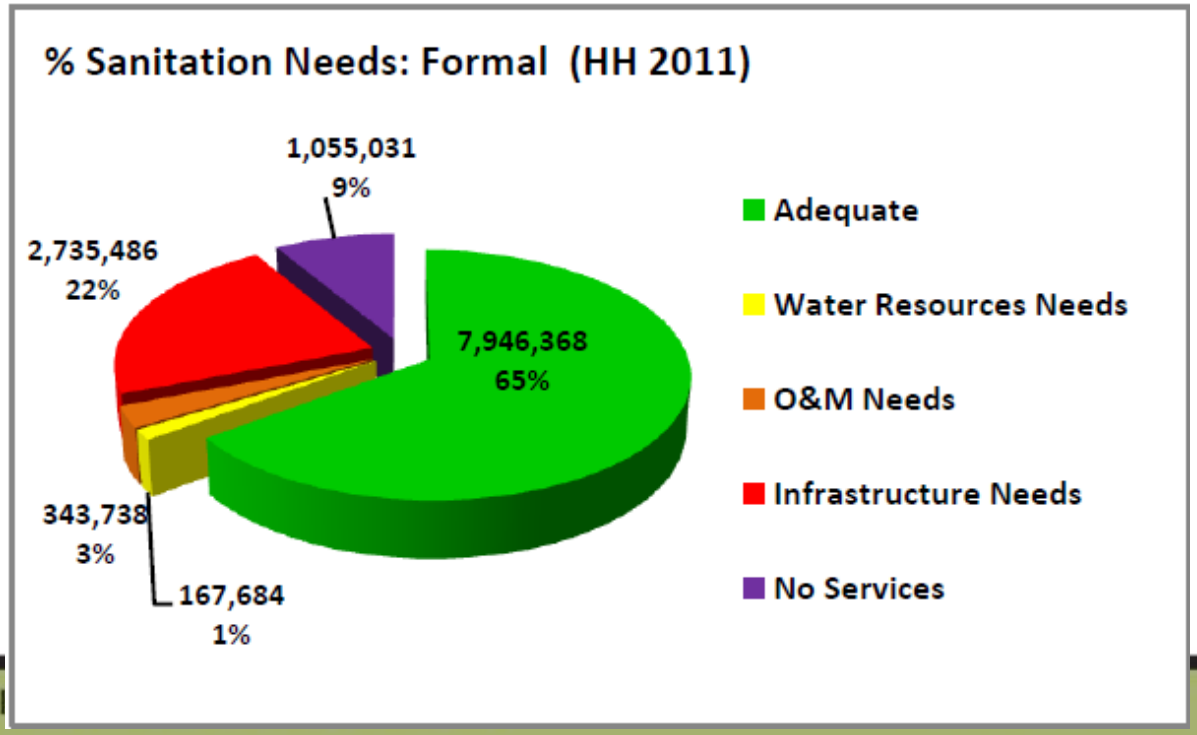
Provided the approach for the provision of water services and the achievement of sector policy targets

- 44.8 million people living in SA
- 5 million (11%) - no access to safe water supply
- 6.5 million (15%) - no access to defined basic service levels
- 18.1 million (41%) - inadequate sanitation services

2001 Census

REPORT ON THE STATUS OF SANITATION SERVICES IN SA (MARCH 2012)

- 50.5 million people living in SA (2011)
- 5.5 million (11%) – no services
- 26% within formal areas had sanitation services that did not meet the standards due to deterioration of infrastructure, poor operation and maintenance, pit emptying and/or insufficient water resources.



THE STATUS OF BASIC SERVICE DELIVERY IN SA:
IN DEPTH ANALYSIS OF THE COMMUNITY SURVEY 2016 DATA
STATS SA

- Data Sources:
  - Community Survey 2016 to study the delivery of basic services at local municipal level.
  - Data from Census 2011 are used to study municipal changes between 2011 and 2016.
  - The report also uses, on a much more limited scale, data from the Income and Expenditure Surveys, Living Conditions Surveys as well as data from the Non-financial census of municipalities.

THE STATUS OF BASIC SERVICE DELIVERY IN SA:
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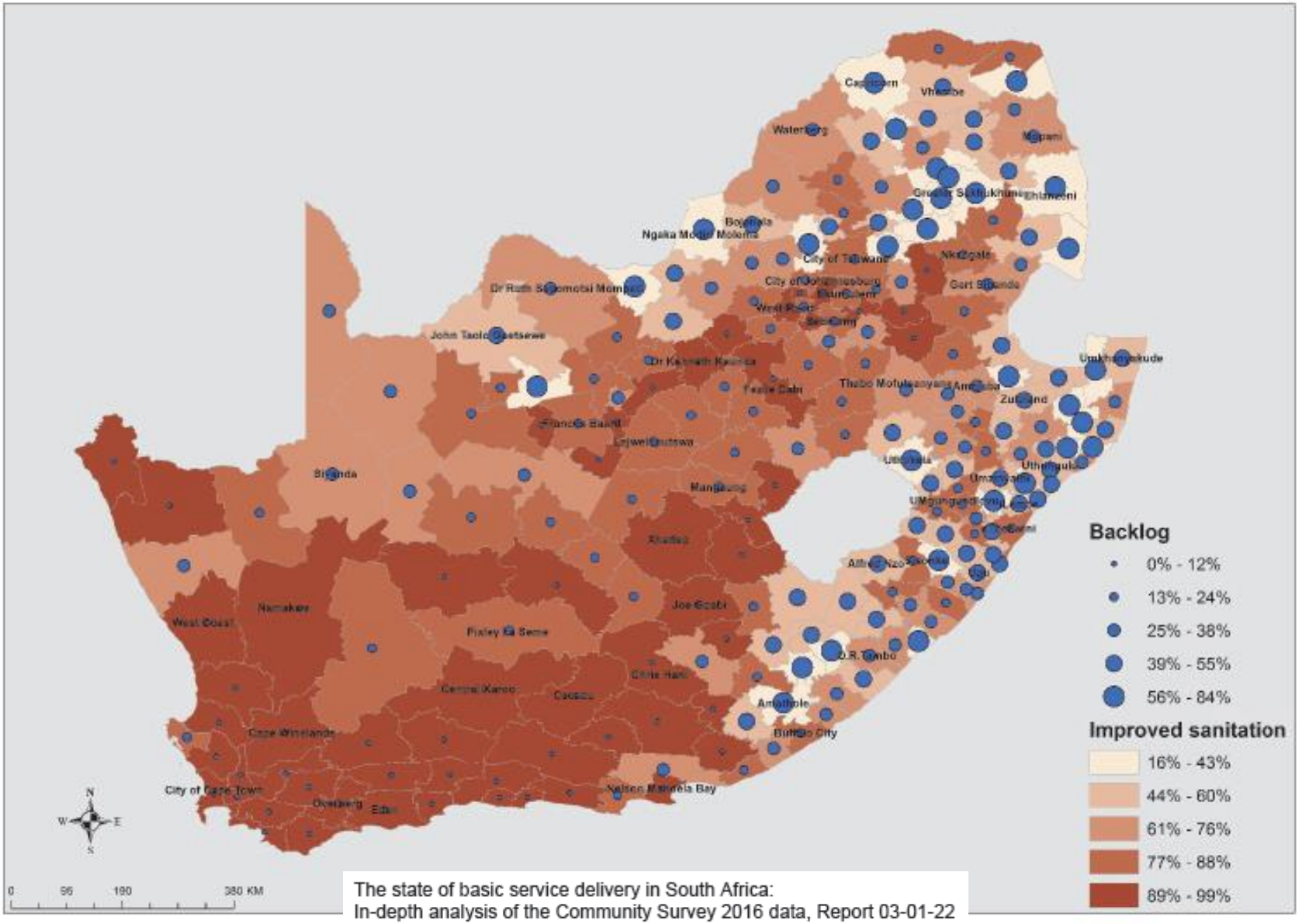
STATS SA

Table 6.1: Percentage household access to sanitation by province, 2016

	WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
Flush toilet connected to public sewerage system	90,5	44,4	63,2	70,1	43,1	43,9	84,4	43,0	20,8	60,6
Flush toilet connected to a septic system	2,9	2,3	5,9	2,1	3,7	3,8	1,9	2,7	2,8	2,7
Chemical toilet	1,2	5,6	0,3	2,1	14,6	0,9	1,5	3,3	1,6	4,2
Pit latrine with ventilation pipe	0,1	27,7	9,4	6,8	18,3	16,9	2,1	14,7	28,0	12,2
Pit latrine without ventilation pipe	0,2	9,6	9,8	11,2	12,2	28,2	6,1	28,8	39,8	13,7
Ecological toilet	0,0	0,4	0,3	0,2	0,7	0,3	0,1	0,5	0,1	0,3
Bucket toilet (collected by municipality)	2,9	1,3	2,9	2,5	0,4	0,1	2,3	0,2	0,1	1,4
Bucket toilet (emptied by household)	0,8	0,9	1,4	1,4	1,3	0,5	0,4	0,7	0,6	0,8
Other	0,5	1,9	1,1	2,0	3,1	1,5	0,6	3,0	2,0	1,6
None	0,9	5,9	5,5	1,7	2,5	3,9	0,5	3,1	4,3	2,4
Percent	**100,0**	**100,0**	**99,9**	**100,1**	**99,9**	**100,0**	**99,9**	**100,0**	**100,1**	**99,9**
Numbers (thousands)	**1 934**	**1 773**	**354**	**947**	**2 876**	**1 249**	**4 951**	**1 239**	**1 601**	**16 923**

Map 6.1: Percentage of households with access to an improved sanitation facility by local municipality and the backlog, 2016



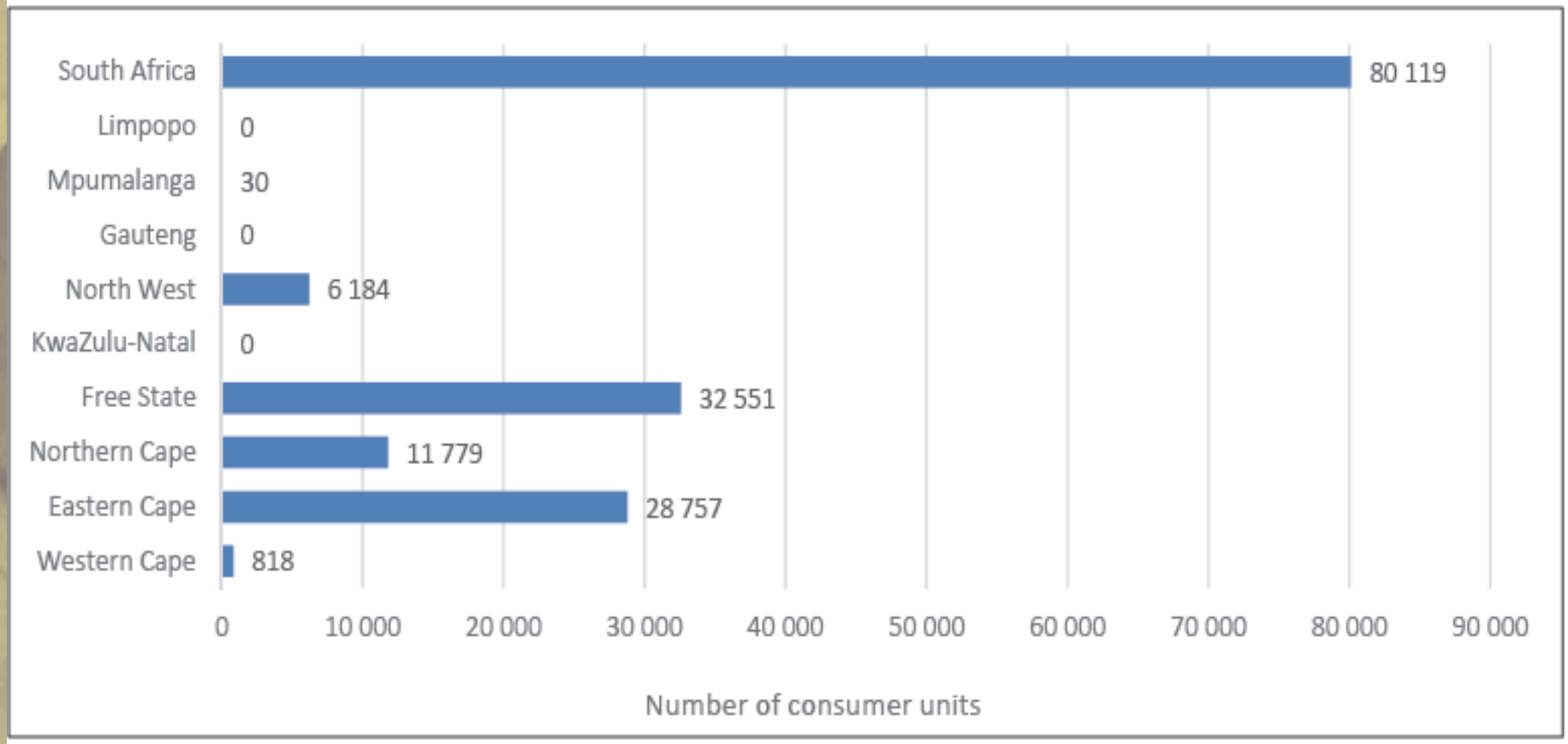
The state of basic service delivery in South Africa:
In-depth analysis of the Community Survey 2016 data, Report 03-01-22

Table 6.4: Municipalities with the highest and lowest household access to improved sanitation, 2016

Highest access			Lowest access		
Municipality	**Province**	**Percent**	**Municipality**	**Province**	**Percent**
Overstrand	Western Cape	99,2	Maphumulo	KwaZulu-Natal	16,1
Hessequa	Western Cape	98,7	Makhuduthamaga	Limpopo	20,8
Stellenbosch	Western Cape	98,0	Mfolozi	KwaZulu-Natal	21,7
Bergrivier	Western Cape	98,0	Nongoma	KwaZulu-Natal	23,5
Camdeboo	Eastern Cape	98,0	Bushbuckridge	Mpumalanga	24,3
Laingsburg	Western Cape	97,9	Elias Motsoaledi	Limpopo	25,2
Drakenstein	Western Cape	97,8	eDumbe	KwaZulu-Natal	26,5
Beaufort West	Western Cape	97,5	Port St Johns	Eastern Cape	26,7
Swellendam	Western Cape	96,9	Thembisile	Mpumalanga	29,1
Kgatelopele	Northern Cape	96,7	Hlabisa	KwaZulu-Natal	29,4
Witzenberg	Western Cape	96,6	Umzimkhulu	KwaZulu-Natal	29,8
Swartland	Western Cape	96,2	Greater Tubatse	Limpopo	33,7
Mossel Bay	Western Cape	96,1	Aganang	Limpopo	34,0
Prince Albert	Western Cape	96,1	Ntambanana	KwaZulu-Natal	36,7
Govan Mbeki	Mpumalanga	96,0	Okhahlamba	KwaZulu-Natal	37,1
Gariep	Eastern Cape	95,9	Jozini	KwaZulu-Natal	39,1
Emthanjeni	Northern Cape	95,7	Lepele-Nkumpi	Limpopo	39,6
City of Matlosana	Free State	95,7	Ramotshere Moiloa	North West	39,7
Matzikama	Western Cape	95,3	Amahlathi	KwaZulu-Natal	40,0
George	Western Cape	95,1	Nkomazi	KwaZulu-Natal	40,4

BUCKET TOILET SYSTEMS

Figure 6.1: Number of consumer units using the bucket system provided by municipalities in each province, 2015



Source: Non-financial census of municipalities for the year ending 30 June 2015

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Table 6.6: Number of households that reported using bucket toilets, 2016

Province	Bucket toilet (collected by municipality)	Bucket toilet (emptied by household)	Total
Western Cape	55,348	14,506	69,854
Eastern Cape	22,882	15,435	38,317
Northern Cape	10,201	5,073	15,274
Free State	24,131	13,650	37,781
Kwa-Zulu Natal	12,409	38,245	50,654
North West	1,751	6,416	8,167
Gauteng	113,594	21,777	135,371
Mpumalanga	2,544	8,500	11,044
Limpopo	1,551	9,217	10,768
South Africa	**244,411**	**132,820**	**377,231**

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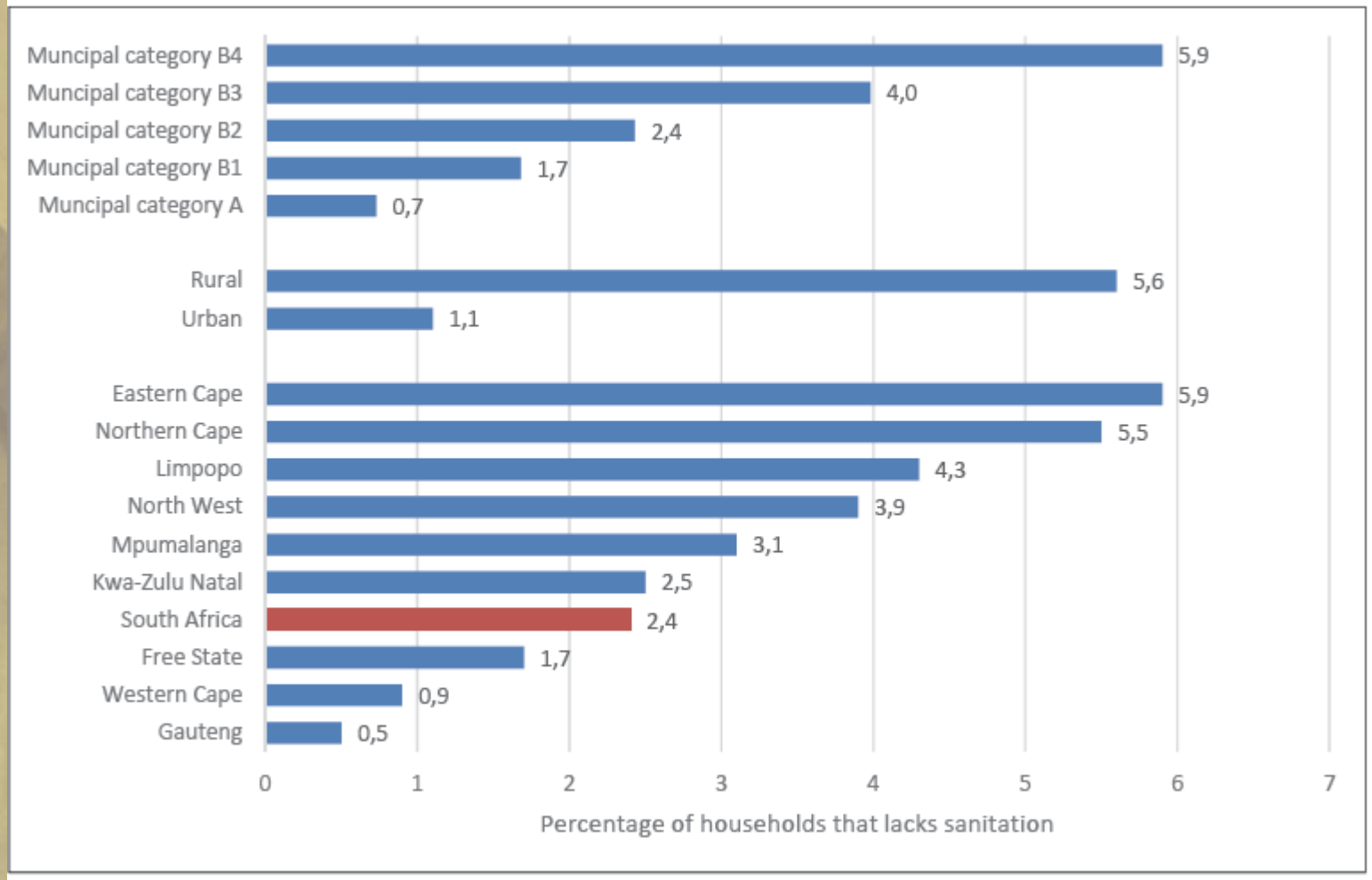
NO ACCESS TO SANITATION SERVICES

Figure 6.3: Percentage of households that lack sanitation by province, municipal category, and rural and urban, 2016



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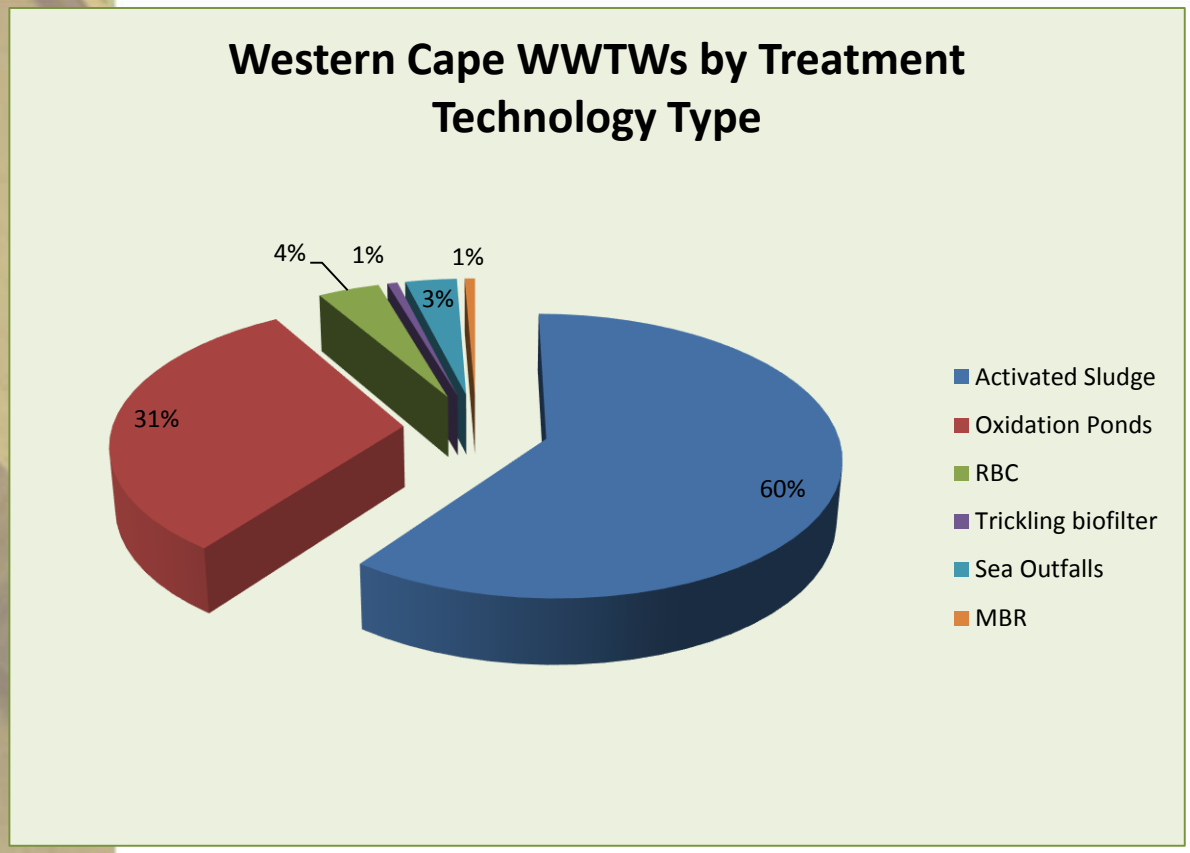
FAECAL SLUDGE MANAGEMENT

- **WWTW sludge** depends on the technology and the stage of the process. Primary sludge and secondary sludge. Secondary sludge – concentration of the biota that feed on the nutrients in the sewage
- **Faecal sludge management** (**FSM**)) is the collection, transport, and treatment of fecal sludge from pit latrines, septic tanks or other onsite sanitation systems. Faecal sludge is a mixture of human excreta, water and solid wastes.
- Based on the 2016 Stats SA report on basic service delivery FSM mechanisms would be required for approximately 7.3% of households in the WC
- Based on routine inspections of municipal WWTWs operation and management. On-site sanitation waste (mostly septic tanks) is collected and transported to the nearest treatment facility.
- There are no dedicated faecal sludge treatment facilities.

WASTEWATER TREATMENT IN THE WESTERN CAPE

- Total of 153 Wastewater Treatment Works (WWTWs) in the Western Cape

- Potential to treat total of approximately 1045 Ml/day.
- The City of Cape Town's total wastewater treatment capacity is 70% of the WC total
- Faecal sludge collected by tankers are discharged into the WWTW via specified manholes or dedicated tanker discharge structures at the inlet.
- Volumes of faecal sludge received are generally not recorded but records of tanker discharges are kept thus volumes can be estimated.



- Predominant sludge treatment technologies include sludge ponds, drying beds and mechanical dewatering
- Sludge disposal is either stockpiling on-site for collection by third party, or transport to landfill
- Wastewater sludge is largely not managed in accordance with the Guidelines for Sludge Utilization and Disposal Volumes 1-5.

SLUDGE MANAGEMENT AND GREEN DROP

GD#	Description	Weighted Scores (%)				
		2015	2017	2019	2021	2023
1	Wastewater Risk Abatement Planning	20	20	25	30	30
2	Technical Skills	10	10	10	5	5
3	Operation, Maintenance, [illegible]ng	10	10	5	5	5
4	Effluent Compliance	30	30	30	35	35
5	Solids/Sludge Handling	5	5	5	0	0
6	Management Accountability & Local Regulation	10	10	10	10	10
7	Asset Management	15	15	15	15	15
Bonus		*17%max*	*17%max*	*17%max*	*17%max*	*17%max*
Penalty		✓	✓	✓	✓	✓
Qualifiers		YES	YES	YES	YES	YES
TOTAL		**100**	**100**	**100**	**100**	**100**

OVERALL STATUS OF SANITATION SERVICES

- Still a significant portion of the country's population without access to sanitation services
- Challenges:
  - Availability and appropriateness of technologies to meet changing demography, user preferences, budgetary constraints and water resource requirements
  - Other factors to consider: water availability, climate change, pollution
  - With scarcity of water and perhaps a future shift away from waterborne sanitation perhaps FSM will become a greater factor?
  - General sludge management across the board needs attention

THANK YOU

Natasha Davis-Wolmarans
T: 021 941 6192
C: 082 908 6023
E: davisn@dws.gov.za