

Equality of access to sanitation in South Africa



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ABSTRACT

Equality, fairness and justice are values embedded in almost all the policies developed since 1994 and this is understandable given the inequalities that were institutionalized and entrenched by the apartheid regime. The Reconstruction and Development Programme (RDP) explicitly advanced a social development agenda by setting targets for the provision of water, sanitation and electricity. The specific sectoral policies on water, sanitation and energy went further to contextualize the principles and values that inform the provision of these services in post-apartheid South Africa. So far a lot has been achieved in ensuring equality of access to these services but inequalities persist in terms of regions, race and income. Using SASAS data (2005–2009) this paper examines equality of access to sanitation across ‘race’ and region. This paper argues that there is a disjuncture between the free basic sanitation policy and implementation. The contribution of this paper lies in its analysis of access issues in from the dimensions of geography and ‘race’. The paper recommends that greater targeting and more innovative strategies are required to ensure that the most vulnerable groups have access to sanitation as it plays an important role in enhancing their quality of life and impact on their contribution on local economic development.

1. Introduction

Access to sanitation is a basic human need and although millions of people still lack basic sanitation, the United Nations (UN) in 2002 made it one of the Millennium Development Goals (MDG). The MDG target is to halve by 2015 the proportion of people who do not have access to basic sanitation. According to the World Health Organization (WHO), ‘Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces’ (WHO 2012). According to the 2011 United Nations (UN) MDG Report, 2.6 billion people globally lack access to adequate sanitation (UN 2011). The World Health Organization (WHO) and the World Bank estimate that about 2 billion of those lacking access to sanitation live in rural areas (WHO 2010; World Bank 2011). The rural-urban-dichotomy has meant that rural

populations remain most disadvantaged in accessing adequate sanitation. Where improvements in access have been achieved, these have largely by-passed rural residents. About 40% of the poorest households globally have not been reached by the improvements in access to adequate sanitation (UN 2011). At the current rate, it may take until 2049 to ensure that 77% of the world population has adequate sanitation (UN 2011). Most of the countries that will not meet their sanitation targets are in south Asia and sub-Saharan Africa, which includes South Africa (UN 2011). The MDG report notes that sub-Saharan Africa had the least improvement in access to sanitation from 28% to 31% (UN 2011). What the MDG Report (UN 2011) notes, however, is that the gap between rural and urban areas in terms of access to sanitation is narrowing. South Africa's performance in terms of the millennium development goals (MDG), while appearing satisfactory, has not been good enough to the citizens who lack services such as sanitation, hence the increase in service delivery protests. It is, however, notable South Africa has experienced an improvement in the overall access to sanitation from 61% in 1990 to 72% in 2009 (Republic of South Africa (RSA) 2010).

Given South Africa's robust policy and legislative frameworks on sanitation, this paper poses the question: what is the distribution of sanitation in the country by 'race' and province? The objective of this article is to examine the equality of access to sanitation. The paper contextualises sanitation and its importance to health and development, and then discusses the South African policy framework. Before presenting the findings of a national survey the paper outlines the methodology used in collecting the data and then proceeds to explicate the findings in the discussion section and what follows are implications for development policy and practice.

2. SANITATION AND DEVELOPMENT

Analysts note that sanitation is not only important for health and well-being but also because it can be a tool for economic development among the poor (Duse, Da Silva & Zietsman 2003; UN 2011; GTZ 2011; Von Shirmding 2005; UN-Water 2011; World Bank 2011). With adequate sanitation, the poor are less susceptible to sanitation-related diseases such as diarrhoea, which cost millions to treat annually (Cumming 2008). The money that the poor spend on the treatment of sanitation-related diseases can be better spent on household needs such as food and thereby improve the economic status of the poor. Adequate sanitation can improve school attendance and performance particularly among girls (Abrahams, Mathews & Ramela 2006).

Due to the extent of neglect, most countries do not have accurate data on access to sanitation. The budgets for sanitation are often subsumed under water; 'Governments do not prioritise sanitation within national development plans or development assistance strategies' (Cumming 2008:10). Sanitation has the potential of reducing diarrhoea-related diseases by up to 37%. A large proportion of the global burden of disease is attributed to poor sanitation and hygiene and the lack of access to water (Murray, Mekala & Chen 2011).

The purpose of providing sanitation is ensure the prevention of disease by separating human waste from human settlements (Flores, Buckley & Fenner 2009). Studies suggest that diseases such as diarrhoea and cholera are caused by unsanitary and unhygienic conditions. Borne et al (2007) postulate that diarrhoea is mainly transmitted through the faecal-oral route. Indeed, unsanitary conditions cause skin infections, worm infestation, repeated diarrhoea, and a weakened immune

system (Bourne, Harmse & Temple 2007). Simple measures such as washing hands with soap can help prevent and reduce the risk of contracting diarrhoea and sanitation-related diseases. Children are the most susceptible to pathogens arising from the lack of or inadequate toilets and hand washing facilities (Bourne, Harmse & Temple 2007).

Inadequate sanitation in South Africa has from time to time resulted in cholera outbreaks (Maimela et al 2009; Morris 2001; Duse, Da Silva & Zietsman 2003). In 2000 a cholera outbreak resulted in the death of 73 people in KwaZulu-Natal and at least 25 500 people were infected (Morris 2001). The cholera epidemic that started in KZN soon spread to five of the nine provinces in South Africa including Gauteng, the richest province where cholera was detected in the Juskei river. It was noted that about 60% of the households in the areas affected by the cholera outbreak had inadequate sanitation and about 90% of the water connections in these areas were not functional (Morris 2001). The spread of cholera to other provinces resulted in 106 389 cases (Duse Da Silva & Zietsman 2003).

Although South Africa spends approximately R4 billion treating diarrhoea and dysentery, the country only spent R750 million on water in 2000, the same period when the cholera outbreak began (Morris 2001). In 2009 there was another cholera outbreak in Limpopo Province and parts of Mpumalanga province. Increasing access to adequate sanitation is fundamental to improving health and reducing infant and child mortality rates (Von Shirnding 2005; Murray, Mekala & Chen 2011). Access to sanitation is better understood by examining the policies formulated since 1994 and these are discussed in the sections that follow.

While water is recognised as a human right in the South African Constitution and listed in the bill of socio-economic rights, sanitation is not explicitly stated as a right in the constitution. Instead it is subsumed in the right to a clean and healthy environment. The fact that sanitation is not explicitly listed as a right has not stopped progressive judges from forcing municipalities to provide adequate sanitation as in the Makhaza open-air toilet saga later discussed in this article.

Various studies suggest that sanitation is accorded a low priority by governments the world over and in fact the MDG target to ensure that the proportion of people without access to sanitation is halved by 2015 is unlikely to be met in the case of Africa (Cumming 2008; Harvey 2011; UN 2011b). Access to adequate sanitation is critical to the attainment of other MDGs such as the reduction of infant and maternal mortality rates in developing countries, gender equality and access to education.

2.1. Sanitation Policy

Before 1994 water and sanitation were allocated in line with the apartheid ideology that was built on racial discrimination, inequality and segregation. The division of South Africa into homelands and the tricameral (Whites, Coloureds & Indians) parliamentary 'own affairs' systems resulted in the uneven provision of water and sanitation (DWAF 1994:5). Not surprisingly, by 1994, areas occupied by Whites were best resourced and those by Africans were least resourced in terms of the supply of water and sanitation. The exclusionist apartheid policies about water and sanitation were evident even in rural areas where. White towns in rural areas were adequately supplied while little or nothing was provided for Africans. Black Townships in 'White South Africa' were

administered by 'Black Local Authorities', which had the responsibility of supplying their own water and sanitation using the meagre resources at their disposal (DWAF 1994:5). Households that did not have access to basic sanitation had to rely on the bucket system, which persists in some areas (Ojageer 2007). Given the history of stark inequality, racial discrimination and segregation in the allocation of basic services such as sanitation, it is not surprising that equality of access to opportunities is among the most recognisable values of post-apartheid South Africa, a fact that was concretised in the 1996 Constitution. This paper argues that the provision of sanitation is undergirded by the principle of equality of access, an idea inscribed to legislation and policies on water and sanitation since 1994.

The White Paper on Water and Sanitation (DWAF 1994) was largely informed by the Reconstruction and Development Programme (RDP) (ANC 1994). The RDP is the policy document of the African National Congress (ANC) that outlined the targets for national development under the ANC government. The provision of sanitation was among the priority programmes listed in the RDP alongside water, roads, electricity, telecommunications and housing. Although sanitation, since 1994, has been a priority of the post-apartheid state, it was lumped in the same policy with water. Only in 2001 was sanitation accorded its rightful place with the publication of the White Paper (DWAF 2001). The document highlighted the dire state of sanitation by indicating that 18 million people lacked adequate sanitation and the majority were in rural areas. The adoption of the White Paper on sanitation led to the crafting of legislation and strategies to give effect to the provisions of the White paper.

The conception of sanitation in SA extends beyond the notion of a toilet and recognizes the fundamental link between sanitation, health and hygiene: 'Sanitation refers to the principles and practices relating to the collection, removal or disposal of human excreta, household waste water and refuse as they impact upon people and the environment. Good sanitation includes appropriate health and hygiene awareness and behaviour, and acceptable, affordable and sustainable sanitation services' (DWAF 2001:14). Sanitation is conceptualised in terms of the facility, hygiene and the broader environment.

Key to understanding South Africa's sanitation policy are concepts such as basic sanitation, facility, service and free sanitation. The provision of sanitation is underscored by the notion that 'Basic sanitation is a human right and about environment and health. Sanitation improvement must be demand responsive, supported by an intensive Health and Hygiene Programme. The programme should ensure co-operative governance while at the same time promoting delivery at local government level' (DWAF 2001:9). The principles of sustainability and affordability at the household and municipality level are emphasised.

The Strategic Framework on Sanitation (2009) distinguishes between the concepts of sanitation facility, service and free basic sanitation. These concepts are similar in that they underscore the removal of human waste and grey water. What distinguishes a sanitation facility, however, from a service is the idea that a facility must be 'safe, reliable, private, protected from the weather, ventilated, keeps smells to the minimum, is easy to keep clean and minimizes the risk of the spread of sanitation related diseases by facilitating the appropriate control of disease carrying flies, pests, and enables safe and appropriate treatment and/or removal of human waste and black or grey water in an environmentally sound manner' (DWAF 2009:8). On the other hand,

a service is defined in terms of accessibility: ‘A basic sanitation service is the provision of a basic sanitation facility which is easily accessible to members of a household, has the necessary operational support for the safe removal of human waste and black and/grey water from the premises where this is appropriate and necessary, and promotes the communication of good sanitation, hygiene and related practices’ (DWAF, 2009:8). Also in the South African sanitation lexicon is the concept of free basic sanitation (FBS).

According to DWAF, free sanitation implies that ‘consumers get the service without making contributions in cash or kind. However this excludes certain “on-site” components of the facility’ (DWAF 2009:9). In terms of waterborne sanitation free basic sanitation (FBS), ‘operation and maintenance includes providing water for flushing’ (DWAF 2009:9). In terms of the FBS each household member is allocated 15 litres of water for flushing the toilet. It is, however, notable that in households where there are many members or where a member is in the advanced stages of AIDS, the FBS water allocation can be exceeded. Also included in the FBS is a programme for health and hygiene promotion, which requires the participation of household members. Essentially the key elements of adequate sanitation include health and hygiene awareness, a toilet facility, a system for disposing human waste, household grey water and refuse that is safe, hygienic, accessible, acceptable and affordable as well as environmentally sustainable.

The targeted population for FB are poor people. A poor household is defined as one ‘that does not have enough money/income to attain the minimal standard of living – enough to purchase a nutritionally adequate food supply and provide other essential requirements’ (DWAF 2009:10). Targeted households do not pay for the capital costs of sanitation in terms of installation, rehabilitation of the facility and the tariffs related to the provision of the service. As part of the FBS, the role of households is to contribute the on-site infrastructure, rehabilitate the maintain and rehabilitate the buildings, pipework and pedestals (DWAF 2009). Households are also responsible for the day-to-day costs of maintenance of the facility, cleaning and ensuring that solid waste is appropriately discharged. Households that use more than the allocated amount of water for flushing toilets have to pay for it.

Community participation in the provision of sanitation is a key guiding principle, particularly in the promotion of health and hygiene awareness and practices (DWAF 2001). Participation connotes the involvement of local resources and people in the provision of sanitation. Integrated environmental management is a key guiding principle in sanitation provision. Key stakeholders in the provision of sanitation are households communities, contractors, local government, provincial government, national government, private sector and non-governmental organisations.

The provision of sanitation is underlain by a strong commitment equity considerations and universal access to sanitation by the poorest groups. Yet access to adequate sanitation is approached from a neoliberal understanding that underscores the notions of affordability and sustainability (DWAF 2003). Set within a neoliberal macro-economic policy, the Strategic Framework emphasises that although Water Services Authorities (WSA) have the obligation to supply water and sanitation, ‘This universal service obligation is subject to the availability of resources and to the “progressive realisation” of rights contemplated in the constitution’ (DWAF 2003:67). In the SA context, ‘Water services refer to water supply and sanitation and include regional water schemes, local water schemes, on-site sanitation and the collection and treatment

of wastewater' (DWAF 2003). The idea of 'progressive realisation' suggests the incremental provision of and access to sanitation. Equality, universality of access, and a focus on the poor are all subject to the dictates of the market. The mix of a social development approach with an implementation framework underpinned by a strong neoliberal undercurrent suggests that sanitation provision should occur within the budgetary constraints. The mix of ideological positions within the policy and implementation framework has resulted in complex scenarios on the ground. The political economy of sanitation is addressed in the concerted attempt to balance the social and economic interests of all consumers, particularly the poor, as well as protecting the environment.

Insufficient funds are an acceptable and justifiable reason for a service authority not to provide sanitation. Whereas water is listed among the socio-economic rights, sanitation is not. The White Paper on Sanitation (1994), by invoking the right to a clean environment, guaranteed in the constitution, considers sanitation a basic human right. Implicitly sanitation is a right but explicitly it is not included in the socio-economic rights such as water, which are protected in the Constitution. Therein lies the contradiction. The courts can force WSAs to provide water because it is a right guaranteed in the Constitution. Where sanitation is not provided then households and communities are left to the mercy of WSA until funds/resources become available and this can be indefinite. As this paper illustrates, this position was challenged in the case of the Makhaza open-air toilet saga where the City of Cape Town provided toilets without enclosures to 55 households in Makhaza, in Kayelitsha, in the Cape Town Metropolitan area. The City of Cape Town was forced to build toilet enclosures for the residents of Makhaza in 2011 (Silber & Peter 2010).

Limitations to the FBSS include issues of equity. Households¹ (Statistics South Africa 1998) that have their own on-site sanitation technology solutions are less likely to benefit from the policy compared with those with waterborne sanitation. Most of these households are in rural areas. Households with waterborne sanitation are those in urban areas, thus resulting in an urban bias.

While national policies on sanitation provide broad frameworks for the provision, access and use of these services, it is at the local government level that implementation occurs. Among the required outcomes of development local government is the provision of household infrastructure such as sanitation. When contextualised within national development, the outcomes of local government are pivotal in realizing social justice, gender and racial equity, nation building and the protection and regeneration of the environment (RSA 1998).

3. METHODOLOGY

This study is a secondary analysis using data from five rounds of the South African Social Attitudes Survey (SASAS). SASAS is an annual national survey conducted since 2003 and for purposes of this analysis, data from rounds 2005 to 2009 with relevance to sanitation were utilised. The aim of the SASAS is to conduct a longitudinal survey on the public's attitudes, beliefs, behaviour patterns and values on selected social issues.

¹ The term here is used in the way that Statistics South Africa uses it to denote 'a person or a group of persons who occupy a common dwelling (or part of it) for at least four days a week and who provide themselves jointly with food and other essentials for living. In other words they live together as a unit (www.statssa.gov.za/census96/html/metadadata/docs)

The Human Sciences Research Council (HSRC) master sample was used as the sampling frame for SASAS; which consists of 1 000 Enumerator Areas (EAs) drawn proportional to size from the STATS South Africa's 2001 population census where EAs were the primary sampling unit. The EAs are geographical boundaries created by STATS SA for the 2001 census. The HSRC Master Sample was chosen to be representative of the South African population and was stratified by socio-demographic domains of provinces, geographical locations and the four population groups and excludes all special institutions such as hospitals, schools, university hostels. The master sample was developed to allow the HSRC to conduct longitudinal social surveys like SASAS and hence assist in planning and policy purposes. In SASAS 500 of the 1 000 EAs were sampled and within each EA, 14 visiting points were systematically selected and the questionnaire was administered to one person per visiting point, which provided a sample size of approximately 7 000 individuals aged 16 years and older.

The variables used in this paper were nominal in nature and divided into categories. The dependent variable referred to the type of toilet facility available to a particular household and the options considered were:

1. Flush toilet connected to the Municipal sewage system;
2. Flush toilet connected to a septic tank;
3. Chemical toilet;
4. Pit latrine with no ventilation;
5. Pit latrine with ventilation;
6. Bucket toilet; and
7. No toilet

For purposes of the article, chemical toilet and pit latrines (ventilated and unventilated) were collapsed into one as well as bucket toilet and no toilet, thus the variable was analysed using four categories and not seven as originally stated. The access variable discussed above was then analysed in relation to province as well as 'race'. The data was analysed using Statistical Package for Social Science (SPSS) to provide descriptive statistics.

4. FINDINGS: ACCESS TO SANITATION BETWEEN 2005–2009

4.1. Access to Toilets by 'race'

On average, 59% of households in South Africa use toilets connected to the municipal sewer and another 2.7% use flush toilets connected to a septic tank. Most households that use flush toilets connected to septic tanks are often farm homesteads in deep rural areas. Whites and Indians (table 1) have the greatest access to flush toilets connected to the municipal sewer; however, the majority of those with flush toilets connected to septic tanks are Whites followed by Coloureds.

Households connected to septic tanks are often those on farms and very few Indians are rural, which largely explains their low access to flush toilets connected to septic tanks.

Africans and Coloureds have the least access to flush toilets connected to a municipal sewer but there are huge disparities between the two groups. Whereas over three quarters of Coloured households have access to flush toilets connected to a municipal sewer, less than half of all African households have the same access (Table 1). There are also fewer African than Coloured households with access to toilets connected to a septic tank (Table 2). Whites and Coloureds have the greatest access to flush toilets connected to a septic tank.

Table 1: Households with Flush Toilets Connected to Sewer by 'Race'

Year	Africans	Coloureds	Indians	Whites	Total
2005	40.4	80.6	96.3	98.4	52.3
2006	40.8	83.3	99.4	92.8	52.2
2007	44.4	85.5	97.5	94.2	55
2008	45.3	86.8	97.8	98.3	56.8
2009	49.2	88.6	99.2	94.7	59.3

Source: SASAS Data, 2005–2009

Table 2: Households with Flush Toilets Connected to Septic Tank by 'Race'

Year	Africans	Coloureds	Indians	Whites	Total
2005	2.1	6.5	3.7	1.5	2.5
2006	2.2	7.2	0.6	7.2	3.2
2007	2.7	7.7	1.8	5.6	3.5
2008	2	4.6	1.5	1.7	2.2
2009	2.3	3.5	0.3	5.3	2.7

Source: SASAS Data, 2005–2009

Africans constitute the majority among the households that use chemical/pit latrines (table 3). About 4% of Coloureds and less than 1% of Indians use chemical/pit-latrines. By 2009 about 32.5% (table 3) of South African households used chemical/pit-latrines and the majority of these were African. Over the five-year period (2005–2009) the proportion of households using chemical/pit-latrines dropped from a high of 37.4% to 32.5% in 2009. This points to a gradual decrease in the proportion of households that use chemical/pit-latrines.

Over the period of five years (2005–2009) the proportion of households using buckets or without toilets steadily decreased from 8% (2005) to 5.7% in 2009. Table 4 indicates that the proportion of African households without access to toilets was more than the national average on any given year (2005–2009). Whereas only 0.1% of Whites either used buckets in 2005, in the same year 9.8% of Africans had no access to toilets or used buckets. From 2006–2009, the proportion of Indians/Whites without access to toilets was so insignificant that it could not be numerically represented in the table (table 4).

Table 3: Households using Chemical/Pit-latrines by Race

Year	African	Coloured	Indian/Asian	White	Total
2005	47.7	8.2	0	0	37.4
2006	44.5	6.4	0	0	34.8
2007	42.8	3.3	0.8	0.1	33.1
2008	45.1	6.3	0.7	0	35.1
2009	41.6	3.9	0.5	0	32.5

Source: SASAS Data, 2005–2009

Table 4: Households using buckets/no toilets by Race

Year	African	Coloured	Indian/Asian	White	Total
2005	9.8	4.7	0	0.1	8
2006	12.5	3.1	0	0	9.8
2007	10.4	3.6	0	0	8.3
2008	7.5	2.4	0	0	6
2009	6.8	4.1	0	0	5.7

Source: SASAS Data, 2005–2009

The proportion of African households using buckets or without access to toilets has been steadily declining from 2005–2009. Although there appears to have been a rise in African households lacking access to toilets in 2006 (12.5%), this increase can perhaps be attributed to sampling in such areas. The proportion of Coloured households without access to toilets shows an inconsistent pattern. Whereas Coloured households without access to toilets reduced from 4.7% in 2005 to 3.1% in 2006, there was an increase of such households in 2007 (3.6%), a decline (2.4%) in 2008 and another increase (4.1%) in 2009. Africans followed by Coloureds have the greatest representation among those lacking access to toilets.

4.2. Access to toilets by province

Over the five-year period, the proportion of households with access to flush toilets connected to a municipal sewer increased from 52.3% (2005) to an all time high of 59.3% in 2009. In all the provinces there has been an increase in the households that have access to flush toilets connected to a sewer although the increase has been more dramatic in some provinces (Free State) compared with others (Mpumalanga). The greatest access to flush toilets is in Western Cape, Gauteng and Free State. The provinces with the least access to flush toilets connected to a municipal sewer are Limpopo, Mpumalanga and Eastern Cape.

Table 5: Access to flush toilet connected to sewer by province

Year	WC	EC	NC	FS	KZN	NW	GP	MP	LP	Total
2005	89.4	47.4	62.6	44.9	35.2	38.5	84.3	38.5	12.1	52.3
2006	84.8	34.7	59.7	52.1	41.1	33.4	91.2	33	10.6	52.2
2007	79.5	45.6	66.9	55.3	39.5	54	85.9	26.5	23.4	55
2008	90.4	46	32.9	57.4	39.6	58.4	83.9	32.2	25.5	56.8
2009	94.7	42.4	45	64.7	45.7	44.9	89.5	38	15.5	59.3

Source: SASAS Data, 2005–2009

Very few households (less than 4%) use flush toilets connected to a septic tank. The proportion of households in Northern Cape using flush toilets connected to a septic tank appears to have more than doubled over the five-year period with the greatest increase being reflected in 2008 (38.7%).

Table 6: Access to flush toilet connected to septic tank by province

Year	WC	EC	NC	FS	KZN	NW	GP	MP	LP	Total
2005	3.5	0.5	14.3	14.9	1.2	2.3	1.2	0	1	2.5
2006	11.3	2.5	15	11.7	2.5	0.7	0.1	0	0.4	3.2
2007	7.5	5	11.2	8.7	2.4	0.3	2.2	0.9	1.1	3.5
2008	1.3	1.2	38.7	1	2.4	0	0.5	0	1.7	2.2
2009	0.2	2	32.4	17.4	1.2	1.4	0.7	0	0.5	2.7

Source: SASAS Data, 2005–2009

Nationally, there has been an overall decline in the proportion of households that use pit-latrines from 37.4% (2005) to 32.3% in 2009. The largest concentration of pit-latrines/chemical toilets over the five-year period has been Limpopo. Whereas in 2005 about 81.5% of Limpopo's population used the pit-latrines, by 2009 about 76.8% still used pit-latrines. Limpopo is followed

by Mpumalanga and the North-West in terms of the provinces with the high proportion of households that use pit-latrines.

Table 7: Access to chemical/pit-latrine toilet by province

Year	WC	EC	NC	FS	KZN	NW	GP	MP	LP	Total
2005	1.4	22.5	16.4	33.1	59.6	50.6	13.2	59.5	81.5	37.4
2006	0.4	40.9	17	19.1	46.1	54.4	8.7	62.8	76.1	34.8
2007	0.6	30	9.7	14.1	52	42.4	10.5	66.2	71.5	33.1
2008	1.8	32.7	23.8	36	53.8	35.2	14.4	66.2	68	35.1
2009	0.5	35.6	18.3	15.5	49.9	52.5	8.5	54.1	76.8	32.3

Source: SASAS Data, 2005–2009

The largest concentration of households still using bucket toilets or without toilets is in the Eastern Cape (20% in 2009) followed by Mpumalanga (7.8% in 2009) and Limpopo (7.3% in 2009). Despite the Eastern Cape having the largest proportion of households without toilets, between 2005 and 2009 it reduced the proportion of households without toilets by 9.7%. In the same period the North-West reduced the proportion of households without toilets by 7.1% and the Free State made a reduction of 3.6%. However the proportion of households without toilets increased by 5.6% in Mpumalanga and by 1.9% in Limpopo.

Table 8: Households using bucket/no toilets by province

Year	WC	EC	NC	FS	KZN	NW	GP	MP	LP	Total
2005	5.6	29.7	6.7	6.9	4.1	8.2	1.5	2	5.4	8
2006	3.5	21.8	8.3	17.1	10.4	11.6	0.1	4.2	12.9	9.8
2007	12.4	19.4	12.2	21.8	6	3.3	1.5	6.4	4	8.3
2008	6.5	20	4.7	5.6	4.2	6.3	1.3	1.3	4.6	6
2009	4.6	20	4.5	2.3	3.2	1.1	1.2	7.8	7.3	5.7

Source: SASAS Data, 2005–2009

A surprising finding is that the provinces that are best resourced in terms of sanitation have made the least progress in reducing the proportion of households still without toilets. Over the five-year period there was a reduction of 1% in the proportion of households that have no toilets in the Western Cape. In the same period, Gauteng province made a 0.3% reduction in the proportion of households without toilets.

5. THE 'RACE' AND GEOGRAPHY OF SANITATION

South Africa, like most developing countries, is faced with the challenge of inadequate sanitation. Whereas in other developing countries the lack of adequate sanitation is due to years of neglect by the state, the lack of adequate sanitation in South Africa derives from its apartheid past. The post-apartheid policy on the development of adequate sanitation is underlain by a strong commitment to equity and access for all. As the results, presented in this article, suggest the policy framework for the provision of adequate sanitation is comprehensive, the implementation has yielded mixed results and in some instances it has reinforced the existing structural inequalities.

About 59.3% of households have access to flush toilets connected to the municipal sewer. When access to flush toilets connected to a septic tank is combined with those connected to a sewer, it becomes evident that over 60% (62%) of South African households have access to waterborne sanitation. The South African MDG Report (2010) noted that there had been an improvement in access to sanitation from 58.5% (2001) to 72.2% in 2009 (RSA 2010). While noting that South Africa is likely to meet its sanitation target, the report does not specify and does not deconstruct the notion of 'improved sanitation facility'. The national average does not indicate who has the greatest and least access to waterborne sanitation and therefore camouflages the structural inequalities in terms of access. By providing a breakdown of the toilet types, this article provides an indication of the level of access in terms of the type of toilet, and who has access in terms of region and 'race'. Access to flush toilets is highest among Whites and Indians. In the five-year period (2005–2009) access to waterborne sanitation among Indian households was over 96% and by such access had expanded to 99.6%. In the same period access to waterborne sanitation among Whites remained at 100% (2005–2009). Among Coloureds the access to waterborne sanitation over the five-year period has been fluctuating above 80%. Compared with other groups, Africans have the least access to waterborne sanitation. Access to flush toilets among Africans has been gradually increasing and it rose from just over 40% in 2005 to over 50% in 2009. The racial inequalities in access to sanitation have their roots in apartheid policies and legislations that were purposefully designed to achieve unequal development and it remains 17 years after the end of apartheid inequality.

The proportion of households using chemical/pit-latrines has gradually declined from 37.4% to 32.5%, reflecting a reduction of 4.9% over a five-year period (2002–2009). The coverage of households using chemical/pit-latrines (32.5%) in 2009 was much lower than the average using similar sanitation among Africans (41.6%). In fact very few African households use chemical toilets but a large proportion use pit-latrines (ventilated and not ventilated). In terms of table 3, Whites do not use pit-latrines but rather chemical toilets. Thus, using the national average to determine the proportion of households that still use pit-latrines may obfuscate the racial differences in access to adequate sanitation. A breakdown of access to toilets in terms of 'race' provides a more accurate picture.

Nationally the proportion of households without toilets declined by 3% (from 8% in 2005 to 5.7% in 2009). In between the five-year period there were fluctuations for example, 9.8% in 2006, and 8.3% in 2007. These fluctuations can be attributed to oversampling in these years. Going by the 2009 data, it appears that about 5.7% of South African households still do not have access to toilets, or they use buckets. Over the five-year period, the proportion of Indians without

toilets remained at 0% and the same trend was observed for Whites except in 2005 when 0.1% of Whites had no toilets. In the same period the proportion of African households without toilets fluctuated but the overall picture is that of a decline of 3%. Whereas there was a gradual decline in the proportion of Coloured households without toilets from 4.7% (2005) to 2.4% (2009), there appears to have been an increase to 4.1% in 2008. The proportion of Coloured households without toilets declined 0.6% between 2005–2009.

The spatial distribution of toilets suggests that by 2009 the provinces that had the greatest access to flush toilets (connected to sewer and septic tank) were the Western Cape (94.9%), Gauteng (90.2%) and Free State (82.1%). In the same year (2009) the provinces that had the least access to waterborne sanitation were Limpopo (16%), Mpumalanga (38.9%) and Eastern Cape (44.4%). In 2005 there were more households with waterborne sanitation in the Eastern Cape (47.9%) and Northern Cape (76.9%) than in Free State (44.9%). By 2009 the Free State had more households (82.1%) with access to waterborne sanitation than all the provinces except Western Cape and Gauteng. While almost 60% of South African households had access to flush toilets connected to a sewer by 2009, the proportion of households with access to flush toilets connected to a septic tank in the same period was 2.7%, representing a 0.2% increase from 2005. It is clear that overall there has been a 7% increase in the proportion of households with access to flush toilets connected to a sewer and an insignificant increase (0.2%) in households connected to septic tanks. Access to flush toilets connected to sewer represents local government efforts to extend sanitation services, which is part of its core mandate. However, septic tanks are often installed by private developers.

Between 2005 and 2009 the national proportion of households with access to pit-latrines declined by 5.1%. By 2009 the largest proportion of households using pit-latrines was in Limpopo (76.8%), Mpumalanga (54.1%) and North-West (52.5%). In 2005, KwaZulu-Natal (49.9%) and North-West (50.6%) had almost an equal proportion of households that used pit-latrines, but by 2009 the proportion that relied on pit-latrines had declined by 9.7% to 49.9% in KZN. Given that KZN does not appear to have an explicit sanitation strategy, the reduction in the percentage of households that depend on pit-latrines is remarkable. It is, however, evident that the province has been making strides in the area of sanitation. The department of co-operative governance notes that in 2010 the KZN delivered sanitation to 80.4% of households against a target of 79.7% (COGTA 2011). What the report does not say is how many households received sanitation and the magnitude of the sanitation backlog in the province.

However, the North-West province experienced a growth of 1.9% in the proportion of households that depended on pit-latrines. The greatest reduction in the proportion of households (17.6%) with access to pit-latrines occurred in Free State, followed by KZN (9.7%) and Mpumalanga (5.4%). The Western Cape experienced the least reduction (0.9%) in the proportion of households using pit-latrines. All provinces experienced a decrease in the proportion of households with access to pit-latrines except in the Eastern Cape where the proportion of such households appears to have increased by 13% between 2005–2009.

Over the five-year period (2005–2009) there was a reduction in the proportion of households without access to toilets in all the provinces except Mpumalanga and Limpopo where such households increased by 1.2% and 1.9%, respectively. The Eastern Cape over the five-year

period (2005–2009) maintained the lead in the highest proportion of households without access to toilets. While close to 30% (29.7%) of households did not have access to toilets in 2005 this proportion was reduced to 20% by 2009. The Eastern Cape reduced the percentage of households without access to toilets by 9.7%, which represents the greatest reduction across all the provinces. The findings on the lack of toilets in the Eastern Cape are consistent with independent research conducted in the province (Jeenes & Steele 2010). Jeene & Steele (2010) found that about 21% of households in the Eastern Cape had no toilet facility, about 40% used basic pit-latrines and another 32.9% used ventilated pit-latrines. While Jeene & Steele (2010) did not examine access to sanitation by race the study showed that the highest proportion of households without toilets was in OR Tambo district (37.9%) and the greatest access to toilets was in the Nelson Mandela Metro where only 3.9% of households lacked toilets. The Nelson Mandela Metro also had the greatest household access to flush toilets (87.8%). The districts with the least access to flush toilets in the Eastern Cape are Alfred Nzo (1.2%) and OR Tambo (5.8%). This suggests that even within a province inequalities exist in terms of districts and the type of toilet facility accessible to households. ‘Race’ remains a dominant feature of structural inequality in South Africa, but inequalities between and within provinces do exist.

The North-West also succeeded in reducing the proportion of households without access to toilets by 7.1% (from 8.1% in 2005 to 1.1% in 2009), followed by Free State which reduced the percentage of households without toilets/using buckets to 4.6% (from 6.9% to 2.3%). The provinces that showed the least progress in reducing the proportion of households lacking adequate sanitation were Gauteng (0.3%), KZN (0.9%) and Western Cape (1%). These provinces comprise large metropolitan areas and the most urbanized populations. The marginal reductions in the proportion of households lacking access to sanitation points to challenges in providing adequate sanitation in large metropolitan regions, which are the best resourced in terms of skills and financial resources.

Limpopo province carries the distinction of having experienced an increase in the households without access to sanitation by 1.9%. Mpumalanga also experienced an increase of 1.2% in households lacking sanitation. The increases in households lacking sanitation point to challenges in delivering adequate sanitation in these areas that are largely rural. It is notable these provinces, like the rest, do not have localised sanitation strategies. The Limpopo Strategic plan (2009–2014) set the target of providing services to about 1.3 million households in the province (LGH 2009). While the province indicates that about 83% of households have access to water and 82% have access to electricity, only 52% have access to sanitation. The findings in this study suggest that pit latrines are most accessible to households in Limpopo. The provincial strategy is generic and despite the low proportion of households with access to sanitation, there is no specific strategy addressing access to sanitation.

Like Limpopo, Mpumalanga province seems not to have a sanitation strategy although there is an increase in the households without sanitation. The COGTA report (2011) suggests that Mpumalanga set the target of providing a water purification plant in Delmas at a cost of R20 million, electrification in Bethal at a cost of R5 million and disaster management at a cost of R5.5 million and improved access to Thusong service centres at a cost of R9 million. Sanitation was not cited as an issue in the report and no funds were allocated, pointing to the low or non-existent priority accorded to the provision of sanitation by the provincial department. These

findings on Limpopo and Mpumalanga confirm the World Bank (2011) view that the sanitation needs of the poor rarely feature in development plans, an idea that is best explained by examining the political economy of sanitation (World Bank 2011). In the midst of competing demands for resources there is often little motivation for politicians to focus on sanitation and when they do it is for political expediency. Ironically the provincial departments responsible for sanitation do not take it seriously yet these are these provinces that were affected by the cholera epidemic in 2009 (Maimela et al 2009). In Limpopo the most affected districts were Sekhukhune, Capricon and Vhembe (Maimela et al 2009). The interventions taken to deal with the cholera outbreak were reactive and short term in that they focused on containing the spread of the disease, managing the infected cases, and social mobilisation, which consisted of door-to-door campaigns for health education, supply of bleach for household chlorination of drinking water and distribution of oral rehydration solution (ORS). While these are important interventions in an outbreak, long-term measures such as the provision of adequate sanitation appear not to have featured, thus guaranteeing a future cholera outbreak.

While most provinces rely on the national frameworks for the provision of sanitation, Gauteng and Western Cape have formulated local strategies aimed at addressing their crises at the provincial and local government levels. Western Cape, Gauteng and Free State have the greatest access to flush toilets. While the Western Cape and Gauteng have strategies in place for addressing sanitation as an issue, Free State and other provinces do not appear to have strategies in place. The Western Cape sanitation strategy is embodied in the City of Cape Town's approach which categorises the levels of sanitation into four, that is inadequate, essential, basic and full sanitation. The City of Cape Town (CCT) defines inadequate sanitation in terms of 'No access to sanitation ...' (CCT 2008:12). Essential sanitation is defined in terms of 'Partial access to sanitation (more than 5 households per toilet), as dictated by site-specific constraints (e.g. high dwelling densities)' (CCT, 2008:12). In the definition of the Western Cape, basic sanitation includes 'provision of a shared toilet (at a ratio of not more than 5 families per toilet), which is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum and prevents the entry and exit of flies and other disease-carrying pests and b) the provision of appropriate health and hygiene education' (CCT 2008:12). This definition echoes the national definition of adequate sanitation and the only difference is the number of households that are included whereas the national definition does not specify the number of households. The national policy on sanitation alludes to one toilet per household. The CCT refers to full sanitation as 'On-site water-borne, conservancy tank or suitable waterless technology' (CCT 2008:12). The national sanitation strategy provides the framework for the provision of sanitation and is a guideline to the implementing agencies in terms of what is considered adequate. The categorisations of sanitation levels by the CCT suggest that provinces and metropolitan areas are at liberty to interpret the national policy guidelines and implement these in accordance with the local requirements. In fact the CCT strategy notes that VIP toilets are not an option for the City due to the real threat of ground water pollution posed by the high water table.

The CCT sanitation strategy underscores that 'Good sanitation is as much about people and their personal dignity as it is about public health, infrastructure provision or environmental management' (CCT 2008:14). The statement seems ironical given the Makhaza saga of 55 open-

air toilets provided by the City of Cape Town in 2009 (Silber & Peter 2010). The CCT under the leadership of the Democratic Alliance (DA) provided toilets without enclosures and later argued that this was done with the consent of the residents when they (residents) protested. The Makhaza informal settlement is within Khayelitsha in the City of Cape Town. The ANC Youth League brought the matter before the Human Rights Commission and the residents sued for the violation of their right to sanitation and dignity. In 2011 the CCT was forced by the court to build enclosures around the 55 toilets in Makhaza.

Gauteng province is only second to the Western Cape in terms of access to toilets. The sanitation strategy of Gauteng has focused on eradicating the use of bucket toilets in the province (Ojageer 2007). The province embarked on identifying the proportion of households that used bucket toilets and a total of 12 332 were identified in different municipalities in Gauteng (Ekhuruleni, Emfuleni, Merafong, Mogale City, Lesedi, and Westonaria) (Ojageer 2007). By 2007, 12 332 bucket toilets were eradicated in the province. In the same period about R75 million had been allocated to the province for sanitation and another R3.1 million from the municipal infrastructure grant was allocated for sanitation. The bucket toilets in GP are being replaced with three options: waterborne sanitation, VIP toilets and solar sanitation systems. Although GP is making effort and has a strategy for the eradication of the bucket system, the province is far from meeting the demand of 2 245 037 toilets (Ojageer 2007). The sanitation strategy of GP can be considered a 'fire-fighting' strategy because it seeks to address existing backlogs without providing a clear direction for future provision of sanitation. The focus on eradication rather than planning for sanitation provision might explain Gauteng's lack of success in providing adequate sanitation to all of its population. The neglect of sanitation is further evident in the Gauteng strategy for rural development, which commits a three-line paragraph to addressing sanitation. The strategy simply notes that the proportion of households without adequate sanitation has declined from 3.6% in 2001 to 1.6% in 2007 (Gauteng Provincial Government 2010). This finding is consistent with the data presented in this article. The rural development strategy notes that the province needs to eradicate bucket toilets and replace these with VIP latrines and waterborne sanitation but neither targets nor time-frames are set. Furthermore, apart from dealing with the backlog, the province does not articulate a coherent sanitation strategy.

A report on the FBS (Mjoli, Sykes & Jooste 2009) notes that the FBS services remain affordable to large metropolitan municipalities such as City of Tshwane (Pretoria) and Cape Town due to their greater leverage in cross-subsidising compared with poorer rural municipalities such as Amathole (Eastern Cape) and Vhembe (Limpopo). Thus poorer rural municipalities require greater support from DWAF in terms of financing and capacity to implement the FBS. Mjoli et al (2009) also noted that the provision of waterborne sanitation to urban households was biased against the masses of the poor who remain unconnected to municipal sewer networks, a finding consistent with the results of this study, which suggest that rural populations rely on pit-latrines or are without toilets as shown in Eastern Cape, Limpopo and Mpumalanga. Thus the FBS has not benefitted the poorest but rather well-located urban households.

The absence of localised sanitation strategies to some extent explains the slow progress that the country has made in addressing access to sanitation compared with water provision. That sanitation is prioritised at the national level is shown by the existence of detailed policy frameworks and strategies. Yet this commitment to addressing sanitation at the national level appears not to have

permeated to the provincial and local government levels where implementation takes place. We argue that a starting point for addressing the lack of access to sanitation is to formulate sanitation strategies that address the local conditions in the province and municipality levels underpinned by the national policies and the constitution. As noted by various analysts (Duse, da Silva & Zietsman 2003; Von Shirnding, 2005; World Bank 2011; UN-Water 2011), there is a link between sanitation and development. Kemeny (2007) notes that lack of and poor sanitation impacts not only on individuals and households but on the broader national economy in terms of days of work lost when workers are on sick leave due to sanitation-related illnesses. The analyst notes:

The broad benefits associated with averting mortality and morbidity from poor sanitation far outweigh the costs of implementing and maintaining low-cost sanitation systems. The global return on investments in low-cost sanitation provision may be in the area of \$9 for each \$1 spent (Kemeny 2007:1).

The provision of adequate sanitation to all sections of the South African population is as much about social justice as it is about national development. Investment in adequate sanitation for the least resourced sections of the population is likely to result in improved health and more savings that can be diverted to improved nutrition, education or business.

6. SUMMARY: IMPLICATIONS FOR POLICY & PRACTICE

Equality of access to sanitation is about social justice and bridging deeply entrenched structural inequalities in South Africa that have their origin in a racist history of discrimination, segregation, exclusion and dispossession. The apartheid legacy remains deeply entrenched in the spatial design of cities and towns with formerly Whites-only areas having the best infrastructure and formerly Black areas having the least and poorest services. While it might be difficult to redress these inequalities in a few years, there is need for greater targeting of resources to ensure universal access to sanitation as envisaged in policy.

The spatial distribution of toilets suggests that the most urbanised areas are best resourced in terms of access to waterborne sanitation (Gauteng and Western Cape) and this is not by accident as the policies of these regions clearly underscore their preference for waterborne sanitation. The findings in this study also suggest that provinces with large urban populations have benefitted from the FBS. The FBS focus of the FBS needs to be revised to target the poorest households, the majority of whom live in rural provinces.

The provinces that do not have clearly defined and localised sanitation strategies (Eastern Cape, Limpopo, Mpumalanga) appear to be struggling to implement the requirements of the national sanitation strategy. Adapting national sanitation strategies to the local conditions would result in the use of the most appropriate and sustainable sanitation at a provincial and local government level.

Rural provinces (Eastern Cape, Limpopo, Mpumalanga) have the least access to sanitation. In the recent past Limpopo and Mpumalanga were hit by a cholera outbreak (2009). Improved sanitation is critical in the prevention of cholera outbreaks in these regions and elsewhere in the country. The funds spent on treating cholera if invested in the provision of adequate sanitation

would inevitably lead to improvement of national health and hygiene in the long term. Most provinces seem not to have localised policies to address their sanitation challenges and some lack specific budgets for addressing sanitation. A range of solutions such as dry sanitation, toilets with urine diversion, chemical toilets and other solutions that take into account the scarcity of water while being environmentally sustainable are recommended. ‘Race’ and geography are key indicators in determining the level of access to sanitation in South Africa and these indicators need to be taken into account in designing interventions to address sanitation.

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