

Provision of Basic Water and Sanitation Services in South Africa through the Municipal Infrastructure Grant Programme

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Abstract—Although South Africa has made good progress in providing basic water and sanitation services to its citizens, there is still a large section of the population that has no access to these services. This paper reviews the performance of the government's municipal infrastructure grant programme in providing basic water and sanitation services which are part of the constitutional requirements to the citizens. The method used to gather data and information was a desk top study which sought to review the progress made in rolling out the programme. The successes and challenges were highlighted and possible solutions were identified that can accelerate the elimination of the remaining backlogs and improve the level of service to the citizens. Currently, approximately 6.5 million citizens are without access to basic water services and approximately 10 million are without access to basic sanitation services.

Keywords—Grant, municipal infrastructure, sanitation, services, water.

I. INTRODUCTION

THIS paper discusses the development, implementation, and performance of the municipal infrastructure grant [MIG] programme in South Africa. Non-financial performance in terms of households that have received the basic water and sanitation services, as well as financial performance in terms of how much has been spent since the inception of the programme, are highlighted. Key challenges experienced in the implementation, as well as mitigation measures are also discussed.

The abbreviations for the names of the nine provinces in the country are EC: Eastern Cape, FS: Free State, GP: Gauteng, KZN: KwaZulu-Natal, LP: Limpopo, MP: Mpumalanga, NC: Northern Cape, NW: North-West, and WC: Western Cape.

II. BACKGROUND

The MIG programme was introduced by the South African government in 2004 to consolidate a number of grant programmes that were designed to provide basic services to all citizens, including transport, water, sanitation, sport and recreation, among others. Its target was to cut backlogs in access to basic municipal services within ten years. This would be achieved through the provision of infrastructure in a manner that would optimize the creation of employment opportunities as well as the development of small, medium, and micro enterprises development [1].

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Water and sanitation services are the most crucial of all the basic services as they have a direct bearing on the health and wellbeing of the citizens, as well as on the integrity of the environment. The motto or slogan of the Department of Water and Sanitation is fitting which says "Water is Life, Sanitation is dignity" [2].

III. DEFINITIONS

Government defines a basic water supply facility as "the infrastructure necessary to supply 25 liters of potable water per person per day, within 200 metres of a household and with a minimum flow of 10 liters per minute (in case of communal water points) or 6000 liters of potable water supplied per formal connection per month (in case of yard or house connections)" [3], while a basic water supply service is defined as "the provision of a basic water supply facility, the sustainable operation of the facility (available for at least 350 days per year and not interrupted for more than 48 consecutive hours per incident) and the communication of good water use, hygiene and related practices" [3]. A basic sanitation facility is defined as "the infrastructure necessary to provide a sanitation service which is safe, reliable, private, protected from the weather, ventilated, keeps smells to the minimum, is easy to keep clean, minimizes the risk of the spread of sanitation-related diseases by facilitating the appropriate control of disease carrying flies and pests, and enables safe and appropriate treatment and/or removal of human waste and wastewater in an environmentally sound manner" [3], while a basic sanitation service is defined as "the provision of a basic sanitation facility which is easily accessible to a household, the sustainable operation of the facility, including the safe removal of human waste and wastewater from the premises where this is appropriate and necessary, and the communication of good sanitation, hygiene and related practices" [3].

IV. KEY PRINCIPLES AND OBJECTIVES OF THE PROGRAMME

The objectives of the MIG programme as stated in [1] are summarized as follows:

- a) Social and economic goals: The programme is primarily directed at the provision of infrastructure for the poor, but it may also be used for the development of infrastructure that supports economic growth and accelerates the generation of revenue.
- b) Decentralization of spending authority within national

standards: The programme recognizes and acknowledges that municipalities are best positioned, as compared to provincial and national departments, to identify and prioritize projects through community engagement.

- c) Focus on infrastructure required for a basic level of service: The sector departments determine and specify which levels of service are to be considered as 'basic' for purposes of the programme.
- d) Ensuring sustainability of infrastructure: The programme requires that the operation and maintenance arrangements associated with infrastructure are developed and implemented to ensure long term sustainability.
- e) Reinforcing local, provincial, and national development objectives: The programme's funding instruments are to be aligned with the planning regime of local, provincial, and national government spheres.
- f) Equity in the allocation and use of funds: Programme funds are to be distributed equitably to ensure that the poor have a fair share of the allocations to make consistent progress in eliminating infrastructure backlogs.
- g) Efficient use of fund: Programme funds are to be utilized to optimize access to basic services in a cost-effective manner.
- h) Predictability and transparency: Programme funds allocated to individual municipalities through the three-year cycle medium term expenditure framework are published as per the Division of Revenue Act, 2008.

V. MIG PROGRAMME PERFORMANCE

A. Non-Financial Performance of the Programme

A review process was commissioned by the Department of Cooperative Governance and Traditional Affairs [COGTA] in 2015, ten years after the inception of the MIG programme. We found that the programme had, by and large, achieved the desired outcome of providing access to basic services for the poor in parts of the country. The programme had contributed to the creation of jobs through the Expanded Public Works Programme which stipulates that 30% of the total project costs should be spent on skills training and development, as well as on enterprise development. It was also found that systems and structures across government had been well-entrenched over the years. As of June 2015, some 2.3 million and over 1.4 million additional households had been served with water and sanitation, respectively [4].

Fig. 1 gives an indication of the number of households which had access to water and sanitation services at the times of Census 2001 and Census 2011 [5]. The good progress in basic water and sanitation service provision can be attributed to the provision of infrastructure through the MIG programme.

The number of consumer units that received basic water and sanitation services from 2008 to 2012 increased as shown in Fig. 2. These increases are an indication of the strong performance of the MIG programme in the latter part of its first decade. During this period Gauteng recorded the largest growth in consumer units from 2,4 million to 3,0 million. The single largest growth in consumer units was achieved by the

City of Tshwane, from 558 510 to 940 997, owing to new developments in and around townships and suburbs of the city. During the same period, the number of consumer units receiving the sewerage and sanitation service grew from 8,6 million to 9,7 million nationally, while the number of bucket toilets supplied by municipalities had reduced from about 86 705 to about 68 143. The largest number of consumer units using bucket toilets was in the Free State at 29 546, in 2012 [6].

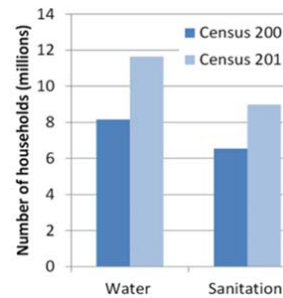


Fig. 1 Number of households receiving water and sanitation services during Census 2001 and Census 2011 [5]

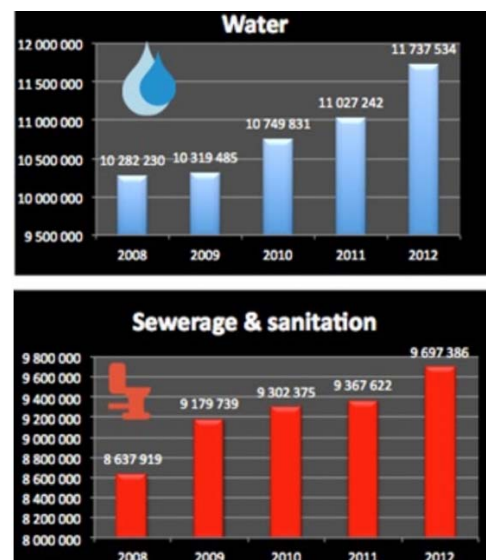


Fig. 2 Number of consumer units receiving basic water and sanitation services from 2008 to 2012 [6]

Fig. 3 shows the proportion of households which receive piped or tap water in the dwelling, off-site or on-site per province as well as nationally.

It can be observed from Fig. 3 that in 2018 tap water inside their dwellings, off-site or on-site was best achieved in Western Cape (98,7%), Gauteng (97,1%), and Northern Cape (95,3%) and least achieved in Eastern Cape (75,1%) and Limpopo (74,1%). Since 2002, the percentage of households in Eastern Cape with access to water improved by 19,0% and those in KwaZulu-Natal by 11,2 % [7]. Despite these notable improvements, access to water dropped in five provinces between 2002 and 2018. The largest drop was in Free State (-

4,5%) followed by Mpumalanga (-4,0%) and Gauteng (-1,6%). The drops, however, oppose the fact that many more households were provided with water in 2018 than seventeen years earlier [7].

Nationally, the percentage of households with access to tap

water in their dwellings, off-site or on-site improved by 4,6%, from 84.4% to 89.0%. With the national population of about 58 million, this means that about 6.5 million citizens are still without access to basic water services, which is a violation of their constitutional right.

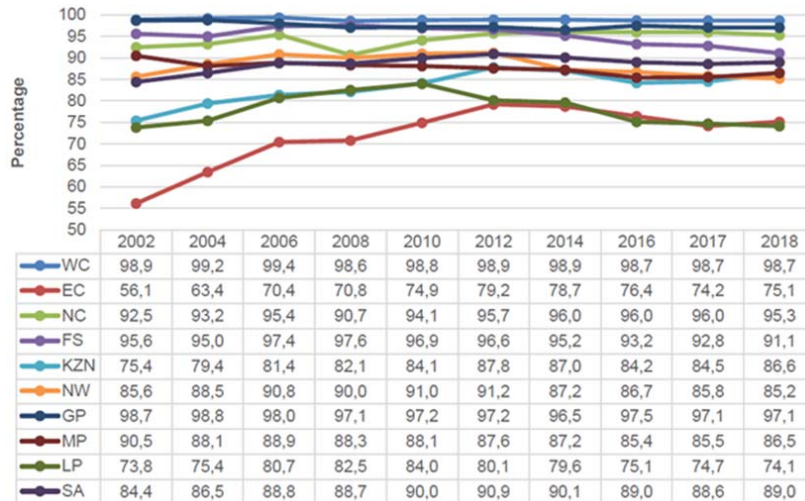


Fig. 3 Percentage of households with access to piped or tap water in their dwellings, off-site or on-site per province, 2002–2018 [7]

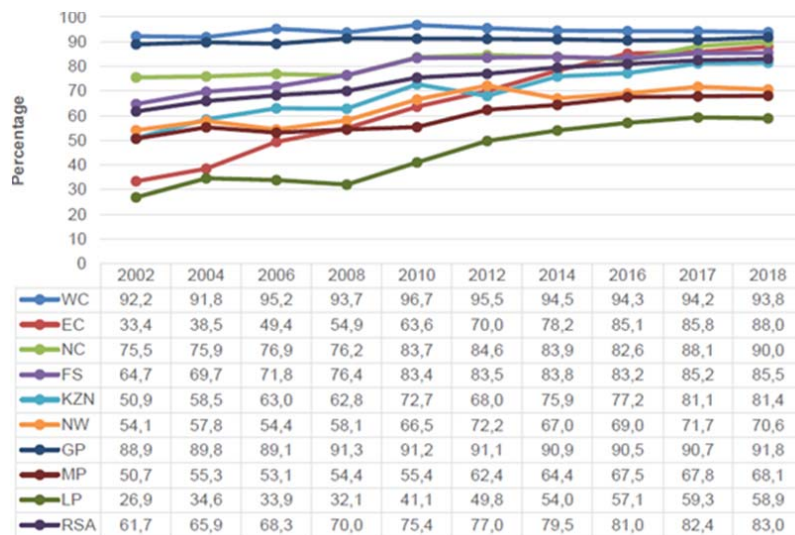


Fig. 4 Percentage of households with access to piped or tap water in their dwellings, off-site or on-site per province, 2002–2018 [7]

The percentage of households per province that had access to improved sanitation facilities can be observed from Fig. 4. Such facilities are defined as flush toilets connected to a public sewerage system or a septic tank, or a pit toilet with a ventilation pipe. In 2018 the majority of serviced households was in Western Cape at 93,8% and Gauteng at 91,8%, while the least was in Limpopo at 58,9% and Mpumalanga at 68,1%. The highest increase from 2002 to 2018 was in Eastern Cape with 54,6% more households gaining access to improved sanitation facilities to a high of 88% [7], [8].

The highest number of households with flush toilets connected to public sewerage systems was in the most

urbanized provinces, namely, Western Cape at 89,1% and Gauteng at 88,6%. The lowest number of households with flush toilets was in Limpopo at 26,5%, where 70,2% of households used pit latrines; with 37,6% having no ventilation pipes. In Eastern Cape, 40,3% of households used ventilated improved latrines. About 188 000 households (1,1%) said they were utilizing bucket toilets provided and serviced by their municipality. However, municipalities rejected this claim vehemently. Ecological toilets or urine diversion/separation or composting toilets were used by some 48 000 (0,3%) households. More and more households are likely to use this type of toilet due water shortages in South Africa. The

percentage of households with access to improved sanitation increased by 21,3% to 83,0% between 2002 and 2018 countrywide [7], [8]. With the national population of about 58 million, this means that about 10.0 million citizens are still without access to basic sanitation services, which is a violation of their constitutional right.

B. Financial Performance of the Programme

The expenditure of the MIG programme since its inception in 2004 till 2016 is reflected in Fig. 5 [9]. This is the expenditure for all services provided under the programme, including water, sanitation, solid waste, and other municipal amenities. This shows that performance was above 95% for the first five years [2004-2009] of the programme in terms of expenditure. It then dropped below 90% for the next four years, with the lowest at 79% in 2012/2013, before picking up again to an average of 91% in the three year to 2016.

Financial Year	Transferred R'000	Expenditure R'000	% spent	Unspent Funds R'000
2004/05	4,439,942	4,368,489	98%	71,453
2005/06	5,436,161	5,251,226	97%	184,935
2006/07	5,761,834	5,753,988	97%	7,846
2007/08	8,261,788	7,639,330	95%	622,458
2008/09	8,884,714	8,036,899	97%	847,815
2009/10	8,735,186	7,471,799	89%	1,263,387
2010/11	9,924,806	8,539,296	86%	1,385,510
2011/12	11,443,490	9,248,418	81%	2,195,072
2012/13	13,884,178	10,969,888	79%	2,914,290
2013/14	14,224,447	12,880,499	91%	1,343,948
2014/15	14,745,475	13,067,319	89%	1,678,156
2015/16	14,887,917	13,744,274	92%	1,143,643
Total	120,629,938	106,971,425	89%	13,658,513

Fig. 5 MIG programme expenditure performance from inception in 2004 to 2016 [9]

Fig. 6 shows performance per province in 2019/2020. The average expenditure nationally, stood at almost 81%. The two provinces with the highest expenditure were KZN and MP at 90.37% and 96.53%, respectively. The lowest expenditure was recorded for the GP and NC at 45.52% and 65.52%, respectively [10].

Province	Allocated as adjusted (R'mil)	Transferred to date (R'mil)	Expenditure to date (R'mil)	Expenditure as % of allocation	Unspent (R'000)
EC	3,060,840	3,060,840	2,428,716	79.35%	632,124
FS	770,107	770,108	649,352	84.32%	120,756
GT	312,842	312,842	142,392	45.52%	170,450
KZ	3,215,816	3,209,316	2,906,028	90.37%	303,288
LP	2,944,637	2,944,637	2,074,693	70.46%	869,944
MP	1,813,621	1,813,621	1,750,725	96.53%	62,896
NC	457,801	457,801	299,966	65.52%	157,835
NW	1,797,741	1,797,741	1,380,844	76.81%	416,897
WC	442,698	442,213	330,646	74.69%	116,567
Total	14,816,103	14,814,119	11,963,362	80.76%	2,850,757

Fig. 6 MIG programme expenditure performance for 2019/20 dated 26 July 2020 [10]

The annual expenditure on water infrastructure projects, per province, from 2012 to 2020 is reflected on Fig. 7 [11], while the annual expenditure on sanitation infrastructure projects is reflected on Fig. 8 [11]. The slight drop in annual expenditure

in 2020, compared to the previous two years, for both water and sanitation infrastructure, is due to stoppage in construction work caused by the Covid-19 pandemic during the last quarter to June 2020. A total of about ZAR1,54 billion was reallocated to about 350 projects that were implemented to address emergency needs in some municipalities to minimize adverse health impacts in communities.

Prov.	No of projects FY 2019/20	Annual Spend, R'm, to June:									Total spend since 2012, R'm
		2012	2013	2014	2015	2016	2017	2018	2019	2020	
EC	85	976	749	597	665	885	364	1 286	1 684	899	8 105
FS	19	417	127	121	52	114	65	116	60	99	1 171
GP	10	35	29	37	33	79	102	135	31	20	501
KZN	94	1 053	876	1 015	872	2 021	1 701	3 079	339	604	11 559
LP	71	1 458	777	871	798	719	1 279	2 211	3 406	2 357	13 876
MP	72	421	219	294	679	871	809	1 392	449	624	5 758
NC	18	77	77	84	117	126	94	162	78	126	940
NW	34	258	276	259	298	288	313	744	355	230	3 021
WC	31	174	45	116	137	209	180	432	184	67	1 544
TOTAL	434	4 869	3 175	3 394	3 651	5 313	4 907	9 558	6 583	5 026	46 474

Fig. 7 MIG expenditure on water infrastructure from 2012 to 2020 [11]

Prov.	No of projects FY 2019/20	Annual Spend, R'm, June:									Total spend since 2012, R'm
		2012	2013	2014	2015	2016	2017	2018	2019	2020	
EC	59	894	907	579	351	260	329	664	975	859	5 819
FS	28,5	1 023	234	308	236	373	95	279	212	136	1 873
GP	5	92	60	22	24	41	46	143	50	17	494
KZN	47,5	486	543	489	466	722	477	996	197	242	4 618
LP	12,5	580	255	301	227	325	246	314	297	174	2 719
MP	47	261	145	118	212	348	220	616	208	232	2 361
NC	19,5	102	104	121	125	83	75	250	286	92	1 239
NW	22	236	141	264	249	337	402	619	101	430	2 779
WC	21	225	140	144	181	282	144	253	124	82	1 575
TOTAL	262	2 876	2 529	2 346	2 071	2 771	2 034	4 134	2 449	2 266	23 476

Fig. 8 MIG expenditure on sanitation infrastructure from 2012 to 2020 [11]

The MIG programme's Medium Term Expenditure Framework allocation for the next three years to 2023 is reflected on Fig. 9 [10]. About 54% of the overall MIG budget allocation normally goes to water and sanitation infrastructure as these services are considered essential for the social and economic wellbeing of the citizens.

VI. PROGRAMME CHALLENGES AND MITIGATION MEASURES

Key challenges that contribute to poor spending on the MIG programme as identified in [8], [12] are listed as follows:

- Lack of capacity to plan for a municipal capital budget

over a 3-year medium term. This process requires input from stakeholders, including communities and sector departments.

- Lack of capacity to manage and monitor the implementation of MIG projects. There is no guidance or support by project management units and sector departments in some provinces.
- Appointing service providers or contractors who cannot deliver on their duties/responsibilities.
- Delays in the appointment and payment of service providers.
- Delayed approvals by municipal councils in terms of projects, budgets, and appointments).
- Convoluted processes in the compilation of technical reports and environmental impact assessments.
- Pressures to use MIG funds to meet operational budget needs.

Province	2020/21 R'000	2021/22 R'000	2022/23 R'000
EC	3,025,069	3,259,586	3,452,711
FS	746,257	779,631	822,878
GT	381,994	415,456	439,941
KZ	3,195,369	3,424,383	3,623,143
LP	2,933,539	3,151,946	3,341,772
MP	1,729,920	1,884,572	1,997,741
NC	441,859	427,995	446,998
NW	1,774,671	1,887,565	1,999,665
WC	442,423	452,799	474,294
RSA Total:	14,671,101	15,683,933	16,599,143

Fig. 9 MIG programme medium term expenditure framework allocations for 2020 to 2023 [10]

COGTA has put some mitigation measures in place, including the following [9]:

- The Municipal Infrastructure Support Agency [MISA] was established to coordinate the management of programmes and projects implemented in 27 priority District Municipalities to fast-track and align infrastructure delivery in the four major sectors of water, sanitation, electricity, roads and storm water.
- The MISA assigned engineers to provide technical support to provinces for appraisal of technical reports and evaluation of project designs where required.
- The COGTA implemented various framework contracts in partnership with the MISA and the National Treasury in order to ease procurement in municipalities in terms of goods and services. The purpose of this is to alleviate procurement delays in municipalities.

VII. CONCLUSION

The MIG programme has made good progress in ensuring that the majority of the citizens have access to basic water and sanitation services in the country. However, much still needs to be done to ensure that the 6.5 million citizens who are still without basic water services and the 10 million citizens who

are without basic sanitation services, also have access to them. Access to these services is enshrined in the constitution as a basic right.

Despite the challenges experienced by municipalities in the implementation of projects the average of 91% in the expenditure of annual projects budgets is commendable. However, the corrective measures identified by the Department of COGTA must be implemented in order to improve programme performance. Performance during the first five years stood at about 97% and programme partners need to work to towards that target or better.

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