Water and sanitation

Introduction

Water and sanitation are crucial for social progress and economic development. To maximise efficient and sustainable provision of these basic services, South Africa needs to develop a robust regulatory framework and enforcement mechanisms, improve public education about the need to conserve water, provide hygienic sanitation and accelerate overall service delivery.

Water and sanitation are crucial for social and economic development

Developments over the past year reinforce the need for a strong focus in water and sanitation. The country has experienced erratic rainfall, with sometimes disastrous consequences. Extremely dry conditions in the Western Cape and elsewhere led to devastating veld fires. Heavy downpours followed in late summer, leading to flooding in Taung and other areas. Isolated cases of waterborne diseases also occurred in Delmas.

In his State of the Nation address of 3 February 2006, President Thabo Mbeki committed the public sector to accelerating infrastructure investment in underdeveloped urban and rural areas through the municipal infrastructure grant (MIG). To give effect to this commitment, government made substantial resources available over the 2006 Medium-Term Expenditure Framework (MTEF) to accelerate the provision of safe drinking water and proper sanitation. The eradication of the bucket sanitation system by the 2007/08 financial year has also been prioritised and R1,2 billion has been allocated for this purpose.

Government is accelerating infrastructure investment

This chapter builds on the findings of the 2004 Trends in Intergovernmental Finances – 2000/1 to 2006/07. It provides:

- An overview of the water services sector
- An overview of recent reforms
- An analysis of trends in expenditure and budgets in the areas of water and sanitation
- An update on the progress and challenges of service delivery.

Overview of water services

The Department of Water Affairs and Forestry (DWAF) classifies the water sector into two main areas: water resources and water services. This chapter focuses on the water services function, which is defined by the Department as water supply and sanitation services, including regional water services schemes, local water schemes, onsite sanitation, and the collection and treatment of waste water.

A few large players dominate the water services sector A few large players dominate the water services sector. The supply side includes DWAF, which plays multiple roles ranging from policy development and regulation to supply and retail of raw water. Fifteen water boards have bulk and limited retail functions, while municipalities perform a retail function, as do private water services providers.

DWAF is repositioning and will be responsible for policy, regulation and support The Department is repositioning itself as a sector leader responsible for policy development, regulation and support functions. As part of this process, it is transferring the water schemes that it owns and operates to municipalities.

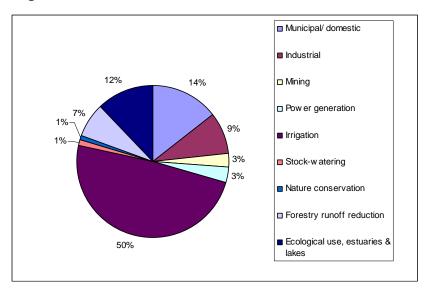
Water boards are intermediaries between the raw water supply and reticulation functions. Traditionally, water boards provide bulk water to a number of municipalities over a defined geographic area, but some water boards also provide a limited retail or reticulation function. The viability of water boards appears to be mainly dependent on the regions they serve. Notably, the two most viable water boards are Rand Water (Gauteng) and Umgeni Water (KwaZulu-Natal).

The 182 municipalities authorised to perform the water services function vary in size and capacity

There are currently 182 municipalities, varying in size and capacity, authorised to perform the water services function. Metropolitan (or category A) municipalities exclusively perform the function within their jurisdictions, while local municipalities (category B) or district municipalities (category C) have the authority to perform the function if they so choose. Each authorised municipality has to perform a section 78 process in terms of the Municipal Systems Act (32 of 2000) to determine whether it will provide water services or appoint an external service provider.

Demand for water services is dominated by irrigation, followed by the municipal/domestic use, ecological/estuaries and lakes, industry and nature conservation, as illustrated in Figure 4.1.

Figure 4.1 Total use of water



The water services sector is still faced with huge service delivery challenges despite significant progress in rolling out services since 1994. Government has set a target of eradicating the sanitation backlog by 2008 and the water backlog by 2010. Post-2001 census surveys estimate that approximately 15 million people do not have access to proper sanitation and 3.5 million people are without safe. potable water. Eradicating these backlogs by the target dates will require a concerted effort from national government, municipalities and the private sector.

About 15 million people do not have access to proper sanitation

Water and sanitation facts:

- 1,5 billion people worldwide and 3,5 million people in South Africa do not have access to safe, potable water
- 2,6 billion people worldwide and 15 million people in South Africa do not have access to proper sanitation
- In Africa, with a population of about 800 million people, 300 million do not have access to water and 313 million do not have access to sanitation
- Only 40 per cent of water available worldwide can be accounted for
- 80 per cent of all illnesses in developing countries including cholera, typhoid, polio and gastrointestinal disease - result from poor sanitation and/or water pollution
- 3,1 million people worldwide die annually as result of gastrointestinal illness or malaria.

Source: Beeld, 22 March 2006

Overview of recent reforms

The 2003 strategic framework developed under the guidance of DWAF sets out a comprehensive approach for the water services sector. It seeks to ensure:

approach

Universal access to a safe, basic water supply and sanitation service

published in 2003 offers a comprehensive

Strategic framework

- Universal education about healthy living practices (specifically with respect to the use of water and sanitation services) and the wise use of water as a scarce resource
- Water and sanitation services are provided equitably, affordably, effectively, efficiently, sustainably and in a gender-sensitive manner
- All water services authorities are accountable to their citizens, have adequate capacity to make wise choices about water services providers and are able to regulate such provision effectively
- All water services providers are accountable, cost-effective, efficient and viable, and implement appropriate employment and gender equity policies.
- The prices of water and sanitation services reflect the fact that they are social and economic goods
- Water and sanitation services are effectively regulated in support of all these goals.

DWAF is transferring water services schemes to local government As part of repositioning the DWAF, the department is ending its role as an implementing agent, and is transferring the water services schemes it operates to local government. The department is also developing strategies to redefine its regulatory and support roles.

Institutional reforms are still in the early stages and are likely to take several years to complete. Government will soon consider and approve the proposed institutional reform process.

Grants remain main sources of funding for water and sanitation services The MIG and the equitable share will remain the main sources of funding for improving access to basic water supply and sanitation. The incorporation of a water services capital grant into the MIG was successfully completed in the 2005/06 financial year. The water services operating subsidy is scheduled to be phased into the local government equitable share from 2009/10.

Trends in expenditure and budgets

National government

DWAF budget increases to R5,6 billion over the medium term Table 4.1 shows expenditure and budgets for DWAF over the period 2002/03 to 2008/09. From 2003/04 to 2005/06 DWAF's expenditure declined from R4,3 billion to R3,8 billion, mainly as a result of the transfer of expenditure on water and sanitation capital projects to the MIG on the vote of the Department of Provincial and Local Government. This trend is reversed over the medium term as DWAF's expenditure starts increasing from R3,8 billion in 2005/06 to R5,6 billion in 2008/09. The increases stem from VAT adjustments, the stepping up of water resources and forestry programmes, the initial financing of the National Water Resources Infrastructure Agency and the refurbishment of water services schemes.

Table 4.1 Budget of the National Department of Water Affairs and Forestry, 2002/03 to 2008/09

	2002/03	2003/04	2004/05	2005	/06	2006/07	2007/08	2008/09
R million	Audit Outcome			Adjusted Appro- priation	Revised Estimate	Medium	n-term expen estimates	diture
Administration	292	332	353	447	385	437	428	452
Water Resource Management	1 074	1 116	1 476	1 632	1 532	2 179	2 416	2 962
Water Services	1 974	2 391	1 561	1 528	1 426	1 462	1 544	1 772
Forestry	403	412	467	416	416	398	421	440
Total	3 743	4 251	3 858	4 023	3 759	4 477	4 809	5 626
Growth		1,4%	-0,9%	0,4%	-0,7%	1,9%	0,7%	1,7%

Source: 2006 Estimates of National Expenditure.

Table 4.2 lists the transfers to municipalities on the DWAF vote. From the 2005/06 financial year, the water services operating subsidy is the only remaining transfer to municipalities on DWAF's vote. This subsidy, which will be phased out from the 2009/10 financial year, increases marginally from R990 million in the 2006/07 financial year to R1,1 billion in the outer year of the MTEF. The rollout of capital projects is now being undertaken through the MIG.

Water services operating subsidy will be phased out over medium term

Table 4.2 DWAF transfers to local government, 2002/03 to 2008/09

			,				
R million	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Water Serives	999	1 022	208				
Capital							
Water Services							
Operating Subsidy							
Direct grant	43	273	134	165	500	550	600
Indirect grant	656	817	818	904	491	490	531
Subtotal	700	1 090	952	1 068	991	1 040	1 131
Total	1 699	2 112	1 160	1 068	991	1 040	1 131

Source: 2006 Estimates of National Expenditure.

The water services operating subsidy has been split. The direct portion of the grant – currently R500 million – is expected to increase over the medium term as all transfer agreements have to be concluded in 2006. The grant will be phased into the local government equitable share from 2009/10, and be reduced by 30 per cent a year until the grant is fully phased out. The funds will then flow directly to municipalities.

Allocations to municipalities are made in terms of a formula that takes into account backlogs, powers and functions, and poverty. The weights allocated to the different components and sectors depend on policy priorities. Water and sanitation receive the bulk of MIG funds through this formula.

Progress with the transfer of water schemes to municipalities

The water services operating subsidy grant is used to fund 321 municipal water schemes. The DWAF administered a number of these schemes in poor areas prior to 1994. The operating grant amounts to R991 million in 2006/07, R1,04 billion in 2007/08 and R1,13 billion in 2008/09, or a total of R3,2 billion over the MTEF period.

The department is transferring the schemes to municipalities over the next three years, and funding will be phased out from 2008/09. It plans to conclude bilateral negotiations with municipalities during 2006. All funds for this programme will subsequently be transferred directly to municipalities in terms of the provisions of the transfer agreements.

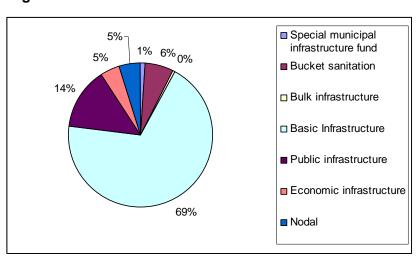
The transfer of water schemes involves the transfer of assets and staff, and the resulting operating costs of salaries and free basic services. The 321 schemes employ 8 094 staff and supply water to 53 municipalities. So far, 38 agreements have been signed, 659 staff transferred, 1 636 staff seconded. A total of 169 schemes with a total asset value of approximately R3,4 billion have been transferred. Estimated once-off personnel-related costs over the three years amount to R393 million. Full costs for the operations of the schemes are being finalised. The medium-term plan was to transfer at least 1 900 staff in 2005/06 and the remainder of the staff in 2006/07 and 2007/08.

The operating and transfer subsidy will be treated as a grant-in-kind until the effective date of transfer. Thereafter, it will be treated as a conditional grant up to 2008/09 and then phased into the equitable share. The operating subsidy will cover staff-related costs and direct operating and maintenance costs, while provision is also made for the refurbishment of infrastructure. The allocation per municipality will be according to the operational budget for each scheme, and the funding requirements will be identified and agreed on in the transfer agreement. Clear performance targets will be set with the assistance of the Department of Provincial and Local Government and the South African Local Government Association.

Funds available for water and sanitation stepped up in 2007/08

The funds available for water and sanitation rise to R3,1 billion 2006/07 to R3,5 billion in 2007/08 in the 2006 MTEF, compared to R2,8 billion and R3,1 billion for the same period in the 2005 MTEF. In addition, R1,2 billion is being made available for the eradication of the bucket sanitation system. The breakdown of the MIG is shown in Figure 4.2. Figure 4.3 shows how the 69 per cent basic infrastructure component is further subdivided.

Figure 4.2 Vertical division of MIG



5%

23%

□ Water and sanitation
□ Electricity
□ Roads
□ Other

Figure 4.3 Basic infrastructure component

Municipal budgets

Table 4.3 shows that municipalities are projected to spend R9,8 billion on water and sanitation in the 2005/06 municipal financial year, which ends in June 2006. The total budgeted expenditure on water and sanitation increased by R1,3 billion (15,5 per cent) from 2004/05.

Municipalities to spend R9,8 billion on water and sanitation in their current financial year

In 2005/06, metropolitan municipalities still account for the bulk of spending on water and sanitation, at R5,4 billion (54,9 per cent) of the total municipal expenditure in this category.

Table 4.3 Water and sanitation expenditure by category of municipality, 2001/02 to 2005/06

R million	2001/02	2002/03	2003/04	2004/05	2005/06
Operating					
Category A (Metros)	2 948	3 401	3 034	3 874	4 043
Category B (Locals)	1 185	1 309	1 178	1 629	1 724
Category C (Districts)	33	50	112	289	206
Subtotal	4 165	4 760	4 323	5 793	5 973
Capital					
Category A (Metros)	684	708	820	1 146	1 350
Category B (Locals)	683	1 024	905	1 027	1 357
Category C (Districts)	302	247	801	542	1 157
Subtotal	1 669	1 979	2 525	2 715	3 864
Total					
Category A (Metros)	3 631	4 109	3 853	5 020	5 393
Category B (Locals)	1 867	2 333	2 082	2 656	3 081
Category C (Districts)	335	297	913	831	1 363
Subtotal	5 834	6 739	6 849	8 508	9 837
%		15,5%	1,6%	24,2%	15,6%

Source: National Treasury Local Government database.

Budgeted expenditure by district municipalities increased by R533 million (64,2 per cent) from R831,2 million in 2004/05 to nearly R1,4 billion, and that of local municipalities increased by R408 million (15,4 per cent) from R2,7 billion in 2004/05 to more than R3,1 billion in 2005/06.

Budgeted expenditure of district municipalities has increased substantially

Water boards

Table 4.4 provides a summary of the budgets for the 15 existing water boards for the 2002/03 to 2004/05 period.

Table 4.4 Income and expenditure of water boards, 2003/04 to 2004/05

	Revenue		Capital exp	enditure	Operating expenditure		
	2003/04	2004/05	2003/04	2004/05	2003/04	2004/05	
	Actual	Estimated	Actual	Estimated	Actual	Estimated	
R thousand		actual		actual		actual	
Albany Coast	2 493	2 584	-	-	1 665	1 884	
Amatola	72 978	80 071	12 728	12 981	38 317	84 271	
Bloem	133 110	157 478	15 300	17 800	76 359	104 074	
Botshelo	93 000	93 301	-	597	89 000	66 774	
Bushbuckridge	15 677	37 716	3 360	3 357	37 575	47 514	
Ikangala	1 298	1 715	-	-	5 413	2 999	
Lepelle	151 088	159 761	3 290	3 855	87 473	82 658	
Magalies	101 441	189 486	40 961	41 260	67 156	95 519	
Mhlathuze	146 900	143 710	42 210	46 400	128 600	99 460	
Namakwa	8 496	7 484	-	-	7 306	8 615	
Overberg	17 479	14 123	6 310	6 941	12 862	15 352	
Pelladrift	5 414	5 664	_		5 413	5 456	
Rand Water	3 056 800	3 460 000	345 100	459 000	1 223 100	1 407 972	
Sedibeng	297 523	274 896	10 020	14 200	153 899	163 332	
Umgeni	822 387	1 000 123	31 000	46 896	415 606	508 768	
Total	4 926 084	5 628 112	510 279	653 287	2 349 744	2 694 648	

Source: Department of Water Affairs and Forestry.

The water boards' combined revenue grew to R5,6 billion 2004/05

The water boards' combined revenue grew by R702 million (14,3 per cent), from R4,9 billion in 2003/04 to R5,6 billion in 2004/05. Sales rose on the strength of increased demand stemming from a reduction in service backlogs. Combined operating expenditure increased by R344,9 million (14,7 per cent) to R2,7 billion over the same period.

Combined capital expenditure increased by R143,0 million (28,0 per cent). Some of the smaller water boards, such as Ikangala, Namakwa, Albany Coast and Pelladrift, reported no capital spending at all.

Rand Water accounts for most revenue and operating expenditure Rand Water accounts for 61,5 per cent of the total revenue and 52,3 per cent of the total operating expenditure, followed by Umgeni Water, which accounts for 17,8 per cent of the total revenue and 18,9 per cent of the total operating expenditure.

Personnel

About 30 000 staff are employed in the water services sector

The water services sector employs about 30 000 people. Municipalities collectively are the biggest employer, with 19 100 staff, followed by water boards (6 600 staff) and the DWAF (4 200 staff). The national department is expected to transfer about 80 per cent of its staff to municipalities over the medium term as the transfer of DWAF water schemes to municipalities takes place.

In 2005/06, the average staff costs per employee for DWAF and the water boards were at a similar level, at R161 000 and R168 000, respectively.

Table 4.5 shows that Rand Water remains the biggest employer, with 3 049 staff, followed by Umgeni Water, with 920 staff.

Umgeni Water recorded the highest average cost per employee, at R218 000, followed by Rand Water, at R192 000. Namakwa Water had the lowest average cost per employee at R79 000 a year.

Table 4.5 Staffing at water boards as of 2004/05

Water board	Population served (R thousand)	Service area (sq km)	Staff (no)	Personnel costs	Average costs (R thousand)
Rand Water	10 000	18 001	3 049	584 270	192
Umgeni Water	4 302	32 000	920	200 360	218
Sedibeng Water	1 600	86 000	617	84 568	137
Lepelle Northern	1 000	82 000	270	41 685	154
Mhlathuze Water	380	37 000	153	30 615	200
Bloem Water	800	35 150	221	27 131	123
Ikangala Water	1 530	4 008	6	899	150
Botshelo Water	821	49 858	419	38 915	93
Amatola Water	1 200	43 400	244	31 113	128
Bushbuck Ridge	1 200	12 320	187	15 123	81
Magalies Water	800	35 000	375	41 233	110
Overberg Water	62	6 700	78	6 657	85
Pelladrift Water	7	9 531	_	_	_
Namakwa Water	45	1 487	32	2 535	79
Albany Coast Water	10	20	6	645	108
Total	23 757	452 475	6 577	1 105 749	168

Source: Department of Water Affairs and Forestry.

Table 4.6 shows the average cost per employee in water and sanitation functions in the metropolitan areas increased to R136 000 in 2005/06 from R122 000 in 2004/05. The number of employees declined marginally from 10 788 in 2003/04 to 10 616 in 2005/06. The average cost per employee increased by R14 000 (11,5 per cent).

Among the largest 12 non-metropolitan municipalities, Mangaung has the biggest staff complement for water and sanitation services, with 701 employees costing R57,5 million in the 2005/06 financial year. The annual average cost per employee of Mangaung is about R82 000, R49 000 less than at Umhlatuze, which has a far smaller operation of 172 staff and an annual budget of R22,5 million.

Staff costs vary significantly among non-metropolitan municipalities

Table 4.6 Water and sanitation services budgeted employee costs, 2002/03 to 2005/06

	2003/04	2004/05	2005/06	2003/04	2004/05	2005/06	2003/04	2004/05	2005/06
R thousand				Total	cost of emp	loyees	Average	cost per er	nployee
Cape Town	-	2 719	2 587	-	314 155	330 267	-	116	128
City of	2 557	2 525	2 545	345 000	369 000	406 140	135	146	160
Johannesburg									
eThekwini	2 756	2 666	2 552	250 061	304 429	325 839	91	114	128
Ekurhuleni Metro	1 008	1 037	1 036	112 153	93 811	135 654	111	90	131
City of Tshwane	974	853	905	127 426	137 446	146 481	131	161	162
Nelson Mandela	878	988	991	81 750	94 394	102 998	93	96	104
Total Metros	8 173	10 788	10 616	916 389	1 313 235	1 447 380	112	122	136
Buffalo City	649	617	695	47 254	51 598	63 136	73	84	91
Mangaung	421	707	701	35 939	52 023	57 460	85	74	82
Msunduzi	304	270	270	6 276	7 378	7 968	21	27	30
Polokwane	147	137	142	10 622	13 597	12 557	72	99	88
Rustenburg	122	129	139	10 709	9 034	14 010	88	70	101
Umhlathuze	215	168	172	20 066	19 344	22 487	93	115	131
Drakenstein	187	135	139	12 903	8 568	11 159	69	63	80
Sol Plaatje	189	189	189	13 939	15 212	15 264	74	80	81
Mbombela	77	97	97	6 011	8 813	9 430	78	91	97
Govan Mbeki	228	247	215	16 438	16 071	18 132	72	65	84
Stellenbosch	142	142	181	15 550	16 745	15 328	110	118	85
Mafikeng	76	76	75	5 976	6 611	7 704	79	87	103
Total largest	2 757	2 914	3 015	201 683	224 994	254 636	73	77	84
Total largest	10 930	13 702	13 631	1 118 073	1 538 229	1 702 015	102	112	125

^{1.} Data for Cape Town not available for 2002/03 and 2003/04.

Source: National Treasury Local Government database.

Service delivery

In 2004, 8,5 million households had access to basic water and 7 million to basic sanitation According to the non-financial census conducted by Statistics South Africa for the year ended June 2004, 8,5 million households had access to basic water and 7 million households had access to basic sewerage and sanitation. Despite significant progress made by government, delivery remains a pressing matter, with many households still unable to access these basic services

Table 4.7 Number of households receiving basic services

	2002	2003	2004
Water	5 982 008	7 411 054	8 447 283
Sewerage and Sanitation	5 109 838	6 249 172	6 989 571
Total	11 093 848	13 662 229	15 438 858

Source: Non-financial census of municipalities for the year ended 30 June 2004, STATS SA.

Number of households with access to water and sanitation continues to grow Table 4.7 shows that the number of households receiving access to basic water and sewerage and sanitation increased significantly from 2002 to 2004. In 2004, 14 per cent more households had access to

basic water than in 2003. Similarly, 11,8 per cent more households had access to sewerage and sanitation than in the year before.

Table 4.8 shows the number of households receiving free basic water from municipalities. The total number of households receiving basic water increased by 13,5 per cent between 2003 and 2004 whilst the number of households receiving free basic water increased by 25,2 per cent of households over the same period. In 2004, Gauteng municipalities registered the best performance, providing free basic water to 97,2 per pent of all households or poor households with access to basic water. In contrast, Northern Cape municipalities provided free basic water to only 55 per cent of households with access to basic water.

Table 4.8 Number of households receiving free basic water

	2003	2004	2003	2004
	Basic water	services	Free basic	water
Eastern Cape	765 943	993 926	437 274	674 224
Free State	538 637	696 466	491 158	509 926
Gauteng	2 086 345	2 147 120	1 706 174	2 085 978
KwaZulu-Natal	1 169 448	1 389 829	709 808	808 527
Limpopo	667 649	871 783	370 791	539 640
Mpumalanga	468 875	529 313	330 431	386 842
Northern Cape	174 718	190 899	128 949	105 047
North West	512 901	544 988	419 185	408 056
Western Cape	1 026 538	1 082 959	609 003	993 084
Total	7 411 054	8 447 283	5 202 773	6 511 324

Source: Non-financial census of municipalities for the year ended 30 June 2004, STATS SA.

Table 4.9 shows the number of households receiving free basic sewerage and sanitation. The challenge here remains significant. The total number of households receiving basic water increased by 11,8 per cent between 2003 and 2004 whilst the number of households receiving free basic sewerage and sanitation increased by 31,3 per cent of households over the same period. In 2004, Western Cape municipalities provided free basic sewerage and sanitation to 79,6 per cent of households with access to the service. Municipalities in KwaZulu-Natal provided free basic sewerage and sanitation to a mere 23,9 per cent of households with access to the service.

Table 4.9 Households receiving free basic sewerage and sanitation

	2	004	2003		
	Basic sewerage and sanitation	Free basic sewerage and sanitation	Basic sewerage and sanitation	Free basic sewerage and sanitation	
Eastern Cape	873 338	363 961	701 784	310 960	
Free State	620 470	265 117	540 314	76 489	
Gauteng	2 122 600	1 282 276	2 035 395	1 183 510	
KwaZulu-Natal	980 599	234 370	918 937	235 839	
Limpopo	392 734	116 353	297 117	76 792	
Mpumalanga	443 276	149 845	353 343	114 723	
Northern Cape	178 065	63 667	154 078	64 724	
North West	353 974	88 359	270 542	39 900	
Western Cape	1 024 515	815 326	977 662	471 101	
Total	6 989 571	3 379 274	6 249 172	2 574 038	

Source: Non-financial census of municipalities for the year ended 30 June 2004, STATS SA.

Conclusion

Service delivery needs to be significantly accelerated to meet government's targets The water services sector plays a crucial role in the economy and the development of the country as a whole. A number of role players are involved in the sector. The DWAF is in the process of transforming itself into a sector leader that provides regulatory, support and policy development functions.

Service delivery will have to be speeded up significantly to meet the targets set by government for eliminating backlogs in water and sanitation provision. The MIG will facilitate the rapid rollout of services to the poor. In addition, the private sector and municipal funds have to be geared to accelerate service provision.