



BACKGROUND PAPER 12 (PHASE I)

# Ebbing Water, Surging Deficits: Urban Water Supply in Sub-Saharan Africa

CROSS-COUNTRY ANNEX

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## About AICD



This study is a product of the Africa Infrastructure Country Diagnostic (AICD), a project designed to expand the world's knowledge of physical infrastructure in Africa. AICD will provide a baseline against which future improvements in infrastructure services can be measured, making it possible to monitor the results achieved from donor support. It should also provide a better empirical foundation for prioritizing investments and designing policy reforms in Africa's infrastructure sectors.



AICD is based on an unprecedented effort to collect detailed economic and technical data on African infrastructure. The project has produced a series of reports (such as this one) on public expenditure, spending needs, and sector performance in each of the main infrastructure sectors—energy, information and communication technologies, irrigation, transport, and water and sanitation. *Africa's Infrastructure—A Time for Transformation*, published by the World Bank in November 2009, synthesizes the most significant findings of those reports.



AICD was commissioned by the Infrastructure Consortium for Africa after the 2005 G-8 summit at Gleneagles, which recognized the importance of scaling up donor finance for infrastructure in support of Africa's development.



The first phase of AICD focused on 24 countries that together account for 85 percent of the gross domestic product, population, and infrastructure aid flows of Sub-Saharan Africa. The countries are: Benin, Burkina Faso, Cape Verde, Cameroon, Chad, Côte d'Ivoire, the Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Tanzania, Uganda, and Zambia. Under a second phase of the project, coverage is expanding to include as many other African countries as possible.



Consistent with the genesis of the project, the main focus is on the 48 countries south of the Sahara that face the most severe infrastructure challenges. Some components of the study also cover North African countries so as to provide a broader point of reference. Unless otherwise stated,



therefore, the term “Africa” will be used throughout this report as a shorthand for “Sub-Saharan Africa.”



The World Bank is implementing AICD with the guidance of a steering committee that represents the African Union, the New Partnership for Africa’s Development (NEPAD), Africa’s regional economic communities, the African Development Bank, the Development Bank of Southern Africa, and major infrastructure donors.



Financing for AICD is provided by a multidonor trust fund to which the main contributors are the U.K.’s Department for International Development, the Public Private Infrastructure Advisory Facility, Agence Française de Développement, the European Commission, and Germany’s KfW Entwicklungsbank. The Sub-Saharan Africa Transport Policy Program and the Water and Sanitation Program provided technical support on data collection and analysis pertaining to their respective sectors. A group of distinguished peer reviewers from policy-making and academic circles in Africa and beyond reviewed all of the major outputs of the study to ensure the technical quality of the work.



The data underlying AICD’s reports, as well as the reports themselves, are available to the public through an interactive Web site, [www.infrastructureafrica.org](http://www.infrastructureafrica.org), that allows users to download customized data reports and perform various simulations. Inquiries concerning the availability of data sets should be directed to the editors at the World Bank in Washington, DC.



# Annex 1 Cross-country tables

## Part I Study methodology to water supply

Table 1.1 Description of country household survey datasets

Table 1.2 Overview of target institutions for data collection

Note:

— = data not available

n.a. = not applicable

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Table 1.1: DESCRIPTION OF COUNTRY HOUSEHOLD SURVEY DATASETS

Country	Available observations			Year of Survey		Included in the trend analysis*
	1990-95	1996-00	2001-05	DHS	MICS	
Benin		✓	✓	1996, 2001		X
Burkina Faso	✓	✓	✓	1993, 1999, 2003		X
Central African Republic	✓			1995		
Cameroon	✓	✓	✓	1991, 1998, 2004		X
Chad		✓	✓	1997, 2004		X
Comoros		✓		1996		
Congo, Democratic Republic of	✓		✓		2000	X
Congo, Republic of			✓	2005		
Cote d'Ivoire	✓	✓		1994, 1999		X
Ethiopia		✓	✓	2000, 2005		X
Gabon		✓		2000		
Ghana	✓	✓	✓	1993, 1998, 2003		X
Guinea			✓	1999, 2005		X
Kenya	✓	✓	✓	1993, 1998, 2003		X
Lesotho		✓	✓	2005	2000	X
Madagascar	✓	✓	✓	1992, 1997, 2004		X
Malawi	✓	✓	✓	1992, 2000, 2004		X
Mali		✓	✓	1996, 2001		X
Mauritania			✓	2001		
Mozambique		✓	✓	1997, 2003		X
Namibia	✓	✓		1992, 2000		X
Niger	✓	✓		1992, 1998		X
Nigeria	✓	✓	✓	1990, 1999, 2003		X
Rwanda	✓	✓	✓	1992, 2000, 2005		X
Senegal	✓	✓	✓	1993, 1997, 2005		X
South Africa		✓		1998		
Sudan		✓			2000	
Tanzania	✓	✓	✓	1992, 1999, 2004		X
Togo		✓		1998		
Uganda	✓		✓	1995, 2001		X
Zambia	✓	✓	✓	1992, 1996, 2002		X
Zimbabwe	✓	✓		1994, 1999		X

Source: AICD DHS/MICS Survey Database, 2007

\* Note: Included in the calculation of 'annual average change in coverage' analysis

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Table 1.2: OVERVIEW OF TARGET INSTITUTIONS FOR DATA COLLECTION

Country	WSS line ministries	Water regulatory entity	Rural water agencies	Utilities
Benin	Ministry of Mines, Energy and Water	None	Water General Directorate (WGH)	Société Nationale des Eaux du Benin (SONEB)
Burkina Faso	Ministry of Agriculture, Hydraulics, and Fishery General Directorate of Water Resources	None	General Directorate for Safe Water supply (DGAEP)	Office Nationale des Eaux et d'Assainissement (ONEA)
Cameroon	Ministry of Energy and Water	None		Société National des Eaux du Cameroon (SNEC)
Cape Verde	Ministry of Environment, Agriculture and Fisheries	None		ELECTRA
Chad	Ministère de l'Environnement et de l'Eau	None	Comité de Gestion de Point d'Eau	Société Tchadienne D'eau Et D'électricité (STEE)
DRC	National Committee of Water and Sanitation Ministry of Energy Ministry of Health	None		Régie De Production Et De Distribution D'eau (REGIDESO)
Cote D'Ivoire	Ministry of Economic Infrastructure	None	Directorate of Human Water	Société De Distribution D'eau De Côte D'ivoire (SODESI)
Ethiopia	Ministry of Water Resources	None	Woredas / Community Based Organizations	AWSA (Addis Ababa) ADAMA (Nazreth), DIRE DAWA
Ghana	Ministry of Water Resources, Works & Housing	The Water Resources Commission (WRC)/ PURC (Public Utilities Regulatory Commission)	The Community Water and Sanitation Agency / District Water and Sanitation Teams	Ghana Water Company
Kenya	Ministry of Water and Irrigation	Water Services Regulatory Board (WSRB)	NWCPC (15%) / Ministries (48%)	NWASCO (Nairobi) KIWASCO (Kisumu) MWSC (Mombassa)
Lesotho	Ministry of Natural Resources	None		WASA
Madagascar	Ministry of Energy and Mining	None	Water point committees	JIRAMA
Malawi	Ministry of Irrigation and Water Development	None	MolWD/Malawi Social Action Fund?	LWB BWB CRWB
Mozambique	Ministry of Public Works and Housing	Conselho de Regulação do Abastecimento de Água (CRA)	Provincial Directorate of Housing and Public Works	ADeM Bemba ADeM Nampula ADeM Quelimane ADeM Beira ADeM Maputo
Namibia	Ministry of Agriculture, Water and Forestry	None	Directorate of Rural Water Supply	Walvis Bay Municipality Windhoek Municipality Oshakati municipality
Niger	Ministry of Water National Committee on Sanitation	Autorité de Régulation Multisectorielle du Niger - ARM		Société de Exploitation des Eaux du Niger (SEEN) Société de Patrimoine des Eaux du Niger (SPEN)
Nigeria	Ministry of Water	None		Kaduna SWB FCT WB Plateau WB Katsina SWB Lagos SWC Ogun SWC

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Table 1.2: OVERVIEW OF TARGET INSTITUTIONS FOR DATA COLLECTION

Country	WSS line ministries	Water regulatory entity	Rural water agencies	Utilities
Rwanda	Ministry of Lands, Environment, Forestry, Water, and Mines	RURA		ELECTROGAZ
Senegal	Ministère de l'Agriculture et de l'Hydraulique	None	Directorate of Operations and Maintenance (DEM)	Senegalaise Des Eaux (SDE) ONAS (National sewerage agency)
South Africa	Department of Water Affairs and Forestry	None		City Of Tygerberg Durban Metro Water Services Joburg Water Drakenstein Municipality
Sudan	Ministry of Irrigation and Water Resources Ministry of Housing, Lands and Public Utilities			National Water Corporation Khartoum South Darfur Water Corporation Upper Nile Water Corporation
Tanzania	Ministry of Water and Livestock Development	Electricity and Water Utility Regulatory Authority (EWURA)	District Councils (DCs)/Water User Associations and Community Based Organizations (WUA/CBOs)	Dar es Salaam Water and Sewerage Company (DAWASCO) Dodoma Urban Water And Sewerage Authority (DUWS) Mwanza Water And Sewerage Authority (MWSA)
Uganda	Ministry of Water, Lands, and Environment	Directorate of Water Development	Directorate of Water Development, District Administration	National Water and Sewerage Company (NWSC)
Zambia	Ministry of Local Government and Housing 2	National Water and Sanitation Council (NWASCO)		Kafubu Water and Sewerage Company (KWSC) Lusaka Water and Sewerage Company (LWSC) Nkana Water and Sewerage Company (NWSC)



Part II Access to water supply

Table 2.1 Evolution of sources of water supply

Table 2.2a Coverage of piped water and stand posts, by geographic location and income quintiles

Table 2.2b Coverage of wells/boreholes and surface water, by geographic location and income quintiles

Table 2.3 Annual change in coverage of water supply sources

Note:

— = data not available

n.a. = not applicable

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 2.1: EVOLUTION OF SOURCES OF WATER SUPPLY

Percentage population	Piped Water		Stand posts		Well/borehole			Surface water			Vendors				
	Early 1990s	Late 1990s	Early 1990s	Late 1990s	Early 2000s	Early 2000s	Early 1990s	Late 1990s	Early 2000s	Early 1990s	Late 1990s	Early 2000s	Early 1990s	Late 1990s	Early 2000s
<b>By country</b>															
Benin	—	23	—	55	45	14	—	55	45	—	17	12	—	0	0
Burkina Faso	6	4	79	82	68	13	79	82	68	4	5	13	1	1	0
Central African Rep	3	—	38	—	—	—	38	—	—	39	—	—	0	—	—
Cameroon	12	11	28	27	32	26	28	27	32	35	37	28	0	1	0
Chad	—	3	—	72	66	7	—	72	66	—	12	18	—	7	4
Comoros	—	23	—	46	—	—	—	46	—	—	3	—	—	0	—
Congo, Rep.	—	—	—	—	15	23	—	—	15	—	—	30	—	—	1
Cote d'Ivoire	24	28	41	41	—	—	41	41	—	13	7	—	0	0	—
Ethiopia	—	4	—	6	10	16	—	6	10	—	78	68	—	0	0
Gabon	—	43	—	8	—	—	—	8	—	—	18	—	—	0	—
Ghana	14	15	33	35	42	20	33	35	42	34	27	20	1	1	1
Guinea	—	10	—	47	50	13	—	47	50	—	32	27	—	0	0
Kenya	16	20	25	22	22	9	25	22	22	45	47	46	0	0	0
Lesotho	—	11	—	15	33	48	—	15	33	—	20	8	—	0	0
Madagascar	5	6	16	23	22	18	16	23	22	65	59	55	0	1	0
Malawi	6	8	59	66	69	13	59	66	69	15	10	12	0	0	0
Mali	—	6	—	79	65	20	—	79	65	—	4	5	—	0	0
Mauritania	—	—	—	—	45	15	—	—	45	—	—	5	—	—	16
Mozambique	—	7	—	46	59	18	—	46	59	—	29	15	—	0	0
Namibia	31	37	27	32	—	—	27	32	—	21	8	—	1	0	—
Niger	5	6	75	72	—	—	75	72	—	3	3	—	4	5	—
Nigeria	11	10	32	44	54	9	32	44	54	42	28	23	3	3	6
Rwanda	2	6	2	10	20	25	2	10	20	75	54	51	0	0	0
Senegal	27	31	51	49	36	18	51	49	36	3	2	1	0	0	0
South Africa	—	59	—	4	—	—	—	4	—	—	14	—	—	1	—
Tanzania	10	14	31	41	41	25	31	41	41	34	24	24	0	1	2
Togo	—	18	—	38	—	—	—	38	—	—	26	—	—	0	—
Uganda	2	—	40	—	68	7	40	—	68	53	—	22	0	—	0
Zambia	31	21	24	45	47	16	24	45	47	26	17	19	0	0	0
Zimbabwe	27	33	54	52	—	—	54	52	—	11	8	—	0	0	—
Congo, Dem. Rep.	21	—	49	—	9	12	49	—	9	22	—	62	0	—	0
Sudan	—	21	—	45	—	—	—	45	—	—	20	—	—	0	—
<b>By income group</b>															
Low income	14	13	40	41	45	15	40	41	45	36	32	34	1	1	2
Middle income	50	45	11	11	12	21	11	11	12	33	20	26	1	1	1
<b>By urbanization</b>															
Low	6	7	33	34	37	16	33	34	37	54	38	41	1	1	1
Medium	25	23	57	49	52	15	57	49	52	34	31	38	0	0	0
High	7	8	28	34	39	16	28	34	39	32	23	20	2	2	4
<b>By subregion</b>															
East	10	9	40	41	45	17	40	41	45	43	41	45	1	1	2
West	15	15	51	54	56	17	51	54	56	34	24	22	2	2	4
South	34	34	25	36	31	16	25	36	31	31	24	21	0	0	0
Central	18	14	47	26	41	15	47	26	41	25	31	49	2	1	1
<b>Overall</b>	<b>18</b>	<b>17</b>	<b>37</b>	<b>38</b>	<b>41</b>	<b>16</b>	<b>37</b>	<b>38</b>	<b>41</b>	<b>41</b>	<b>31</b>	<b>33</b>	<b>1</b>	<b>1</b>	<b>2</b>

Source: AICD DHS/MICS Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 2.2a: COVERAGE OF PIPED WATER AND STAND POSTS (LATEST AVAILABLE YEAR)

Percentage population	Piped Water					Standposts				
	National	Urban	Rural	Q1	Q5	National	Urban	Rural	Q1	Q5
<b>By country</b>										
Benin	29	11	60	0	89	14	19	6	13	3
Burkina Faso	6	0	33	0	34	13	4	53	0	47
Central African Rep	3	0	6	0	13	19	2	43	0	47
Cameroon	13	2	24	0	49	26	10	43	0	35
Chad	4	0	22	0	22	7	2	23	0	18
Comoros	23	15	43	0	46	27	25	30	69	7
Congo, Rep.	26	3	46	0	90	23	5	40	4	6
Cote d'Ivoire	28	7	65	0	98	23	28	15	24	1
Ethiopia	6	0	48	0	30	16	12	41	0	37
Gabon	43	9	55	0	100	30	11	37	13	0
Ghana	15	2	34	1	60	20	8	38	2	27
Guinea	9	1	28	0	44	13	2	38	0	43
Kenya	18	10	50	0	62	9	7	20	3	14
Lesotho	11	2	50	0	50	48	50	38	55	31
Madagascar	5	2	17	0	24	18	10	47	0	50
Malawi	6	2	32	0	30	13	7	43	0	34
Mali	9	2	29	0	38	20	16	32	1	34
Mauritania	17	10	28	0	57	15	8	24	0	12
Mozambique	7	0	20	0	34	18	5	43	0	51
Namibia	37	16	79	0	100	21	22	19	13	0
Niger	6	0	31	0	26	13	7	37	0	31
Nigeria	7	2	15	0	18	9	6	17	4	15
Rwanda	3	1	16	0	15	25	22	41	0	48
Senegal	43	18	77	1	96	18	23	12	19	2
South Africa	59	25	88	3	100	19	30	10	31	0
Tanzania	7	3	22	0	30	25	19	45	12	42
Togo	18	3	51	1	63	18	15	23	8	21
Uganda	2	0	14	0	10	7	1	47	0	32
Zambia	18	3	46	0	77	16	4	36	0	17
Zimbabwe	33	4	93	0	99	7	8	6	1	1
Congo, Dem. Rep.	15	0	40	0	59	12	5	25	0	24
Sudan	21	10	37	0	77	8	5	12	8	6
<b>By income group</b>										
Low income	11	3	32	0	41	14	9	26	4	25
Middle income	44	17	69	2	86	22	24	21	22	10
<b>By urbanization</b>										
Low	7	2	33	0	31	16	11	39	3	35
Medium	17	4	42	0	64	12	6	23	3	21
High	21	7	39	1	49	15	12	20	10	13
<b>By subregion</b>										
East	10	3	37	0	39	15	11	31	4	29
West	12	3	28	0	38	13	9	21	5	19
South	29	8	65	1	67	17	14	22	12	22
Central	14	1	34	0	53	15	5	32	0	25
<b>Overall</b>	<b>15</b>	<b>4</b>	<b>38</b>	<b>0</b>	<b>46</b>	<b>15</b>	<b>10</b>	<b>25</b>	<b>6</b>	<b>23</b>

Source: AICD DHS/MICS Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 2.2b: COVERAGE WELLS/BOREHOLES AND SURFACE WATER (LATEST AVAILABLE YEAR)

Percentage population	Wells/Boreholes					Surface Water				
	National	Urban	Rural	Q1	Q5	National	Urban	Rural	Q1	Q5
<b>By country</b>										
Benin	45	54	28	50	8	12	16	5	37	0
Burkina Faso	68	79	13	65	19	13	16	1	35	0
Central African Rep	38	41	35	31	30	39	57	14	69	8
Cameroon	32	48	15	47	5	28	40	15	53	7
Chad	66	74	34	52	40	18	22	4	48	2
Comoros	46	54	24	19	46	3	3	1	10	0
Congo, Rep.	15	25	6	18	2	30	59	5	76	0
Cote d'Ivoire	41	54	20	56	2	7	12	0	20	0
Ethiopia	10	11	2	5	8	68	76	8	94	25
Gabon	8	24	3	22	0	18	56	5	64	0
Ghana	42	57	21	51	8	20	32	3	45	1
Guinea	50	59	30	30	13	27	37	4	69	0
Kenya	22	24	14	12	16	46	56	6	84	2
Lesotho	33	38	10	44	15	8	9	1	1	3
Madagascar	22	22	19	19	25	55	65	17	81	1
Malawi	69	78	24	84	33	12	14	1	16	2
Mali	65	75	37	95	27	5	6	2	4	1
Mauritania	45	68	15	96	6	5	8	1	4	1
Mozambique	59	73	33	68	13	15	21	3	32	1
Namibia	32	47	0	67	0	8	12	0	17	0
Niger	72	87	8	99	20	3	3	0	1	2
Nigeria	54	57	48	59	51	23	31	8	33	8
Rwanda	20	21	18	6	15	51	56	25	94	23
Senegal	36	56	10	77	0	1	2	0	2	0
South Africa	4	9	0	9	0	14	31	0	53	0
Tanzania	41	48	19	57	15	24	30	7	31	5
Togo	38	45	23	40	15	26	36	2	51	0
Uganda	68	73	35	66	52	22	24	2	34	4
Zambia	47	64	16	69	6	19	29	1	31	0
Zimbabwe	52	76	1	80	1	8	11	0	19	0
Congo, Dem. Rep.	9	8	11	4	4	62	86	22	96	12
Sudan	45	51	36	74	12	20	28	7	15	3
<b>By income group</b>										
Low income	40	45	29	46	22	32	41	8	49	7
Middle income	13	22	4	21	2	18	33	4	52	2
<b>By urbanization</b>										
Low	36	41	17	38	20	39	45	7	59	10
Medium	35	42	22	44	8	33	47	10	52	5
High	40	49	29	49	28	19	29	6	37	5
<b>By subregion</b>										
East	30	33	20	34	17	43	51	8	62	11
West	52	61	37	62	33	18	23	6	31	5
South	32	47	9	42	10	20	30	3	43	1
Central	21	24	14	19	9	48	69	16	80	9
<b>Overall</b>	<b>37</b>	<b>43</b>	<b>24</b>	<b>44</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: AICD DHS/MICS Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 2.3: AVERAGE ANNUAL CHANGE IN COVERAGE OF WATER SUPPLY SOURCES

Percentage population	National				Urban				Rural			
	Piped Water	Standposts	Wells/Boreholes	Surface Water	Piped Water	Standposts	Wells/Boreholes	Surface Water	Piped Water	Standposts	Wells/Boreholes	Surface Water
<b>By country</b>												
Benin	1.78	1.88	-0.39	-0.40	3.58	0.80	-1.09	0.30	1.04	2.46	-0.16	-0.93
Burkina Faso	0.69	1.40	-0.77	2.31	3.40	4.00	-1.01	0.13	-0.01	0.63	-0.37	2.81
Cameroon	0.45	0.81	1.33	-0.99	-0.01	1.34	0.90	0.72	-0.10	-0.77	2.46	-1.40
Chad	0.23	0.26	0.73	1.20	1.56	2.07	-0.34	0.27	-0.03	-0.17	0.74	1.34
Cote d'Ivoire	1.47	0.94	1.16	-0.72	3.81	-0.52	0.36	-0.04	0.44	1.77	1.37	-1.28
Ethiopia	0.44	1.09	0.89	-0.36	4.77	-0.27	-0.23	-1.08	0.04	1.55	1.02	-0.76
Ghana	0.26	0.30	2.09	-0.88	-0.18	0.60	2.65	-0.21	-0.20	-0.55	2.33	-0.80
Guinea	0.08	0.49	1.45	-0.16	0.47	2.10	0.10	0.16	0.01	-0.10	1.93	-0.45
Kenya	0.09	0.20	0.40	0.86	0.03	-0.12	1.49	0.35	0.05	0.26	0.14	1.05
Lesotho	0.00	-0.47	3.75	-2.45	2.69	-0.47	0.63	-0.66	0.04	-0.66	4.25	-3.19
Madagascar	0.03	1.18	0.25	0.53	0.39	2.03	0.33	-0.41	0.01	1.14	0.20	0.50
Malawi	-0.09	-0.31	2.69	0.60	-0.64	3.01	3.10	0.10	0.03	-0.93	2.58	0.69
Mali	0.83	2.14	-0.57	0.28	3.00	1.25	-0.37	0.28	0.25	2.77	-1.18	0.22
Mozambique	0.16	0.28	2.95	-1.81	-0.12	0.80	2.31	0.39	-0.07	-0.58	3.73	-2.38
Namibia	1.43	0.57	1.06	-1.19	1.75	1.15	-0.21	-0.08	1.18	0.30	1.75	-1.69
Niger	0.27	0.52	1.55	-0.02	1.49	0.93	0.28	-0.12	-0.08	0.35	2.05	0.01
Nigeria	-0.57	-0.66	3.60	-0.39	-1.37	-0.63	3.99	1.06	-0.30	-0.82	3.09	-1.24
Rwanda	-0.39	0.33	2.51	1.81	-0.66	3.67	3.03	3.15	-0.04	-0.18	2.35	1.10
Senegal	1.98	0.44	-0.99	-0.07	2.28	-0.42	-0.25	-0.03	1.25	1.09	-1.07	-0.09
Tanzania	-1.01	1.36	0.82	0.50	-3.50	3.91	1.37	0.70	-0.18	0.59	0.60	0.41
Uganda	0.12	0.71	6.53	-2.75	0.85	4.67	2.01	-1.98	0.01	0.12	7.20	-2.86
Zambia	-0.13	0.19	0.95	0.66	-0.05	1.09	0.42	0.01	0.19	-0.11	0.85	0.83
Zimbabwe	1.69	-0.02	0.52	-0.42	2.93	0.46	-0.19	0.00	0.27	-0.20	1.47	-0.49
Congo, Dem. Rep.	-0.16	1.12	-4.75	7.53	-0.31	2.56	-0.67	3.43	0.04	0.31	-7.09	9.89

Source: AICD DHS/MICS Database 2007

Part III State of institutions

Table 3.1	State of institutions: Urban water supply reform index
Table 3.2	State of institutions: Description of urban water supply reform index
Table 3.3	State of institutions: Regulation index
Table 3.4	State of institutions: Description of regulation index
TABLE 3.5a	State of institutions: SOE Governance index - Ownership & Shareholder Quality and Managerial and Board Autonomy
TABLE 3.5b	State of institutions: SOE Governance index - Accounting and Disclosure and Performance Monitoring
TABLE 3.5c	State of institutions: SOE Governance index - Outsourcing, Labor and Capital Market Discipline
Table 3.6	State of institutions: Description of SOE Governance index

Note:

— = data not available

n.a. = not applicable

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.1: URBAN WATER SUPPLY REFORM INDEX

	Legislation		Restructuring			Policy Oversight						Private Sector Involvement							Urban Reform Index
	1. Existence of reform	2. Legal reform	3. Unbundling	4. Separation of business lines	5. SOE corporatization	6. Existence of regulatory body	7. Tariff Approval Oversight	8. Investment Plan Oversight	9. Technical Standard Oversight	10. Regulation Monitoring Oversight	11. Dispute Arbitration Oversight	12. Private De Jure	13. Private De Facto	14. Private sector management	15. Private sector investment	16. Absence of distressed Private Sector Participation	17. Absence of Renationalization	18. Private Ownership	
<b>By country</b>	1	1	0	0	1	0	0	1	1	1	1	0	0	0	0				51%
Benin	1	1	1	0	1	0	1	1	1	0	0	1	0	0	0				58%
Burkina Faso	1	1	0	0	1	1	1	1	1	1	1	1							68%
Cape Verde	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0				16%
Chad	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1			76%
Cote d'Ivoire	0	0	0	1	0	1	1	0	0	1	1	0	1	1	0	0			38%
DRC	1	1	0	0	0	0	1	0	0	1	0	1	0	0	0				40%
Ethiopia	1	1	0	1	1	1	1	0	0	0	1	1	1	1	0	1	1	0	74%
Ghana	1	1	0	0	1	1	0	1	1	1	1	1	1	1	0	1	1	0	78%
Kenya	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0				50%
Lesotho	1	1	0	1	0	0	1	1	1	1	1	1	1	0	0	1			71%
Madagascar	1	0	0	1	1	0	0	0	0	0	1	1	0	0	0				35%
Malawi	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	84%
Mozambique	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0		1	0	36%
Namibia	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	1	1	0	80%
Niger	0	0	0	1	1	0	1	1	1	1	1	1	1	0	0	1			53%
Nigeria	0	0	0	1	1	1	0	0	1	1	0	1	1	1	0	0			44%
Rwanda	1	1	0	1	1	0	0	1	1	1	0	1	1	1	0	1	1	0	73%
Senegal	1	1	1	0	1	0	1	0	0	0	0	1	1	1	0	1	1	0	63%
South Africa	1	1	0	1	1	1	1	1	0	1	1	1	1	0	0	1			79%
Sudan	1	1	0	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	74%
Tanzania	1	1	1	0	1	0	1	0	1	1	0	1	1	1	0	1	1	0	73%
Uganda	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0		1	0	68%
Zambia	1	1	0	0	1	0	0	1	1	1	1	0	0	0	0				51%

Source: AICD WSS Survey Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.2: DESCRIPTION OF URBAN WATER REFORM INDEX

Sub-index	Indicator	Definition
Legislation	1. Existence of reform	0= No reform of the water services delivery; 1=Reform of the water services delivery;
	2. Legal reform	0=No new sector legislation passed within the last 10 years; 1=New sector legislation passed in the last 10 years;
Restructuring	3.Unbundling	0= Same entity responsible for bulk water production and distribution in urban areas; 1=Different entities responsible for bulk water production and distribution in urban areas;
	4. Separation of business lines	0= No separation of water and wastewater services from provision in urban area; 1= Separation of water and wastewater provisions in urban areas;
	5.SOE corporatization	0=No state owned water utility corporatized in urban area; 1=At least one state-owned water utility corporatized;
	6.Existence of regulatory body	0=No autonomous regulatory body; 1=Autonomous regulatory body;
Policy Oversight	7.Tariff approval oversight	0=Oversight on tariff by line ministry; 1=Oversight on tariff by a special entity within the ministry, an inter-ministerial committee or the regulator;
	8.Investment plan oversight	0=Oversight on investment plan by line ministry; 1=Oversight on investment plan by a special entity within the ministry, an inter-ministerial committee or the regulator;
	9.Technical standard oversight	0=Oversight on technical standards by line ministry; 1=Oversight on technical standards by a special entity within the ministry, an inter-ministerial committee or the regulator;
	10.Regulation monitoring oversight	0=Oversight on compliance with economic regulation by line ministry; 1=Oversight on compliance with economic regulation by a special entity within the ministry, an inter-ministerial committee or the regulator;
	11.Dispute arbitration oversight	0=Oversight on dispute arbitration by line ministry; 1=Oversight on dispute arbitration by a special entity within the ministry, an inter-ministerial committee or the regulator;
Private Sector Involvement	12.Private de jure	0=Private participation forbidden by law; 1=Private participation allowed by law;
	13.Private de facto	0=No private participation in the three largest utilities; 1=At least a form of private participation in the three largest utilities;
	14.Private sector management	0=No Private Sector Involvement or Service and Works contracts only; 1=Management contract, Affermage, Lease, Concession;
	15. Private sector investment	0=No Private Sector Involvement, Service and Works contracts, Management contract, Affermage, Lease; 1=Concession;
	16.Absence of distressed private sector participation	0=Cancelled, distressed private sector participation; 1=Operational, concluded and not renewed private sector participation;
	17. Absence of renationalization	0=Cancelled;1=Distressed, operational, concluded and not renewed private sector participation;
	18. Private ownership	0=Concession, Management, Lease Contract; 1=Greenfield/divestiture;

Source: AICD WSS Survey Database 2007



## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.3: REGULATION INDEX

	Autonomy							Transparency			Accountability			Tools			Regulation Index		
	1. Formal autonomy-hire	2. Formal autonomy-fire	3. Partial financial autonomy/Operating Budget - Central Government	4. Full financial autonomy/Operating Budget - Sector Levies	5. Partial managerial autonomy/Vetoing Instance	6. Full managerial autonomy/Vetoing Instance	7. Multisectoral	8. Commissioner	9. Publicity of decisions reports only	10. Publicity of decisions internet only	11. Publicity of decisions public hearing only	12. Appeal	13. Partial independence of appeal	14. Full independence of appeal	15. Tariff methodology	16. Tariff indexation		17. Regulatory review	18. Length regulatory review
<b>By country</b>																			
Benin	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0		25%	
Burkina Faso	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	1	1	52%
Cape Verde	0	0	1	1	1	0	1	1	1	1	1	1	1	0	1	0	1	1	76%
Chad	0	0	0	0	0	0	0	0	0	0	0	1	0	0			1		33%
Cote d'Ivoire	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	1	1	44%
DRC	0		0	0	1	1	1	1	0	0	0	1	0	0	1	0	1	0	35%
Ethiopia	0	0	0		1	0		0	1	0	1	0			1	0	0		29%
Ghana	0	0			0	0	1	1	1	1	1	0	1	0	0	0	1	1	54%
Kenya	0	0	1	0	0	0	0	1	1	1	1	1	1	0	0	1	1	0	60%
Lesotho	0	0	0	0	0	0	0	0	1	0	0	0			0	1	1	1	27%
Madagascar	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0		17%
Malawi	0	0	0	0	0	0	0	0	1	0	1				0	0	1		25%
Mozambique	0	0	1	1	1	0	0	1	1	0	0	1	1	0	0	1	1	1	56%
Namibia	0	0	0	0	0	0	0	0	1		0					1	0	0	21%
Niger	0	0	1	1	1	0	1	1	1	1	0	1	1	0	1	0	1	0	61%
Nigeria	0	0	0	0	0	0	0	0							1	1	0		17%
Rwanda	0	0	1	1	0	0	1	1	1	1	1	0			1	0	0		46%
Senegal	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	1	1	0	60%
South Africa	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	15%
Sudan	0	0	1	0	0	0	0	1	1	0	0	1	0	0		1	1	1	48%
Tanzania	0	0	1	0	0	0	1	1	1	1	1	1	1	0	1	1	0		68%
Uganda	0	0	0	0	0	0	0	0	1	1	1				1	1	1		50%
Zambia	0	0	1	0	1	0	0	1	1	1	1	1	1	0	0	0	1		59%

Source: AICD WSS Survey Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.4: DESCRIPTION OF REGULATION INDEX

Sub-index	Indicator	Definition
Autonomy	1. Formal autonomy-hire	0=Appointment by government/line ministry; 1=Otherwise;
	2. Formal autonomy-fire	0=Firing by government/line ministry; 1=Otherwise;
	3. Partial financial autonomy/Operating Budget - Central Government	0=Budget fully funded by government; 1=At least a portion of budget funded through fees and/or donors;
	4. Full financial autonomy/Operating Budget - Sector Levies	0=At least a portion of budget funded through government and/or donors; 1=Budget fully funded through fees;
	5. Partial managerial autonomy/Vetoing Instance	0=Veto decision by government/line ministry/others; 1=No veto decision;
	6. Full managerial autonomy/Vetoing Instance	0=Veto decision by government/line ministry/others; 1=No veto decision;
	7. Multisectoral	0=Sector specific regulator; 1=Multi-sectoral regulator
	8. Commissioner	0=Individual; 1=Board of Commissioners;
Transparency	9. Publicity of decisions reports only	0=Regulatory decisions not publicly available; 1=Regulatory decisions publicly available through reports;
	10. Publicity of decisions internet only	0=Regulatory decisions not publicly available or available only through reports; 1=Regulatory decisions publicly available through internet;
	11. Publicity of decisions public hearing only	0=Regulatory decisions not publicly available or available only through reports/internet; 1=Regulatory decisions publicly available through public hearings;
Accountability	12. Appeal	0=No right to appeal regulatory decisions; 1=Right to appeal regulatory decision;
	13. Partial independence of appeal	0=Appeal to government/line ministries; 1=Appeal to bodies other than government/line ministries;
	14. Full independence of appeal	0=No recourse to independent arbitration; 1=Possibility to appeal to independent arbitration;
Tools	15. Tariff methodology	0=No tariff methodology; 1=Some tariff methodology;
	16. Tariff indexation	0=No tariff indexation 1=Some tariff indexation
	17. Regulatory review	0=No tariff review; 1=Periodic tariff review;
	18. Length regulatory review	0=No tariff review or review lower than every 3 years; 1=Multiyear tariff review (great or equal to 3);

Source: AICD WSS Survey Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.5a: SOE GOVERNANCE INDEX - Ownership &amp; Shareholder Quality and Managerial and Board Autonomy

Country	Provider	Ownership & Shareholder Quality					Managerial and Board Autonomy							
		1. Concentration of ownership	2. Corporatization	3. Limited Liability	4. Rate of Return Policy	5. Dividend Policy	6. Hiring	7. Laying off	8. Wages	9. Production	10. Sales	11. Size of board	12. Selection of Board members	13. Presence of Independent Directors
Benin	SONEB	1	1	0	0	0	1	1	1	1	1	1	0	0
Burkina Faso	ONEA	1	1	0	1	1	1	1	1	1	1	1	0	0
Cape Verde	ELECTRA	0	1	0	0	0	1	1	1	0	0	1	1	0
Chad	STEE	1	1	0	0	0	1	1	1	1	1	0	1	0
Cote d'Ivoire	SODECI	0	1	0		1	1	1	1	0	0	0		
DRC	REGIDESO	1	0	0	1	1	1	1	1	1	1	1	0	0
Ethiopia	ADAMA	1	0	0	1	0	1	1	1	1	1	0	0	0
	AWSA	1	0	0	1	0	1	1	1	1	0	0	0	0
	DIRE DAWA	1	0	0	1	0	0	0	0	1	1	1	0	0
Ghana	GWC	1	1	1	0	0	0	0	1	0	1	1	0	1
Kenya	KIWASCO	1	1	1	1	0	0	1	0	0	0	0	1	1
	MWSC	1	0	0	0	0	1	1	1	1	1	0	1	1
	NWASCO	1	1	0	1	0	1	1	1	1	1	0	1	1
Lesotho	WASA	1	1	0	1	0	1	1	1	1	1	1	0	1
Madagascar	JIRAMA	1	0	0	0	0	1	1	1	1	0	1	1	0
Malawi	BWB	1	1	0	1	1	0	0	1	1	1	0	0	0
	CRWB	1	1	0	1	1	1	1	1	1	1	0	0	0
	LWB	1	1	0	1	1	0	0	0	1	1	1	0	0
Mozambique	AdeM Beira	1	1	0	0	0	1	1	1	1	1		0	
	AdeM Maputo	1	0	0	1	1	1	1	1	1	1	1	1	0
	AdeM Nampula	1	1	0	0	0	1	1	1	1	1		0	
	AdeM Pemba	1	1	0	0	0	1	1	1	1	1		0	
	AdeM Quilimane	1	1	0	0	0	1	1	1	1	1		0	
Namibia	Oshakati Municipality	1			0	0	0	0	0		0			
	Walvis Bay Municipality	1			0	0	1	1	1	1	1			
	Windhoek Municipality	1			0	0	0	0	0	1	0			
Niger	SEEN	0			1	1	1	1	1	0	0	1	1	1
	SPEN	1	1	0	0	0	1	1	1	0	0	1	0	0
Nigeria	Borno	0	1	0	0	0	1	1	1	0	0		1	
	FCT	1	0	0	0	0	0	0	0	1	1			
	Kaduna	0	1	0	0	0	0	1	1	0	0	0	1	0

URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

	Katsina	0	1	0	0	0	0	1	1	0	0	0	1	0
	Lagos	0	1	0	0	0	0	1	1	0	0		1	
	Plateau	0	1	0	0	0	0	1	1	0	0		1	
Rwanda	ELECTROGAZ	1	0	0	1	1	1	1	1	1	1	1	0	0
Senegal	ONAS	1	0	0	0	0	1	1	1	0	0	1		1
	SDE	0			1	1	1	0	1	0	0	0	1	0
South Africa	Cape Town Metro	1	0	0	0	0	0	0	1	0	0			
	Drakenstein Municipality	1	0	0	0	0	0	0	1	0	0			
	eThekwin Metro (Durban)	1	0	0	0	0	0	0	1	0	0			
	Joburg	1	1	1	0	0	0	0	1	0	0	1	0	
Sudan	Khartoum Water Corporation	0	1	0	1	0	1	0	1	1	1	0	0	0
	South Darfur Water Corporation	0	1	0	1	1	1	1	1	1	1	0	0	1
	Upper Nile Water Corporation	0	0	0	0	0	0	0	0	1	1	1	1	0
Tanzania	DAWASCO	1	1	0	1	0	1	1	1	1	1	1	0	1
	DUWS	1	1	0	0	0	1	1	1	1	0	0	0	1
	MWSA	1	0	0	1	0	1	1	1	1	1	0	0	0
Uganda	NWSC	1	1	0	1	0	1	1	1	1	1	0	0	1
	LWSC	1	1	1	1	1	1	1	1	1	1	1	0	1
Zambia	NWSC	1	0	0	1	1	1	1	1	1	1	0	1	1
	SWSC	1	1	1		1	0	0	1	0	0	0	1	1

Source: AICD WSS Survey Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.5b: SOE GOVERNANCE INDEX- Accounting and Disclosure and Performance Monitoring

		Accounting and Disclosure and Performance Monitoring											
Country	Provider	14. Publication of Annual Reports	15. IFRS	16. External Audits/Existence of Financial External Audit	16. External Audits/Existence of Operational External Audit	17. Independent Audit of Accounts	18. Audit Publication	19. Remuneration for non-commercial activities	20. Performance contracts	21. Performance contracts with incentives	22. Penalties for poor performance	23. Monitoring	24. Third party monitoring
Benin	SONEB	1	1	1	1	1	1	0	0	0	0	1	1
Burkina Faso	ONEA	1	1	1	1	1	0	0	1	0	1	1	0
Cape Verde	ELECTRA	1	0	1	1	1	1	0	0	0	0	1	0
Chad	STEE	0	0	1	1	1	0	0	1	0	1	0	1
Cote d'Ivoire	SODECI	0	1	1				1	1	1	1	0	1
DRC	REGIDESO	1	1	1	0	1	1	1	1	0	0	0	0
Ethiopia	ADAMA	0	0	1	0	0		0	0	1	1	1	4
	AWSA	0	1	1	1	1	1	1	0	1	1	1	0
	DIRE DAWA	0	0	0	0	0		0	0	0	0	1	1
Ghana	GWC	1	1	1		1	1	0	1	0	1	1	0
Kenya	KIWASCO	1	1	1	1	1	1	0	1	1	1	1	1
	MWSC	0	0	1	1	1	1	0	0	0	0	1	1
	NWASCO	1	1	1	1	1	1	0	0	0	0	1	1
Lesotho	WASA	1	1	1	1	1	1	0	0	0		1	0
Madagascar	JIRAMA	0	1	1	0	0		1	0	0	0	0	1
Malawi	BWB	1	1	1	1	1	1	0	1	1	1	1	1
	CRWB	1	0	1	0	1	1	0	0	0	1	1	1
	LWB	1	1	1	0	1	1	0	0	1	1	1	1
Mozambique	AdeM Beira	1	1	1	1	1	1	0	0	1	0	1	1
	AdeM Maputo	1	0	1	1	1	0	1	1	0	0	0	1
	AdeM Nampula	1	1	1	1	1	1	0	0	1	0	1	1
	AdeM Pemba	1	1	1	1	1	1	0	0	1	0	1	1
	AdeM Quilimane	1	1	1	1	1	1	0	0	1	0	1	1
Namibia	Oshakati Municipality	0	0	1	0	1	1		0	0	0	0	1
	Walvis Bay Municipality	1	0	1	0	1	1	0	1	0	0		1
	Windhoek Municipality	1	0	1	1	1	1	0	0	1	1	1	1
Niger	SEEN	1	1	1	1	1	0	0	1	1	0	0	0

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

	SPEN	1	1	1	1	1	0	0	1	1	0	0	1
Nigeria	Borno	0	1	1	0	1	0	0	0	0	0	0	1
	FCT	1	1	1	0	1	0	0	0	0	1	1	1
	Kaduna	0	1	1	0	1	0	0	0	0	0	0	1
	Katsina	0	1	1	0	1	0	0	0	0	0	0	1
	Lagos	0	1	1	0	1	0	0	0	0	0	0	1
	Plateau	0	1	1	0	1	0	0	0	0	0	0	1
	Rwanda	ELECTROGAZ	0	0	1	1	0	0	0	1	0	0	0
Senegal	ONAS	0	1	1	1	1	1	0	1	0	1		0
	SDE	0	1	1	1	1	0	1	1	1	1	1	1
South Africa	Cape Town Metro	1	0	1	0	1	1	1	1	1	0	0	0
	Drakenstein Municipality	1	0	1	0	1	1	1	1	1	0	0	0
	eThekwin Metro (Durban)	1	0	1	0	1	1	1	1	1	0	0	0
	Joburg	1	1	1	0	1	1	1	1	1		1	1
Sudan	Khartoum Water Corporation	1	0	1	0	1	0	1	1	1	0	0	0
	South Darfur Water Corporation	0	0	1	0	0		1	0	1	0	0	0
	Upper Nile Water Corporation	0	0	0	0	0		0	0	0	0	0	0
Tanzania	DAWASCO	1	1	1	1	1	1	1	1	1	1	1	0
	DUWS	1	1	1	1	1	0	1	1	1	1	1	1
	MWSA	1	1	1	1	1	1	1	1	1	1	0	1
Uganda	NWSC	1	1	1	1	1	1	1	1	1	1	1	0
Zambia	LWSC	1	1	1	1	1	1	0	1	0	0	1	1
	NWSC	1	1	1	1	1	0	0	1	1	0	1	1
	SWSC	1	1	1	1	1	1	0	0	1	1	1	0

Source: AICD WSS Survey Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.5c: SOE GOVERNANCE INDEX – Outsourcing, Labor and Capital Market Discipline

Country	Provider	Outsourcing		Labor Market Discipline				Capital Market Discipline				SOE Governance Index	
		25. Billing and collection	26. Meter Reading	27. Human Resources (HR)	28. IT	29. Restriction to dismiss employees	30. Wages - compared to pvt sector	31. Benefits –vs private sector	32. No exemption from taxation	33. Access to debt - vs private sector	34. No state guarantees		35. Public Listing
Benin	SONEB	0	0	0	0	1	1	1	0	1	1	0	55%
Burkina Faso	ONEA	0	0	0	0	1	1	1	1	0	0	0	58%
Cape Verde	ELECTRA	1	0	0	0	0	1	1	0	0	0	0	37%
Chad	STEE	0	0	0	0	0	1	1	0		1	0	44%
Cote d'Ivoire	SODECI	0	0	0	0	1	1	1	1			1	63%
DRC	REGIDESO					0	1	1	0	0	0	0	52%
Ethiopia	ADAMA					0	0	0	0	1	1	0	45%
	AWSA					1	0	0	0	1	1	0	50%
	DIRE DAWA					0	0	0	0	1	1	0	29%
Ghana	GWC	0	0	0	0	0	1	1	0	0	0	0	42%
Kenya	KIWASCO	0	0	0	0		1	1	0	0	1	0	56%
	MWSC	0	0	0	0	0	1	1	0	0	0	0	37%
	NWASCO	0	0	0	0		1	1	0	0	1	0	57%
Lesotho	WASA	0	0	0	0	1	1	1	1	0	0	0	56%
Madagascar	JIRAMA	0	0	1	0	0	1	1	1	1	0	0	46%
Malawi	BWB	0	0	0	0	0	1	1	1	1	0	0	54%
	CRWB					0	1	1	0	0	0	0	54%
	LWB	0	0	0	0	1	1	1	1	1	0	0	57%
Mozambique	AdeM Beira	1	1	1	1	0	1	1	1	1	0	0	69%
	AdeM Maputo	0	0	0	1	1	1	1	1	1	1	0	68%
	AdeM Nampula	1	1	1	1	0	1	1	1	1	0	0	69%
	AdeM Pemba	1	1	1	1	0	1	1	1	1	0	0	69%
	AdeM Quilimane	1	1	1	1	0	1	1	1	1	0	0	69%
Namibia	Oshakati Municipality	0	0	0	0	0	0	0			1	0	20%
	Walvis Bay Municipality	0	0	0	1	0	0	0	0	1	1	0	44%
	Windhoek Municipality	0	0	0	0	0	0	1	1	0	0	0	31%
Niger	SEEN	0	0	0	1	0	1	1	1	1	1	0	61%
	SPEN	0	0	0	1	0	1	1	1	0	0	0	46%
Nigeria	Borno	0	0	0	0	0	0	1	1	1	0	0	34%
	FCT					0	0	0	1	1	1	0	39%

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	Kaduna	1	0	0	0	0	0	1	1	1	0	0	33%
	Katsina	0	0	0	0	0	0	1	1	1	0	0	29%
	Lagos	1	0	0	0	0	1	1	1	1	0	0	41%
	Plateau	0	0	0	0	0	0	1	1	1	0	0	31%
Rwanda	ELECTROGAZ	0	0	0	1	0	1	0	1	1	1	0	50%
Senegal	ONAS	0	0	0	0		1	1	1	0	1	0	51%
	SDE	0	0	0	0	1	1	1	1	1	1	0	60%
South Africa	Cape Town Metro					0	0	0	1	1	1	0	35%
	Drakenstein Municipality					0	0	0	1	1	1	0	35%
	eThekweni Metro (Durban)					0	0	0	1	1	1	0	35%
	Joburg	1	1	0	1	0	1	1	1	1	1	0	66%
Sudan	Khartoum Water Corporation	1	1	1	1	0	1	1	1	1	0	0	59%
	South Darfur Water Corporation					0	1	1	1	1	0	0	56%
	Upper Nile Water Corporation					0	0	0	1		0	0	17%
Tanzania	DAWASCO	0	0	1	0	0	1	0	0	1	0	0	54%
	DUWS	0	0	0	0	0	1	1	0	1	1	0	52%
	MWSA	0	0	0	0	0	0	0	0	1	0	0	37%
Uganda	NWSC	0	0	1	0	1	0	0	1	0	0	0	52%
Zambia	LWSC	0	0	0	0	1	1	1	1	1	1	0	73%
	NWSC					1	1	1	1	1	0	0	75%
	SWSC	0	0	0	0	1	1	1		0	0	0	52%

Source: AICD WSS Survey Database 2007



## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 3.6: DESCRIPTION OF SOE GOVERNANCE INDEX

Sub-index	Indicator	Definition
Ownership & Shareholder Quality	1. Concentration of ownership	0=ownership diversified, 1=100% owned by one state body (central government or municipal government);
	2. Corporatization	0=Non-corporatized (uncorporatized state owned enterprise), 1=Corporatized;
	3. Limited Liability	0= Non limited liability, 1= Limited liability company;
	4. Rate of Return Policy	0 = No requirement to earn a rate of return, 1 = Requirement to earn a rate of return;
	5. Dividend Policy	0 = No requirement to pay dividends, 1 = Requirement to pay dividends;
Managerial and Board Autonomy	6. Hiring	0=Either Manager or Board has not the most decisive influence on hiring decisions; 1=Either Manager or Board has the most decisive influence on hiring decisions;
	7. Laying off	0=Either Manager or Board has not the most decisive influence on firing decisions; 1=Either Manager or Board has the most decisive influence on firing decisions;
	8. Wages	0=Either Manager or Board has not the most decisive influence on setting wages/bonuses; 1=Either Manager or Board has the most decisive influence on setting wages/bonuses;
	9. Production	0=Either Manager or Board has not the most decisive influence on how much to produce; 1=Either Manager or Board has the most decisive influence on how much to produce;
	10. Sales	0=Either Manager or Board has not the most decisive influence on whom to sell; 1=Either Manager or Board has the most decisive influence on whom to sell;
	11. Size of board	0=Number of members of board lower than a given threshold (<5); 1=Number of members of board greater than a given threshold (>5)
	12. Selection of Board members	0=Board members appointed only by government; 1=Board members appointed by shareholders (either group of shareholder; all shareholder; other);
	13. Presence of Independent Directors	0=No independent directors in the Board; 1=At least one independent director in the Board;
Accounting and Disclosure and Performance Monitoring	14. Publication of Annual Reports	0=Annual reports not publicly available; 1=Annual reports publicly available;
	15. IFRS	0= IFRS not applied; 1=Compliance to IFRS;
	16a. External Audits/Existence of Financial External Audit	0=No operational or financial audit; 1=At least some form of external audit;
	16b. External Audits/Existence of Operational External Audit	0=No operational or financial audit; 1=At least some form of external audit;
	17. Independent Audit of Accounts	0=No independent audit of accounts; 1=Independent audit of accounts;
	18. Audit Publication	0=Audit not publicly available; 1=Audit not publicly available;
	19. Remuneration for non-commercial activities	0=No remuneration of non commercial activities; 1=Remuneration of non commercial activities;
	20. Performance contracts	0=No performance contracts; 1=Existence of performance contract;
	21. Performance contracts with incentives	0=Performance based incentive systems; 1=Existence of performance based incentive systems;
22. Penalties for poor performance	0=No penalties for poor performance; 1=Penalties for poor performance;	

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

	23. Monitoring	0=No periodic monitoring of performance; 1=Periodic monitoring of performance (at least semi-annual);
	24. Third party monitoring	0=No monitoring of performance by third party (private sector auditor); 1=Monitoring of performance by third party;
Outsourcing	25. Billing and collection	0=No billing and collection outsourcing; 1= Billing and collection outsourcing;
	26. Meter Reading	0=No meter reading outsourcing; 1=Meter reading outsourcing;
	27. Human Resources (HR)	0=No HR Outsourcing; 1=HR Outsourcing;
	28. IT	0=No IT outsourcing; 1=IT outsourcing;
Labor Market Discipline	29. Restriction to dismiss employees	0=Restrictions to dismiss employees only within public service guidelines; 1=Restrictions to dismiss employees according to corporate law or contract;
	30. Wages - compared to pvt sector	0=Wages compared to public sector; 1=Wages compared to private sector (or in between public and private sector);
	31. Benefits –vs private sector	0=Benefits compared to public sector; 1=Benefits compared to private sector (or in between public and private sector);
Capital Market Discipline	32. No exemption from taxation	0=Exemption from taxation; 1=No exemption from taxation;
	33. Access to debt - vs private sector	0=Access to debt below the market rate; 1=Access to debt equal or above the market rate;
	34. No state guarantees	0=At least one state guarantee; 1=No state guarantee;
	35. Public Listing	0=No public listing; 1=Public listing;

Source: AICD WSS Survey Database 2007

Part IV State of utilities

Table 4.1a	State of utilities: Access
Table 4.1b	State of utilities: Access
Table 4.2a	State of utilities: Access, by categories
Table 4.2b	State of utilities: Access, by categories
Table 4.3	State of utilities: Distribution infrastructure
Table 4.4	State of utilities: Distribution infrastructure, by categories
Table 4.5	State of utilities: Service quality
Table 4.6	State of utilities: Water production and distribution
Table 4.7	State of utilities: Service quality, water production and distribution, by categories
Table 4.8	State of utilities: Staffing and energy, commercial performance
Table 4.9	State of utilities: Staffing and energy, commercial performance, by categories
Table 4.10	State of utilities: Costs, revenues
Table 4.11	State of utilities: Financial performance
Table 4.12	State of utilities: Costs, revenues, financial performance, by categories
Table 4.13	Quasi fiscal deficit: by utility
Table 4.14	Quasi fiscal deficit: by country
Table 4.15	Attributes of urban water supply sector
Table 4.16	Key performance indicators, by sector attributes
Table 4.17	Attributes of urban water supply sector

Note:

— = data not available

n.a. = not applicable

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.1a: ACCESS

Country	Utility	Access by private residential connection		Access by residential connection from neighbors		Access by standpost		Population in the service area that receive utility water somehow	
		unit	%	unit	%	unit	%	unit	%
Benin	SONEB		25		25		—		—
Burkina Faso	ONEA		25		11		20		56
Cameroon	SNEC		—		—		—		—
Cape Verde	ELECTRA		46		0		—		—
Chad	STEE		—		—		—		—
Cote d'Ivoire	SODECI		30		—		—		—
DRC	REGIDESO		19		20		2		41
Ethiopia	ADAMA		32		46		21		100
Ethiopia	AWSA		—		—		—		—
Ethiopia	DIRE DAWA		19		51		30		100
Ghana	GWC		9		—		—		—
Kenya	KIWASCO		10		76		15		101
Kenya	MWSC		34		11		—		—
Kenya	NWASCO		51		45		70		166
Lesotho	WASA		34		11		22		67
Madagascar	JIRAMA		13		6		14		33
Malawi	BWB		25		21		5		52
Malawi	CRWB		20		—		—		—
Malawi	LWB		36		23		20		79
Mozambique	AdeM Beira		11		1		12		24
Mozambique	AdeM Maputo		25		0		12		38
Mozambique	AdeM Nampula		8		0		11		19
Mozambique	AdeM Pemba		16		0		32		48
Mozambique	AdeM Quilimane		5		0		5		9
Namibia	Oshakati Municipality		49		—		—		—
Namibia	Walvis Bay Municipality		100		0		0		100
Namibia	Windhoek Municipality		73		0		—		—
Niger	SPEN/SEEN		—		—		29		72
Nigeria	Borno		—		—		—		—
Nigeria	FCT		10		—		—		—
Nigeria	Kaduna		48		0		3		51
Nigeria	Katsina		—		—		0		—
Nigeria	Lagos		3		—		—		—
Nigeria	Plateau		—		—		22		—
Rwanda	ELECTROGAZ		11		8		50		69

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Senegal	ONAS	n.a.	n.a.	n.a.	n.a.
Senegal	SDE	66	1	19	86
South Africa	Cape town metro	92	0	8	100
South Africa	Drakenstein Municipality	90	0	9	100
South Africa	eThekweni Metro (Durban)	90	0	10	100
South Africa	Joburg	88	0	10	99
Sudan	Khartoum Water Corporation	27	0	0	27
Sudan	South Darfur Water Corporation	11	40	20	70
Sudan	Upper Nile Water Corporation	38	0	7	45
Tanzania	DAWASCO	—	—	—	—
Tanzania	DUWS	34	0	48	82
Tanzania	MWSA	20	-16	5	9
Uganda	NWSC	27	46	3	76
Zambia	LWSC	23	3	50	77
Zambia	NWSC	60	—	—	—
Zambia	SWSC	59	—	—	—

Source: AICD WSS Survey Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.1b: ACCESS

Country	Utility	Share of standposts that are functioning	Population per standpost	Share of total connections that are residential	Share of total connections that are non-residential	Share of total connections that are standposts	Share of households with water connection that have a wastewater connection
		unit	%	cap/standpost	%	%	%
Benin	SONEB	—	—	89	9	2	n.a.
Burkina Faso	ONEA	100	300	96	3	2	0
Cameroon	SNEC	—	—	—	—	—	—
Cape Verde	ELECTRA	—	—	91	7	2	—
Chad	STEE	—	—	—	—	—	n.a.
Cote d'Ivoire	SODECI	—	—	97	2	0	48
DRC	REGIDESO	61	300	95	4	1	n.a.
Ethiopia	ADAMA	96	450	90	9	1	n.a.
Ethiopia	AWSA	—	—	84	16	1	1
Ethiopia	DIRE DAWA	100	500	97	1	2	—
Ghana	GWC	—	—	89	9	2	—
Kenya	KIWASCO	100	300	87	10	3	77
Kenya	MWSC	—	—	89	9	2	n.a.
Kenya	NWASCO	95	874	90	9	1	—
Lesotho	WASA	—	—	88	10	2	7
Madagascar	JIRAMA	80	227	94	3	3	33
Malawi	BWB	94	6	76	6	17	n.a.
Malawi	CRWB	75	—	83	14	3	n.a.
Malawi	LWB	100	298	88	10	2	—
Mozambique	AdeM Beira	78	640	92	7	1	n.a.
Mozambique	AdeM Maputo	74	674	92	7	0	n.a.
Mozambique	AdeM Nampula	86	583	91	7	1	n.a.
Mozambique	AdeM Pemba	68	500	89	8	3	n.a.
Mozambique	AdeM Quilimane	85	587	88	11	1	n.a.
Namibia	Oshakati Municipality	—	—	88	10	2	91
Namibia	Walvis Bay Municipality	ndv	ndv	90	10	0	100
Namibia	Windhoek Municipality	100	—	95	4	1	100
Niger	SPEN/SEEN	96	261	90	7	3	n.a.
Nigeria	Borno	—	—	—	—	—	n.a.
Nigeria	FCT	100	—	91	9	0	n.a.
Nigeria	Kaduna	52	577	95	5	0	n.a.
Nigeria	Katsina	—	—	87	9	4	n.a.
Nigeria	Lagos	60	—	76	20	3	n.a.

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Nigeria	Plateau	—	—	88	11	1	n.a.
Rwanda	ELECTROGAZ	90	2204	97	1	1	n.a.
Senegal	ONAS	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Senegal	SDE	88	295	94	5	1	n.a.
South Africa	Cape town metro	—	—	90	9	1	98
South Africa	Drakenstein Municipality	—	—	93	6	1	97
South Africa	eThekweni Metro (Durban)	—	—	89	9	2	64
South Africa	Joburg	—	—	90	9	1	94
Sudan	Khartoum Water Corporation	22	2000	91	9	0	2
Sudan	South Darfur Water Corporation	92	3333	78	21	1	n.a.
Sudan	Upper Nile Water Corporation	—	—	91	9	0	n.a.
Tanzania	DAWASCO	—	—	92	6	2	16
Tanzania	DUWS	100	2237	36	64	0	20
Tanzania	MWSA	100	5700	84	15	0	10
Uganda	NWSC	70	25	81	16	3	13
Zambia	LWSC	100	786	92	6	2	41
Zambia	NWSC	100	—	89	10	1	88
Zambia	SWSC	100	—	90	9	1	47

Source: AICD WSS Survey Database 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.2a: ACCESS, BY CATEGORIES

	Access by private residential connection	Access by residential connection from neighbors	Access by standpost	Population in the service area that receive utility water somehow
unit	%	%	%	%
<b>By income group</b>				
Low income	30	15	19	68
Low income Aid dependent	32	18	24	77
Low income Resource Dependent	23	2	2	34
Middle income	89	0	10	99
Middle income without Lesotho, Namibia, South Africa	46	0	—	—
<b>By urbanization</b>				
Low urbanization	31	25	32	88
Medium urbanization	30	10	6	38
High urbanization	71	0	10	97
<b>By sub-region</b>				
East	33	22	27	83
West	32	7	18	74
South	81	1	10	93
South without Lesotho, Namibia, South Africa	28	7	18	45
Central	19	20	2	41
<b>By water availability</b>				
Scarce	66	5	14	92
Abundant	29	16	10	48
<b>By utility size</b>				
Small	39	7	20	64
Large	61	6	13	90
<b>Overall</b>	<b>58</b>	<b>6</b>	<b>14</b>	<b>86</b>

Source: AICD WSS Survey Database 2007



## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.2b: ACCESS, BY CATEGORIES

	Share of standposts that are functioning	Population per standpost	Share of total connections that are residential	Share of total connections that are non-residential	Share of total connections that are standposts	Share of households with water connection that have a wastewater connection
unit	%	cap/standpost	%	%	%	%
<b>By income group</b>						
Low income	75	774	90	8	1	26
Low income Aid dependent	85	540	91	8	1	30
Low income Resource Dependent	43	1739	87	12	1	2
Middle income	100	—	90	9	1	87
Middle income without Lesotho, Namibia, South Africa	—	—	91	7	2	—
<b>By urbanization</b>						
Low urbanization	90	677	87	11	2	12
Medium urbanization	59	1141	92	8	1	32
High urbanization	77	352	91	8	1	81
<b>By sub-region</b>						
East	65	1428	86	13	1	7
West	82	331	92	7	1	40
South	88	417	90	9	1	84
South without Lesotho, Namibia, South Africa	87	417	90	7	3	50
Central	61	300	95	4	1	—
<b>By water availability</b>						
Scarce	74	993	89	10	1	68
Abundant	76	332	94	5	1	47
<b>By utility size</b>						
Small	88	982	88	10	2	61
Large	69	697	90	8	1	64
<b>Overall</b>	<b>75</b>	<b>774</b>	<b>90</b>	<b>9</b>	<b>1</b>	<b>64</b>

Source: AICD DHS/MICS Database, 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.3: DISTRIBUTION INFRASTRUCTURE

Country	Utility	Kms of water mains per 1000 water connections	Kms of water mains per 1000 population	Kms of wastewater collection per 1000 wastewater connections	Kms of waste water collection per 1000 population	Water pipe bursts per km of water network	Waste water pipe bursts per km of wastewater network	Non-revenue water	Metering ratio
		Unit km/1000/conn	km/1000 cap	km/ 1000 conn	km/1000 cap	#/km	#/km	%	%
Benin	SONEB	31	1	n.a.	n.a.	0	n.a.	24	89
Burkina Faso	ONEA	33	1	444	0	3	0	18	98
Cameroon	SNEC	—	—	—	—	—	—	—	—
Cape Verde	ELECTRA	12	1	—	—	—	—	31	91
Chad	STEE	—	—	n.a.	n.a.	—	n.a.	—	—
Cote d'Ivoire	SODECI	22	1	7	0	—	—	22	100
DRC	REGIDESO	50	1	n.a.	n.a.	3	n.a.	41	29
Ethiopia	ADAMA	10	1	n.a.	n.a.	12	n.a.	43	90
Ethiopia	AWSA	8	1	58	0	3	0	37	—
Ethiopia	DIRE DAWA	—	—	—	—	—	—	22	—
Ghana	GWC	28	0	—	—	6	—	53	—
Kenya	KIWASCO	15	0	3	0	1	6	71	58
Kenya	MWSC	—	—	n.a.	n.a.	—	n.a.	38	—
Kenya	NWASCO	11	1	—	0	—	—	38	—
Lesotho	WASA	—	—	26	0	—	—	28	98
Madagascar	JIRAMA	22	1	11	0	—	1	34	97
Malawi	BWB	23	1	n.a.	n.a.	8	n.a.	51	23
Malawi	CRWB	160	6	n.a.	n.a.	—	n.a.	17	—
Malawi	LWB	44	2	—	—	—	—	22	98
Mozambique	AdeM Beira	4	0	n.a.	n.a.	13	n.a.	60	100
Mozambique	AdeM Maputo	0	0	n.a.	n.a.	19	n.a.	62	98
Mozambique	AdeM Nampula	11	0	n.a.	n.a.	10	n.a.	44	100
Mozambique	AdeM Pemba	9	0	n.a.	n.a.	15	n.a.	45	99
Mozambique	AdeM Quilimane	18	0	n.a.	n.a.	10	n.a.	35	100
Namibia	Oshakati Municipality	4	0	—	—	—	—	21	97
Namibia	Walvis Bay Municipality	27	5	16	3	3	15	16	100
Namibia	Windhoek Municipality	30	5	22	3	—	—	14	—
Niger	SPEN/SEEN	30	1	n.a.	n.a.	1	n.a.	19	97
Nigeria	Borno	—	—	n.a.	n.a.	—	n.a.	—	—
Nigeria	FCT	—	—	n.a.	n.a.	—	n.a.	80	24
Nigeria	Kaduna	24	1	n.a.	n.a.	—	n.a.	21	16
Nigeria	Katsina	18	0	n.a.	n.a.	1	n.a.	14	7

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Nigeria	Lagos	15	0	n.a.	n.a.	—	n.a.	57	—
Nigeria	Plateau	68	1	n.a.	n.a.	1	n.a.	23	0
Rwanda	ELECTROGAZ	60	1	n.a.	n.a.	1	n.a.	38	99
Senegal	ONAS	n.a.	n.a.	3	0	n.a.	0	n.a.	n.a.
Senegal	SDE	21	1	n.a.	n.a.	1	n.a.	20	117
South Africa	Cape town metro	—	—	—	—	—	—	18	60
South Africa	Drakenstein Municipality	12	3	11	3	1	5	12	61
South Africa	eThekweni Metro (Durban)	17	4	19	3	—	—	32	66
South Africa	Joburg	—	—	—	—	—	—	31	52
Sudan	Khartoum Water Corporation	11	0	85	0	21	—	40	—
Sudan	South Darfur Water Corporation	12	0	n.a.	n.a.	3	n.a.	49	—
Sudan	Upper Nile Water Corporation	3	0	n.a.	n.a.	43	n.a.	29	0
Tanzania	DAWASCO	—	—	—	—	—	—	—	70
Tanzania	DUWS	5	1	1	0	9	—	30	28
Tanzania	MWSA	14	1	14	0	—	—	49	100
Uganda	NWSC	23	1	14	0	—	—	34	95
Zambia	LWSC	46	1	24	0	0	3	54	33
Zambia	NWSC	23	2	24	2	—	—	37	—
Zambia	SWSC	17	1	13	0	—	—	55	—

Source: AICD DHS/MICS Database, 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.4: DISTRIBUTION INFRASTRUCTURE BY CATEGORIES

unit	Kms of water mains per 1000 water connections km/1000 conn	Kms of water mains per 1000 population km/1000 cap	Kms of wastewater collection per 1000 wastewater connections Km / 1000 conn.	Kms of waste water collection per 1000 population km/1000 cap	Water pipe bursts per km of water network #/km	Waste water pipe bursts per km of wastewater network #/km	Non-revenue water %	Metering ratio %
<b>By income group</b>								
Low income	23	1	58	0	6	1	33	81
Low income Aid dependent	24	1	52	0	4	1	32	87
Low income Resource Dependent	16	0	85	0	18	—	41	13
Middle income	17	4	19	3	1	7	27	60
MIC without Lesotho, Namibia, South Africa	12	1	—	—	—	—	31	91
<b>By urbanization</b>								
Low urbanization	20	1	91	0	3	1	34	84
Medium urbanization	26	1	59	1	11	5	40	58
High urbanization	21	2	14	2	3	5	27	68
<b>By sub-region</b>								
East	13	1	56	0	12	1	38	76
West	24	1	77	0	2	0	26	92
South	20	3	18	2	9	3	29	62
South without Lesotho, Namibia, South Africa	24	1	17	1	12	2	44	80
Central	50	1	—	—	3	—	41	29
<b>By water availability</b>								
Scarce	19	2	66	1	6	1	30	65
Abundant	27	1	11	0	7	2	33	82
<b>By utility size</b>								
Small	24	1	18	1	7	5	36	61
Large	21	2	49	1	6	1	29	70
<b>Overall</b>	<b>22</b>	<b>1</b>	<b>44</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>30</b>	<b>69</b>

Source: AICD DHS/MICS Database, 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.5: SERVICE QUALITY

Country	Utility	Continuity of water service	Share of water tested which passes the test for residual chlorine	Annual customer complaints per 1000 water connections
		unit Hours/day	%	#/1000 conn
Benin	SONEB	24.0	—	—
Burkina Faso	ONEA	23.0	99.0	59.7
Cameroon	SNEC	—	—	—
Cape Verde	ELECTRA	—	—	—
Chad	STEE	—	—	—
Cote d'Ivoire	SODECI	24.0	90.0	—
DRC	REGIDESO	11.0	36.0	—
Ethiopia	ADAMA	24.0	100.0	—
Ethiopia	AWSA	—	—	—
Ethiopia	DIRE DAWA	—	—	—
Ghana	GWC	11.3	80.5	—
Kenya	KIWASCO	12.0	99.0	—
Kenya	MWSC	6.0	—	37.5
Kenya	NWASCO	—	84.0	—
Lesotho	WASA	24.0	—	—
Madagascar	JIRAMA	8.0	—	—
Malawi	BWB	17.0	99.8	—
Malawi	CRWB	23.0	0.9	—
Malawi	LWB	24.0	100.0	—
Mozambique	AdeM Beira	10.5	83.0	85.4
Mozambique	AdeM Maputo	14.0	99.1	350.4
Mozambique	AdeM Nampula	22.0	76.6	82.6
Mozambique	AdeM Pemba	11.0	100.0	365.6
Mozambique	AdeM Quilimane	11.0	100.0	210.6
Namibia	Oshakati Municipality	24.0	95.0	—
Namibia	Walvis Bay Municipality	24.0	99.0	25.2
Namibia	Windhoek Municipality	24.0	99.9	—
Niger	SPEN/SEEN	24.0	n.a.	—
Nigeria	Borno	—	—	—
Nigeria	FCT	24.0	100.0	99.8
Nigeria	Kaduna	19.0	50.0	—
Nigeria	Katsina	8.0	—	—
Nigeria	Lagos	6.0	—	31.7
Nigeria	Plateau	12.0	—	—
Rwanda	ELECTROGAZ	—	100.0	186.9
Senegal	ONAS	n.a.	n.a.	—

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Senegal	SDE	24.0	95.1	320.0
South Africa	Cape town metro	24.0	—	—
South Africa	Drakenstein Municipality	24.0	—	50.3
South Africa	eThekweni Metro (Durban)	24.0	—	—
South Africa	Joburg	24.0	—	24.5
Sudan	Khartoum Water Corporation	24.0	100.0	10.4
Sudan	South Darfur Water Corporation	20.0	70.0	—
Sudan	Upper Nile Water Corporation	16.0	40.0	—
Tanzania	DAWASCO	—	—	165.0
Tanzania	DUWS	24.0	1.0	—
Tanzania	MWSA	22.0	98.0	10.3
Uganda	NWSC	23.0	—	—
Zambia	LWSC	17.0	81.0	150.6
Zambia	NWSC	18.8	99.2	90.3
Zambia	SWSC	17.0	95.0	256.8

Source: AICD DHS/MICS Database, 2007

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.6: WATER PRODUCTION AND DISTRIBUTION

Country	Utility	Water production per capita in the service area	Water consumption per capita in the service area	Water production per 1000 population served	Water consumption per 1000 population served	Efficiency of water consumption in the service area	Water consumption per connection
		unit	l/cap/day	l/cap/day	l/cap/day	l/cap/day	ratio
Benin	SONEB		28.5	21.7	—	—	14.1
Burkina Faso	ONEA		40.8	33.3	72.6	59.3	1.5
Cameroon	SNEC		—	—	—	—	—
Cape Verde	ELECTRA		50.4	34.6	—	—	9.0
Chad	STEE		—	—	—	—	—
Cote d'Ivoire	SODECI		50.7	39.7	—	—	19.7
DRC	REGIDESO		35.2	20.9	86.6	51.3	1.5
Ethiopia	ADAMA		58.3	33.4	58.3	33.4	0.6
Ethiopia	AWSA		78.6	49.7	—	—	18.0
Ethiopia	DIRE DAWA		31.6	24.7	31.6	24.7	0.8
Ghana	GWC		—	—	—	—	—
Kenya	KIWASCO		37.1	10.6	36.8	10.5	0.3
Kenya	MWSC		67.3	41.5	—	—	16.3
Kenya	NWASCO		172.7	107.4	104.0	64.7	0.4
Lesotho	WASA		78.7	56.8	117.7	85.1	1.1
Madagascar	JIRAMA		53.8	35.8	161.7	107.5	2.0
Malawi	BWB		95.3	46.6	184.5	90.3	0.9
Malawi	CRWB		53.8	44.8	—	—	38.8
Malawi	LWB		130.8	101.9	166.4	129.6	1.0
Mozambique	AdeM Beira		44.7	17.8	189.1	75.4	1.7
Mozambique	AdeM Maputo		103.4	39.2	275.2	104.3	1.0
Mozambique	AdeM Nampula		31.1	17.4	164.1	91.8	3.0
Mozambique	AdeM Pemba		45.8	25.2	95.6	52.6	1.1
Mozambique	AdeM Quillimane		14.3	9.3	153.0	99.2	6.9
Namibia	Oshakati Municipality		113.6	89.9	—	—	24.9
Namibia	Walvis Bay Municipality		219.1	183.9	219.1	183.9	0.8
Namibia	Windhoek Municipality		185.4	159.8	—	—	32.3
Niger	SPEN/SEEN		50.9	41.3	70.7	57.4	1.1
Nigeria	Borno		—	—	—	—	—
Nigeria	FCT		39.5	7.9	—	—	43.6
Nigeria	Kaduna		70.8	55.8	138.1	108.9	1.5
Nigeria	Katsina		34.8	29.8	—	—	77.6
Nigeria	Lagos		20.7	9.0	—	—	27.8
Nigeria	Plateau		39.4	30.1	—	—	57.6

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Rwanda	ELECTROGAZ	21.6	13.3	31.3	19.3	0.9	21.2
Senegal	ONAS	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Senegal	SDE	68.3	54.5	79.5	63.5	0.9	23.6
South Africa	Cape town metro	222.3	182.3	222.3	182.3	0.8	20.1
South Africa	Drakenstein Municipality	195.1	172.5	195.8	173.0	0.9	22.6
South Africa	eThekweni Metro (Durban)	239.0	162.4	239.0	162.4	0.7	22.8
South Africa	Joburg	346.5	239.6	350.8	242.5	0.7	22.7
Sudan	Khartoum Water Corporation	90.1	54.1	333.8	200.3	2.2	41.8
Sudan	South Darfur Water Corporation	9.7	4.9	13.9	7.1	0.7	20.1
Sudan	Upper Nile Water Corporation	27.6	19.6	60.8	43.2	1.6	11.2
Tanzania	DAWASCO	—	—	—	—	—	—
Tanzania	DUWS	71.7	50.2	87.4	61.2	0.9	9.8
Tanzania	MWSA	87.1	44.4	975.2	497.3	5.7	34.1
Uganda	NWSC	69.6	45.6	91.1	59.7	0.9	24.9
Zambia	LWSC	134.9	61.9	176.0	80.7	0.6	59.1
Zambia	NWSC	322.9	204.1	—	—	—	82.7
Zambia	SWSC	168.5	75.8	—	—	—	28.1

Source: AICD DHS/MICS Database, 2007



## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.7: SERVICE QUALITY AND WATER PRODUCTION AND CONSUMPTION BY CATEGORIES

	Continuity of water service	Share of water tested which passes the test for residual chlorine	Annual customer complaints per 1000 water connections	Water production per capita in the service area	Water consumption per capita in the service area	Water production per capita within population served	Water consumption per capita within population served	Efficiency of water consumption in the service area	Water consumption per connection
unit	Hours/day	%	#/1000 conn	l/cap/day	l/cap/day	l/cap/day	l/cap/day	ratio	m <sup>3</sup> /conn/month
<b>By income group</b>									
Low income	19	83	149	74	48	149	91	1	31
Low income Aid dependent	19	82	212	77	51	118	72	1	29
Low income Resource Dependent	18	87	23	61	38	272	169	2	42
Middle income	24	99	26	272	197	277	201	1	22
MIC without Lesotho, Namibia, South Africa	—	—	—	50	35	—	—	—	9
<b>By urbanization</b>									
Low urbanization	18	83	106	86	56	121	78	1	28
Medium urbanization	19	79	104	93	56	215	120	2	39
High urbanization	22	87	85	210	152	255	185	1	24
<b>By sub-region</b>									
East	21	86	62	95	59	195	117	1	28
West	20	88	198	50	38	85	68	1	26
South	23	94	58	253	181	268	189	1	25
South without Lesotho, Namibia, South Africa	14	93	212	126	71	195	100	1	45
Central	11	36	—	35	21	87	51	1	45
<b>By water availability</b>									
Scarce	22	86	79	191	136	238	168	1	25
Abundant	18	79	200	77	51	138	76	1	33
<b>By utility size</b>									
Small	19	81	151	104	68	165	97	1	37
Large	22	84	79	179	127	233	164	1	25
<b>Overall</b>	<b>21</b>	<b>83</b>	<b>92</b>	<b>167</b>	<b>118</b>	<b>224</b>	<b>155</b>	<b>1</b>	<b>27</b>

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.8: STAFFING AND ENERGY, COMMERCIAL PERFORMANCE

Country	Utility	Employees	Share of	Share of	Share of	Water	Collection	Collection	Share of
		per 1000	labor	services	energy				
		connections	costs in	contracted	costs in	cycle			billings to
		unit	operating	out in	operating	Days	%	Days	government
		#/1000 conn.	expenses	operating	expenses				entities
			%	%	%				%
Benin	SONEB	5	38	—	15	30	116	143	19
Burkina Faso	ONEA	6	29	17	17	30	100	213	28
Cameroon	SNEC	—	29	—	—	—	—	—	—
Cape Verde	ELECTRA	24	—	—	—	30	98	—	—
Chad	STEE	—	60	—	—	—	—	499	—
Cote d'Ivoire	SODECLI	3	21	4	13	90	136	5	28
DRC	REGIDESO	18	28	—	10	30	70	2055	42
Ethiopia	ADAMA	—	9	—	35	30	140	3	10
Ethiopia	AWSA	—	20	—	—	30	84	—	—
Ethiopia	DIRE DAWA	16	38	—	21	30	—	—	—
Ghana	GWC	10	—	—	—	—	—	—	—
Kenya	KIWASCO	21	33	3	20	30	97	623	8
Kenya	MWSC	—	—	—	—	30	102	—	15
Kenya	NWASCO	9	78	—	11	—	92	372	—
Lesotho	WASA	11	46	0	12	30	—	219	—
Madagascar	JIRAMA	1	—	—	—	30	—	—	—
Malawi	BWB	14	21	—	42	30	100	219	16
Malawi	CRWB	41	—	—	—	30	—	—	—
Malawi	LWB	18	42	4	13	30	—	—	24
Mozambique	AdeM Beira	19	35	6	16	30	100	320	11
Mozambique	AdeM Maputo	7	21	16	11	30	100	290	10
Mozambique	AdeM Nampula	15	48	9	18	30	100	326	13
Mozambique	AdeM Pemba	21	38	7	27	30	100	353	10
Mozambique	AdeM Quillimane	23	53	15	9	30	100	280	14
Namibia	Oshakati Municipality	21	10	—	0	30	—	227	—
Namibia	Walvis Bay Municipality	7	—	—	—	30	—	—	—
Namibia	Windhoek Municipality	3	15	—	—	30	—	647	—
Niger	SPEN/SEEN	7	27	19	17	30	88	430	20
Nigeria	Borno	—	—	—	—	—	—	—	—
Nigeria	FCT	31	—	—	—	—	20	—	—
Nigeria	Kaduna	24	—	—	—	—	—	—	—
Nigeria	Katsina	14	21	15	30	—	—	499	—
Nigeria	Lagos	9	—	53	13	—	—	—	—

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Nigeria	Plateau	28	—	—	—	—	—	—	7
Rwanda	ELECTROGAZ	39	20	30	46	30	75	438	—
Senegal	ONAS	n.a.	—	—	—	60	—	—	—
Senegal	SDE	3	18	40	14	60	—	151	—
South Africa	Cape town metro	3	20	—	—	30	—	123	—
South Africa	Drakenstein Municipality	3	19	—	—	30	100	81	—
South Africa	eThekweni Metro (Durban)	4	16	—	—	30	—	205	—
South Africa	Joburg	2	13	7	—	30	—	—	—
Sudan	Khartoum Water Corporation	11	20	0	56	30	62	230	—
Sudan	South Darfur Water Corporation	19	35	28	37	30	49	377	—
Sudan	Upper Nile Water Corporation	9	13	30	38	30	8	4064	—
Tanzania	DAWASCO	—	—	—	—	30	—	—	—
Tanzania	DUWS	4	3	1	25	30	105	49	16
Tanzania	MWSA	11	45	8	41	30	95	140	14
Uganda	NWSC	9	50	—	11	30	100	203	23
Zambia	LWSC	10	43	3	26	30	82	62	—
Zambia	NWSC	9	36	—	13	—	—	—	—
Zambia	SWSC	11	48	0	20	—	—	—	—

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.9: STAFFING AND ENERGY, COMMERCIAL PERFORMANCE BY CATEGORIES

	Employees per 1000 water connections	Share of labor costs in operating expenses	Share of services contracted out in operating expenses	Share of energy costs in operating expenses	Water billing cycle	Collection ratio	Collection period	Share of total billings to government entities
unit	#/1000 conn.	%	%	%	Days	%	Days	%
<b>By income group</b>								
Low income	9	29	17	20	45	96	391	25
Low income Aid dependent	8	31	16	15	47	103	389	26
Low income Resource Dependent	14	21	18	41	30	56	402	7
Middle income	3	16	6	11	30	99	172	—
MIC without Lesotho, Namibia, South Africa	24	—	—	—	30	98	—	—
<b>By urbanization</b>								
Low urbanization	9	40	14	18	30	93	285	20
Medium urbanization	11	28	5	27	30	78	793	29
High urbanization	4	17	14	14	41	126	129	27
<b>By sub-region</b>								
East	11	36	5	32	30	83	330	18
West	7	23	22	14	65	120	119	25
South	4	18	7	18	30	97	178	13
South without Lesotho, Namibia, South Africa	9	33	9	19	30	96	226	13
Central	18	28	—	10	30	70	2055	42
<b>By water availability</b>								
Scarce	6	21	15	24	32	86	213	19
Abundant	7	27	6	13	55	110	544	29
<b>By utility size</b>								
Small	14	27	12	23	30	89	370	14
Large	5	22	13	19	38	99	290	29
<b>Overall</b>	<b>6</b>	<b>23</b>	<b>13</b>	<b>20</b>	<b>37</b>	<b>96</b>	<b>301</b>	<b>25</b>

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.10: COSTS, REVENUES, FINANCIAL PERFORMANCE

		Average operating cost per cubic meter of water consumed	Average operating cost per water connection per month	Value of fixed water assets per connection	Average revenue per cubic meter of water consumed	Average revenue per water connection per month	Average revenue per estimated cubic meter of wastewater collected	Average revenue per wastewater connection per month USD/conn./ month
	unit	USD/m3	USD/conn./month	USD/conn.	USD/m3	USD/conn./month	USD/m3	
Country	Utility							
Benin	SONEB							
Burkina Faso	ONEA	0.7	9.9	700.2	0.8	11.5	—	—
Cameroon	SNEC	0.8	20.3	—	0.6	16.7	0.5	1076.1
Cape Verde	ELECTRA	—	—	—	—	—	—	—
Chad	STEE	—	—	—	3.4	30.7	—	—
Cote d'Ivoire	SODECI	—	—	—	—	—	—	—
DRC	REGIDESO	0.6	12.3	904.4	0.6	11.8	0.0	1.8
Ethiopia	ADAMA	0.7	31.1	266.3	0.4	20.0	—	—
Ethiopia	AWSA	0.3	4.6	—	0.3	4.9	—	—
Ethiopia	DIRE DAWA	0.3	5.8	—	0.3	5.7	0.0	0.8
Ghana	GWC	0.2	3.4	—	0.2	4.4	—	—
Kenya	KIWASCO	—	15.5	—	—	17.6	—	—
Kenya	MWSC	1.1	22.2	—	0.6	12.7	0.0	10.8
Kenya	NWASCO	0.5	7.9	—	0.7	10.9	—	—
Lesotho	WASA	0.2	5.6	—	0.3	11.6	—	—
Madagascar	JIRAMA	0.7	16.7	—	0.7	16.5	0.0	49.3
Malawi	BWB	—	—	—	—	—	—	—
Malawi	CRWB	0.6	14.8	1213.7	0.6	14.3	—	—
Malawi	LWB	0.4	15.9	1034.9	—	—	—	—
Mozambique	AdeM Beira	0.2	19.1	1269.8	0.0	2.6	—	—
Mozambique	AdeM Maputo	0.5	12.7	2442.9	0.6	15.9	—	—
Mozambique	AdeM Nampula	0.7	16.7	1179.8	0.6	13.5	—	—
Mozambique	AdeM Pemba	0.3	11.0	1386.6	0.5	16.2	—	—
Mozambique	AdeM Quillimane	0.5	12.3	1500.9	0.4	9.8	—	—
Namibia	Oshakati Municipality	0.4	11.7	1946.0	0.5	15.1	—	—
Namibia	Walvis Bay Municipality	1.4	35.8	750.1	1.6	40.1	0.0	6.6
Namibia	Windhoek Municipality	—	—	—	1.6	45.6	0.0	13.4
Niger	SPEN/SEEN	2.1	67.4	1326.3	1.5	47.7	0.0	10.9
Nigeria	Borno	0.5	15.9	1831.8	0.5	16.3	—	—
Nigeria	FCT	—	—	—	—	—	—	—
Nigeria	Kaduna	—	—	—	0.2	7.2	—	—

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Nigeria	Katsina	—	—	711.1	—	—	—	—
Nigeria	Lagos	0.1	4.4	1541.4	0.1	4.8	—	—
Nigeria	Plateau	0.3	7.3	1033.1	0.2	5.2	—	—
Rwanda	ELECTROGAZ	—	—	—	—	—	—	—
Senegal	ONAS	0.5	10.8	673.9	0.4	8.9	—	—
Senegal	SDE	—	—	—	—	—	—	—
South Africa	Cape town metro	0.8	20.0	90.5	0.8	19.1	—	—
South Africa	Drakenstein Municipality	1.2	24.4	—	0.6	12.8	0.0	8.4
South Africa	eThekwni Metro (Durban)	0.7	15.7	—	0.6	12.9	0.0	7.2
South Africa	Joburg	1.6	35.5	—	1.1	25.4	0.0	1.6
Sudan	Khartoum Water Corporation	1.5	34.0	275.8	1.4	31.3	—	—
Sudan	South Darfur Water Corporation	0.3	11.8	—	0.2	8.0	0.0	112.8
Sudan	Upper Nile Water Corporation	0.5	9.8	—	0.5	10.2	—	—
Tanzania	DAWASCO	0.7	8.3	27.9	0.0	0.0	—	—
Tanzania	DUWS	—	—	—	—	9.9	—	—
Tanzania	MWSA	0.4	4.1	200.0	0.3	3.3	0.0	0.2
Uganda	NWSC	0.2	6.4	76.8	0.3	11.8	0.0	5.4
Zambia	LWSC	0.6	14.9	—	0.5	13.4	0.0	32.3
Zambia	NWSC	0.3	15.8	267.7	0.2	13.7	0.0	8.4
Zambia	SWSC	0.2	16.3	—	—	—	—	—

TABLE 4.11: FINANCIAL PERFORMANCE

Country	Utility	Operating cost coverage		Debt service ratio
		unit	ratio	ratio
Benin	SONEB		1.2	44.2
Burkina Faso	ONEA		0.9	5.1
Cameroon	SNEC		—	—
Cape Verde	ELECTRA		—	—
Chad	STEE		4.2	35.3
Cote d'Ivoire	SODECI		1.0	—
DRC	REGIDESO		0.6	11.2
Ethiopia	ADAMA		1.1	—
Ethiopia	AWSA		1.0	—
Ethiopia	DIRE DAWA		—	—
Ghana	GWC		—	—
Kenya	KIWASCO		1.0	—
Kenya	MWSC		1.4	—
Kenya	NWASCO		2.6	51.9
Lesotho	WASA		1.2	38.5
Madagascar	JIRAMA		—	—
Malawi	BWB		1.0	9.3
Malawi	CRWB		—	—
Malawi	LWB		—	—
Mozambique	AdeM Beira		1.3	—
Mozambique	AdeM Maputo		0.8	—
Mozambique	AdeM Nampula		1.5	—
Mozambique	AdeM Pemba		0.8	—
Mozambique	AdeM Quilimane		1.3	—
Namibia	Oshakati Municipality		1.3	—
Namibia	Walvis Bay Municipality		—	—
Namibia	Windhoek Municipality		0.9	5.2
Niger	SPEN/SEEN		1.0	12.6
Nigeria	Borno		—	—
Nigeria	FCT		—	—
Nigeria	Kaduna		—	—
Nigeria	Katsina		1.1	—
Nigeria	Lagos		—	—
Nigeria	Plateau		—	—
Rwanda	ELECTROGAZ		0.8	3.5

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Senegal	ONAS	—	ndv
Senegal	SDE	1.0	3.5
South Africa	Cape town metro	0.9	—
South Africa	Drakenstein Municipality	1.3	—
South Africa	eThekweni Metro (Durban)	0.7	2.5
South Africa	Joburg	—	—
Sudan	Khartoum Water Corporation	0.9	—
Sudan	South Darfur Water Corporation	1.0	—
Sudan	Upper Nile Water Corporation	0.0	—
Tanzania	DAWASCO	—	—
Tanzania	DUWS	0.9	—
Tanzania	MWSA	1.9	—
Uganda	NWSC	1.2	4.7
Zambia	LWSC	1.1	—
Zambia	NWSC	—	—
Zambia	SWSC	—	—



## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

Table 4.12: STATE OF UTILITIES: COSTS, REVENUES, FINANCIAL PERFORMANCE, BY CATEGORIES

	Average operating cost per cubic meter of water consumed	Average operating cost per water connection per month	Value of fixed water assets per connection	Average revenue per cubic meter of water consumed	Average revenue per water connection per month	Average revenue per estimated cubic meter of wastewater collected	Average revenue per wastewater connection per month	Operating cost coverage	Debt service ratio
unit	USD/m3	USD/conn./month	USD/conn.	USD/m3	USD/conn./month	USD/m3	USD/conn./month	ratio	ratio
<b>By income group</b>									
Low income	0.5	13.9	706.1	0.5	12.5	0.0	105.8	1.1	18.2
Low income Aid dependent	0.6	14.6	666.2	0.5	13.5	0.0	103.9	1.1	18.2
Low income Resource Dependent	0.3	9.9	946.3	0.2	6.9	0.0	112.8	0.9	—
Middle income	1.4	31.4	314.9	1.1	24.1	0.0	6.6	0.8	4.4
MIC without Lesotho, Namibia, South Africa	—	—	—	3.4	30.7	—	—	—	—
<b>By urbanization</b>									
Low urbanization	0.4	10.4	1079.1	0.4	10.7	0.1	203.9	1.4	24.5
Medium urbanization	0.6	19.6	643.7	0.5	15.1	0.0	85.3	0.9	20.8
High urbanization	1.2	25.7	474.6	0.9	20.6	0.0	4.6	0.9	2.8
<b>By sub-region</b>									
East	0.3	8.8	321.2	0.3	8.9	0.0	51.8	1.3	32.3
West	0.6	14.3	750.1	0.7	14.2	0.1	174.5	1.0	13.0
South	1.3	29.8	442.9	1.0	23.3	0.0	6.6	0.8	4.7
South without Lesotho, Namibia, South Africa	0.4	15.5	1090.1	0.4	12.8	0.0	8.4	1.0	9.3
Central	0.7	31.1	266.3	0.4	20.0	—	—	0.6	11.2
<b>By water availability</b>									
Scarce	1.0	22.7	451.7	0.8	18.3	0.0	64.8	1.0	14.2
Abundant	0.7	19.4	783.7	0.6	15.9	0.0	7.9	0.9	8.6
<b>By utility size</b>									
Small	0.6	15.9	1032.8	0.6	14.5	0.0	13.3	1.0	13.3
Large	1.0	22.9	444.7	0.8	18.4	0.0	54.4	1.0	13.0
<b>Overall</b>	<b>0.9</b>	<b>22.0</b>	<b>555.4</b>	<b>0.8</b>	<b>17.9</b>	<b>0.0</b>	<b>51.0</b>	<b>1.0</b>	<b>13.1</b>

## URBAN WATER SUPPLY IN SUB-SAHARAN AFRICA: ANNEX 1 CROSS-COUNTRY TABLES

TABLE 4.13: QUASI-FISCAL DEFICIT BY UTILITY

Country	Utility	End User	Average	NRW	Normative	Average	Implicit	Total	Total Hidden
		Consumption	Cost			Effective		Collection	
		unit	Recovery	%	%	Tariff	Ratio	Cost as %	Cost as %
		m3/year	Tariff			USD/m3	%	of GDP	Total Billings
			USD/m3					%	%
Benin	SONEB	22977000	1.10	23.75	20	0.85	95	0.18	48.86
Burkina Faso	ONEA	33817240	1.15	18.29	20	1.03	60	0.31	81.04
Cameroon	SNEC	—	1.01	35.39	20	0.67	—	—	—
Cape Verde	ELECTRA	2931781	1.01	31.22	20	4.20	81	0.27	26.63
Chad	STEE	—	1.01	35.39	20	0.29	33	—	—
Cote d'Ivoire	SODECI	128853000	1.03	21.73	20	0.09	100	0.77	202.31
DRC	REGIDESO	137052336	1.10	40.74	20	0.06	75	2.56	207.13
Ethiopia	ADAMA	2660048	0.72	42.67	20	0.39	89	0.01	236.86
Ethiopia	AWSA	52395813	0.72	36.77	20	0.33	96	0.26	148.35
Ethiopia	DIRE DAWA	2565138	0.58	21.64	20	0.24	96	0.01	136.47
Ghana	GWC	130463393	1.01	53.00	20	0.71	63	1.20	216.76
Kenya	KIWASCO	1800000	1.53	71.45	20	0.81	79	0.02	156.11
Kenya	MWSC	12516164	0.89	38.27	20	0.67	21	0.06	143.92
Kenya	NWASCO	97869588	0.56	37.80	20	0.24	100	0.23	95.42
Lesotho	WASA	11213684	1.10	27.76	20	0.58	100	0.48	90.91
Madagascar	JIRAMA	63756027	0.87	33.53	20	0.29	100	0.92	63.71
Malawi	BWB	14185900	0.97	51.06	20	0.40	100	0.65	172.26
Malawi	CRWB	4722000	0.81	16.67	20	0.32	57	0.14	—
Malawi	LWB	23600000	0.63	22.10	20	0.74	57	0.38	92.40
Mozambique	AdeM Beira	3771240	0.91	60.12	20	0.52	100	0.05	131.87
Mozambique	AdeM Maputo	25432162	1.13	62.10	20	0.52	100	0.45	204.64
Mozambique	AdeM Nampula	2447001	0.75	44.10	20	0.52	98	0.02	90.99
Mozambique	AdeM Pemba	1214471	0.93	45.00	20	0.52	82	0.01	186.67
Mozambique	AdeM Quillimane	978095	0.82	35.16	20	0.52	100	0.01	84.16
Namibia	Oshakati Municipality	1031884	1.84	20.84	20	1.98	81	0.01	24.25
Namibia	Walvis Bay Municipality	3626811	1.01	16.04	20	0.97	100	0.00	2.68
Namibia	Windhoek Municipality	17500000	2.48	13.79	20	1.73	85	0.29	68.26
Niger	SPEN	33791483	0.86	18.76	20	0.49	96	0.39	71.75
Nigeria	Borno	—	1.01	35.39	20	0.67	31	—	—
Nigeria	FCT	17300000	1.01	79.98	20	0.53	31	0.03	194.64
Nigeria	Kaduna	63690000	1.01	21.16	20	0.22	31	0.06	—
Nigeria	Katsina	31000000	0.46	14.36	20	0.26	24	0.01	—
Nigeria	Lagos	50405903	0.66	56.50	20	0.67	31	0.04	—

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Nigeria	Plateau	14660000	1.01	23.49	20	0.67	31	0.01	419.19
Rwanda	ELECTROGAZ	9780000	0.91	38.26	20	0.67	63	0.32	124.14
Senegal	ONAS	n.a.	1.01	35.39	20	0.67	87	—	—
Senegal	SDE	99640165	1.25	20.11	20	0.50	100	0.90	92.27
South Africa	Cape town metro	215660000	1.61	18.00	20	0.47	100	0.10	—
South Africa	Drakenstein Municipality	13464003	1.10	11.63	20	0.35	100	0.00	85.36
South Africa	eThekweni Metro (Durban)	200000000	1.96	32.07	20	1.42	79	0.09	—
South Africa	Joburg	328246350	1.90	30.86	20	0.32	45	0.27	—
Sudan	Khartoum Water Corporation	150000000	0.68	40.00	20	0.50	38	0.36	165.91
Sudan	South Darfur Water Corporation	3700000	0.89	48.90	20	0.86	59	0.01	68.68
Sudan	Upper Nile Water Corporation	1788500	1.13	29.03	20	0.80	48	0.01	—
Tanzania	DAWASCO	—	1.01	35.39	20	0.61	30	—	—
Tanzania	DUWS	5110000	0.82	30.00	20	0.54	63	0.02	170.04
Tanzania	MWSA	7432028	0.59	49.00	20	0.47	73	0.03	119.55
Uganda	NWSC	38000000	1.00	34.48	20	1.01	53	0.29	93.40
Zambia	LWSC	35346257	0.67	54.14	20	0.53	43	0.35	204.39
Zambia	NWSC	73799000	0.60	36.80	20	0.35	33	0.62	380.89
Zambia	SWSC	8136000	0.70	54.99	20	0.40	33	0.10	295.99

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TABLE 4.14: QUASI-FISCAL DEFICIT BY COUNTRY

Country	Total Hidden Cost as % of GDP	Total Hidden Cost as % Total Billings	Unaccounted Losses as % of total billings	Under-Pricing as % of total billings	Collection Inefficiencies as % of total billings	Unaccounted Losses as % of GDP	Under-Pricing as % of GDP	Collection Inefficiencies as % of GDP
Benin	0.2	48.9	15.1	73.0	11.9	0.0	0.1	0.0
Burkina Faso	0.3	81.0	0.0	22.6	77.4	0.0	0.1	0.2
Cameroon	—	—	—	—	—	—	—	—
Cape Verde	0.3	26.6	15.3	0.0	84.7	0.0	0.0	0.2
Chad	—	—	—	—	—	—	—	—
Cote d'Ivoire	0.8	202.3	2.3	97.7	0.0	0.0	0.8	0.0
DRC	2.6	207.1	21.3	77.5	1.2	0.5	2.0	0.0
Ethiopia	0.3	173.9	26.8	70.8	2.4	0.1	0.2	0.0
Ghana	1.2	216.8	42.7	30.6	26.7	0.5	0.4	0.3
Kenya	0.3	131.8	28.2	60.0	11.8	0.1	0.2	0.0
Lesotho	0.5	90.9	17.0	83.0	0.0	0.1	0.4	0.0
Madagascar	0.9	63.7	20.3	79.7	0.0	0.2	0.7	0.0
Malawi	1.2	132.3	23.6	43.0	33.4	0.3	0.5	0.4
Mozambique	0.5	139.7	49.2	50.4	0.4	0.3	0.3	0.0
Namibia	0.3	95.2	0.1	73.5	26.4	0.0	0.2	0.1
Niger	0.4	71.7	0.0	95.2	4.8	0.0	0.4	0.0
Nigeria	0.2	306.9	19.7	45.7	34.6	0.0	0.1	0.1
Rwanda	0.3	124.1	29.7	34.4	35.9	0.1	0.1	0.1
Senegal	0.9	92.3	0.2	99.8	0.0	0.0	0.9	0.0
South Africa	0.5	85.4	12.5	77.0	10.4	0.1	0.4	0.0
Sudan	0.4	117.3	26.1	27.3	46.5	0.1	0.1	0.2
Tanzania	0.1	144.8	33.1	35.8	31.1	0.0	0.0	0.0
Uganda	0.3	93.4	27.7	0.0	72.3	0.1	0.0	0.2
Zambia	1.1	293.8	28.1	32.7	39.1	0.3	0.3	0.4

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TABLE 4.16: KEY PERFORMANCE INDICATORS, BY CATEGORIES

	Access by private residential connection	Kms of water mains per 1000 water connections	Non-revenue water	Metering ratio	Percentage of water subject to treatment	Share of water tested which passes the test for residual chlorine	Employees per 1000 water connections	Collection ratio	Operating cost coverage	Debt service ratio
unit	%	km/1000 conn	%	%	%	%	#/1000 conn	%	ratio	ratio
SOE Corporatization	28.8	19.9	33.4	49.5	66.9	48.6	12.1	50.6	0.8	5.0
Not Corporatized	38.2	18.9	28.3	51.5	72.7	53.7	8.3	36.7	0.6	2.0
Existence of a regulatory body	24.2	16.7	40.3	54.2	62.9	63.8	13.0	69.1	0.9	4.9
No regulatory body	35.9	22.6	25.4	45.8	72.3	36.1	10.1	29.2	0.7	4.2
Private participation	26.9	15.8	34.5	50.7	67.1	45.5	11.4	51.5	0.8	2.7
No private participation	36.9	27.5	28.7	48.1	69.2	57.0	11.7	42.4	0.8	8.1
Decentralized	36.7	12.9	34.7	57.3	75.5	52.1	9.6	57.6	0.8	3.7
Centralized	17.8	33.1	28.4	35.3	52.9	44.3	15.1	30.4	0.6	6.3

TABLE 4.17: ATTRIBUTES OF URBAN WATER SUPPLY SECTOR

	Corporatization	Private Participation	Regulator	Multi-sectoral regulator	Decentralization	Single supplier for water	Multi suppliers	Separate entity for bulk water or asset holding	Water and energy provided together	Sanitation provided
Benin	✓	×	×		×	✓		×	×	×
Burkina Faso	✓	×	×		✓	✓		×	×	×
Cape Verde	✓	✓	✓	✓	✓	×	3	×	✓	×
Chad	✓	×	×		×	✓		×	✓	×
Cote d'Ivoire	✓	✓	✓	×	×	✓		×	×	✓
DRC	×	✓	✓	✓	×	✓		×	×	✓
Ethiopia	×	×	×		✓	×	11	×	×	×
Ghana	✓	✓	✓	✓	×	✓		×	×	✓
Kenya	✓	✓	✓	×	✓	×	144	×	×	×
Lesotho	✓	×	✓	×	✓	✓		×	×	×
Madagascar	×	✓	×		✓	✓		×	✓	✓
Malawi	✓	×	×		×	×	5	×	×	✓
Mozambique	✓	✓	✓	×	✓	×	12	×	×	✓
NAMIBIA	×	×	×		✓	×	13	✓	×	×
Niger	✓	✓	✓	✓	✓	✓		✓	×	✓
Nigeria	✓	✓	×		×	×	37	×	×	✓
Rwanda	✓	✓	✓	✓	×	✓		×	✓	✓
Senegal	✓	✓	×		×	✓		✓	×	✓
South Africa	✓	✓	×		✓	×	154	✓	×	×
Sudan	✓	✓	✓	×	✓	×	25	×	×	✓
Tanzania	✓	✓	✓	✓	✓	×	24	×	×	✓
Uganda	✓	✓	×		✓	×	61	×	×	×
Zambia	✓	×	✓	×	✓	×	10	×	×	×