

APPENDIX 2: SUMMARY OF PERFORMANCE FOR THREE YEARS

Table A2.1 (a): Water Abstraction Trend

Utilities	ANNUAL WATER ABSTRACTION (Million Cubic Meters)																	
	2006/07						2007/08						2008/09					
	B/Holes	Springs	Dams	Lakes	Rivers	Total	B/Holes	Springs	Dams	Lakes	Rivers	Total	B/Holes	Springs	Dams	Lakes	Rivers	Total
Category A																		
Arusha	3.948	9.355			2.537	15.840	4.170	8.671			2.745	15.586	4.010	7.880			2.526	14.416
Dodoma	6.662					6.662	7.945					7.945	9.160					9.160
Iringa		1.087			3.111	4.198		1.095			3.130	4.225		1.030			3.093	4.123
Mbeya	0.027	6.450			2.161	8.639	0.022	7.834			2.504	10.360		8.464			2.698	11.162
Morogoro			7.165		1.868	9.033			7.029		1.710	8.739			6.927		1.653	8.580
Moshi	1.279	7.217				8.496	1.385	7.059				8.444	1.234	7.493				8.728
Mtwara	1.721					1.721	2.114					2.114	2.235					2.235
Musoma				3.727		3.727				3.861		3.861				3.872		3.872
Mwanza				12.403		12.403				13.832		13.832				18.692		18.692
Shinyanga	0.633		2.259			2.892	0.755		2.500			3.254	0.425		2.322	0.478		3.225
Tabora			4.851			4.851			4.790			4.851			4.578			4.578
Tanga			9.509			9.509			9.520			9.520			9.906			9.906
Songea	0.027	2.020				2.047	0.027	2.258				2.285	0.006	2.232				2.238
Category B																		
Bukoba		0.455		1.215	0.098	1.768		0.459		1.403	0.487	2.348		0.734		1.072	0.702	2.508
Kigoma				3.604		3.604				2.994		2.994				2.959		2.959
Singida	1.082					1.082	1.376					1.376	1.705					1.705
Sumbawanga	0.024				1.552	1.576	0.024				1.366	1.391	0.090				1.706	1.796
Category C																		
Babati	0.456	0.450				0.906	0.532	0.483				1.015	0.607	0.500				1.107
Lindi	0.212	0.296				0.507	0.239	0.230				0.468	0.213	0.249				0.462
Total	16.070	27.329	23.785	20.949	11.327	99.459	18.589	28.088	23.900	22.089	11.943	104.609	19.685	28.582	23.733	27.075	12.379	111.454

Table A2.1 (b) Water Abstraction Summary

Source	2006/07		2007/08		2008/09	
	Abstraction (m3)	% contribution to total abstraction	Abstraction (m3)	% contribution to total abstraction	Abstraction (m3)	% contribution to total abstraction
Boreholes	16,070,434.10	16.2%	18,588,738.87	17.8%	19,684,800.19	18%
Springs	27,328,927.70	27.5%	28,088,347.09	26.9%	28,582,065.53	26%
Dams	23,784,634.00	23.9%	23,899,948.00	22.8%	23,733,247.00	21%
Lakes	20,948,510.00	21.1%	22,089,367.00	21.1%	27,074,588.00	24%
Rivers	11,326,670.02	11.4%	11,942,839.06	11.4%	12,379,002.17	11%
TOTAL	99,459,175.82	100%	104,609,240.02	100%	111,453,702.89	100%
DAWASCO WATER SOURCES						
Lower Ruvu	59,332,660	60%	71,765,671	69%	71,408,604	67%
Upper Ruvu	33,374,293	34%	28,328,638	27%	30,429,806	29%
Mtoni	4,191,349	4%	2,822,150	3%	2,561,838	2%
Boreholes	1,563,372	2%	1,692,202	2%	1,398,524	1%
TOTAL DAWASCO	98,461,674	100%	104,608,661	100%	105,798,772	100%

Table A2.2 Water Demand, Water Production and Installed Water Production Capacity

Utilities	Category	Water Demand (Million m ³ /year)			Annual Water Production (Million m ³ /year)			Installed Water Production Capacity (Million m ³ /year)		
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Arusha	A	17.22	19.36	19.727	15.84	15.59	14.42	18.26	18.26	18.26
Dodoma	A	7.56	9.2	16.425	6.66	7.95	9.16	14.6	14.6	13.51
Iringa	A	4.85	5	5.11	4.2	4.24	4.12	5.11	5.75	5.75
Mbeya	A	10.95	11.52	12.783	8.64	10.36	11.16	12.61	12.61	14.53
Morogoro	A	10.95	10.95	10.95	9.03	8.74	8.58	10.8	10.8	10.8
Moshi	A	9.04	9.15	9.35	8.5	8.44	8.73	10.45	10.45	10.45
Mtwara	A	4.38	4.38	4.56	1.66	1.96	1.91	3.31	3.07	3.2
Musoma	A	8.64	8.64	8.64	3.73	3.86	3.87	6.34	6.34	6.34
Mwanza	A	18.88	19.22	19.22	12.4	13.83	18.69	15.12	15.12	40
Shinyanga	A	4.81	5.31	5.39	2.89	3.25	3.22	5.95	5.95	5.95
Songea	A	2.97	3.06	3.15	2.05	2.29	2.24	5.08	5.08	5.08
Tabora	A	8.33	8.33	8.33	4.85	4.79	4.58	6.35	6.35	6.35
Tanga	A	9.04	9.15	9.35	8.95	8.95	9.31	14.6	14.6	14.6
Subtotal Category A		117.62	123.27	132.985	89.4	94.25	99.99	128.58	128.98	154.82
Bukoba	B	2.56	3.29	3.29	2.56	2.26	2.56	3.5	5.07	5.07
Kigoma	B	9.49	9.49	9.49	2.99	3.6	2.99	6.54	6.54	6.54
Singida	B	2.81	2.61	2.61	1.38	1.71	1.38	1.51	1.8	1.76
Sumbawanga	B	2.91	2.92	2.92	1.39	1.8	1.39	2.19	2.19	2.19
Babati	C	1.15	1.46	1.46	1.01	1.11	1.01	1.17	1.4	1.4
Lindi	C	1.8	1.8	1.8	0.47	0.46	0.47	1.83	1.83	1.72
Subtotal Category B&C		20.72	21.57	21.57	9.45	9.8	10.94	16.74	18.83	18.68
TOTAL		138.34	144.84	154.555	98.85	104.05	110.93	145.32	147.81	173.5
DAWASCO		149.7	164.3	164.3	86.87	92.65	95.22	102.4	102.7	102.4

Table A2.3 Length of Water Network, Pipe Breaks, Water Storage Capacity and Water Connections per Km Length of Network

Utilities	Category	Total Length of Water Network			Pipe Breaks per km per year	Storage Capacity				Water Connections per Km Length of Network		
		(Kilometres)				(hrs)				(hrs)		
		2006/07	2007/08	2008/09	2008/09	2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09
Arusha	A	229.3	237	240	1.09	7.4	6.6	6.4	6.5	105	109	113
Dodoma	A	211.4	245	245	1.54	83.4	68.6	38.4	48	76	70	76
Iringa	A	151.6	152.6	154.6	0.33	3.5	3.4	3.4	2.4	62	68	72
Mbeya	A	313	364.6	388.7	0.6	6.9	9.3	8.4	10	63	64	65
Morogoro	A	272	318.5	320.1	1.9	7.8	7.9	7.9	7.5	66	59	62
Moshi	A	285	398	407.8	0.4	8.3	8.2	8.1	7.2	55	54	59
Mtwara	A	198.6	202.2	204	0.99	7	7.2	7	7.2	72	74	57
Musoma	A	101	108	116.9	1.33	1.5	1.5	1.5	3.7	40	42	43
Mwanza	A	298.3	312.3	446.4	0.73	4.3	4.2	16.8	11.8	40	42	43
Shinyanga	A	193	194.6	309	1.3	5.2	4.7	35.5	10	53	42	40
Songea	A	220	243	243	0.14	7.3	11.5	11.2	11	34	32	33
Tabora	A	230	230	230	0.9	6.2	6.2	6.2	8.5	29	31	32
Tanga	A	435.6	453.6	474.5	0.32	6.7	9	9.3	2.6	26	26	30
Subtotal Category A		3138.8	3459.4	3780	0.89	11.96	11.41	12.32	127.4	55	54	54
Bukoba	B	77.3	80.5	80.5	3	6.5	5.1	5.1	5	65	67	73
Kigoma	B	189.4	192.6	195.7	0.5	3.7	3.7	3.7	12	54	51	55
Singida	B	25	86	94	12	4.7	5.1	5.1	7	51	46	48
S'wanga	B	75	86.8	88	1.15	4.2	4.1	4.1	4.3	156	48	47
Babati	C	32.4	38.7	41	2.74	4	4.1	4.1	3	40	40	40
Lindi	C	109.7	109.7	109.7	4.2	18.8	18.8	18.8	4	18	19	19
Subtotal Category B&C		508.8	594.3	608.9	3.93	6.98	6.82	6.82	35.3	47	43	44
TOTAL		3,648	4,054	4,389	1.85	10.39	9.96	10.58	162.7	54	52	52
DAWASCO		1064	1496	1528	11	4.79	4.63	4.63				

Table A2.4 Non-revenue Water

Utilities	Category	NRW (%)				NRW (m3 lost/km/day)			NRW (m3 lost/connection/day)		
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Arusha	A	33.3	22	26.3	20	63.0	39.6	43.3	0.60	0.36	0.38
Dodoma	A	30	37.8	44.3	40	25.9	33.6	45.4	0.34	0.48	0.60
Iringa	A	48	46	42	40	36.4	35.0	30.7	0.58	0.52	0.43
Mbeya	A	33.8	31.8	30.4	30	25.5	24.8	24.0	0.46	0.46	0.41
Morogoro	A	32.9	27.4	24.05	32	29.9	20.6	17.7	0.45	0.35	0.28
Moshi	A	31	29	32.49	28	25.3	16.9	19.1	0.47	0.40	0.48
Mtwara	A	34	33	27.4	30	7.8	8.8	7.0	0.27	0.29	0.22

Utilities	Category	NRW (%)				NRW (m3 lost/km/day)			NRW (m3 lost/connection/day)		
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Musoma	A	52.7	44.8	40.5	35	53.3	43.9	36.8	0.85	0.68	0.57
Mwanza	A	36	36.7	44.2	30	41.0	44.5	50.7	0.57	0.60	0.88
Shinyanga	A	42.6	38	36.4	30	17.5	17.4	10.4	0.51	0.54	0.31
Songea	A	33	34.9	39.8	33	8.4	9.0	10.0	0.33	0.34	0.33
Tabora	A	27.9	27.8	26.7	27.3	16.1	15.9	14.6	0.40	0.38	0.34
Tanga	A	27	27.2	24.6	26	15.2	14.7	13.2	0.38	0.35	0.31
Average Category A		35.6	33.6	33.8	30.9	28.1	25.0	24.8	0.48	0.44	0.43
Babati	C	62	46	43.8	40	34.94	32.73	29.72	0.65	0.64	0.54
Bukoba	B	59.4	52.7	51.6	45	37.21	45.98	39.74	0.58	0.68	0.54
Kigoma	B	45	37	34.1	30	23.46	15.76	17.20	0.59	0.39	0.43
Lindi	C	45.6	45.6	40.18	36	7.85	5.38	5.05	0.43	0.29	0.27
Singida	B	35	43	35.1	35	41.50	18.85	17.45	0.27	0.39	0.37
S'wanga	B	44	43	44	41	25.33	18.88	24.60	0.50	0.41	0.52
Average Category B&C		48.5	44.6	41.5	37.8	28.38	22.93	22.29	0.50	0.47	0.44
SIMPLE AVERAGE		39.6	37	36.2	33.1	28.2	24.3	24.0	0.49	0.45	0.43
WEIGHTED AVER.		35.4	32.8	34.4		26.3	23.0	23.8	0.49	0.44	0.45
DAWASCO		55	55	56.7	NA						

Table A2.5 Sewer Blockages, Length of Sewer Network, Number of Sewer Connections

Utilities	Category	Number of Sewer Blockages				Length of Sewerage Network			Number of Sewer Connections		
		(Nr/km/year)				(Km)					
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Arusha	A	50.78	56.87	53.50	53	42.73	43.03	43.72	3240	3457	3543
Dodoma	A	3.77	4.46	4.97	0.2	56.00	56.68	57.80	3165	3393	3571
Iringa	A	12.70	12.54	12.59	0.11	26.15	26.33	26.53	614	765	907
Mbeya	A	2.52	2.63	5.16	0.5	23.00	47.47	48.46	127	177	222
Morogoro	A	11.43	8.04	10.91	8	30.00	30.21	30.71	680	747	807
Moshi	A	129.20	18.10	17.23	1.5	13.32	45.30	45.67	2085	2103	2063
Mwanza	A	4.22	9.01	4.22	0.04	28.20	28.20	28.20	1470	1957	2413
Tabora	A	2.11	3.21	4.00	0.4	19.00	19.00	19.00	292	312	314
Tanga	A	1.72	4.49	7.64	3.5	33.71	34.06	34.56	2375	2430	2483
Songea	A		0.14	0.44	0.04	0.00	36.41	36.41	0	174	457
AVERAGE		24.27	11.95	12.07	6.73	272.11	366.69	371.06	14048	15515	16780
DAWASCO		18.5	26	16.1	NA	170	178	188	13599	16230	17254

Table A2.6 Water Quality Compliance

Utility	Category	2006/07					2007/08					2008/09				
		E-coli	Turbidity	Residual Chlorine	PH	Average	E-coli	Turbidity	Residual Chlorine	PH	Average	E-coli	Turbidity	Residual Chlorine	PH	Average
		% Compliance					% Compliance					% Compliance				
Arusha	A	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dodoma	A	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Iringa	A	87	82	85	89	86	93	90	91	98	93	95	98	93	96	96
Mbeya	A	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Morogoro	A	100	94.2	95.8	99.1	97	100	93.9	100	100	98	100	100	100	100	100
Moshi	A	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mtwara	A	100	100	100	100	100	97	100	100	100	99	100	100	100	100	100
Musoma	A	100	NA	100	100	100	100	NA	100	100	100	89.6	NA	100	100	97
Mwanza	A	95.8	79.2	87.3	91.2	88	91.7	84.9	90.6	98.4	91	100	100	95.8	100	99
Shinyanga	A	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Songea	A	99	92	97	100	97	100	99	97	98	99	100	99	100	100	100
Tabora	A	100	99	99	100	100	97.7	88	95	95	94	95.7	88	95	95	93
Tanga	A	90	98	85	99	93	90	100	85.2	100	94	95.3	99.8	89	100	96
AVERAGE CATEG. A		98	95	96	98	97	98	96	97	99	98	98	99	98	99	98
Bukoba	B	65	65	65	65	65	90.5	100	89.3	96.4	94	85	100	41.4	81.4	77
Kigoma	B	98	98	98	98	98	100	100	100	100	100	100	100	98	100	100
Singida	B	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
S'wanga	B	100	90.5	93.8	96.4	95	97.4	85.7	93.3	96.8	93	97.2	80	96	96.7	92
Babati	C	80.48	100	100	100	95	100	100	100	100	100	100	100	100	100	100
Lindi	C	84	84	83	85	84	80	90	65	80	79	93	89	60	83	81
AVERAGE CATEG. B&C		88	90	90	91	90	95	96	91	96	94	96	95	83	94	92
OVERALL AVERAGE		95	93	94	96	95	97	96	95	98	97	97	97	93	97	96
DAWASCO		93.8	99	84	96	93.2	99.9	97.9	95.8	95.6	97.3	100	97	99	91	96.8

Table A2.7 Wastewater Quality Compliance (BOD₅ and COD)

Utilities	Category	Compliance with BOD ₅ Standards (%)				Compliance with COD Standards (%)			
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	PA Target
Arusha	A	34	47.6	51.7	50	34	47.6	51.7	50
Dodoma	A	100	100	100	85	100	100	100	85
Iringa	A	100	89	0	95	100	86	0	95
Mbeya	A	100	100	100	100	100	100	100	100
Morogoro	A	100	100	100	100	100	100	100	100
Moshi	A	100	100	100	99	NM	NM	NM	99
Mwanza	A	38.2	61.1	81.6	90	10.9	57.7	81.9	90
Tabora	A	95	88	75	100	98	85	51	100
Tanga	A	NA	NA	NA	NA	NA	NA	NA	NA
Songea	A	NA	NA	100	100	NA	NA	100	100
AVERAGE		83.4	85.71	78.7	91	77.56	82.33	73.08	91
DAWASCO		0	0	0	N/A	0	0	0	N/A

Table A2.8 Total Water Connections, Domestic Connections and Public Water Kiosks

Utilities	Categ.	Total Water Connection (Number)			Domestic Water Connections (Number)			Public Water Kiosks (Number)			
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	PA Target
Arusha	A	24,051	25,838	27,169	22,790	23,403	24,748	114	115	117	105
Dodoma	A	16,142	17,146	18,578	15,215	16,120	17,404	69	96	113	105
Iringa	A	9,449	10,362	11,089	8,755	9,625	10,316	97	106	117	112
Mbeya	A	17,400	19,620	22,849	16,515	18,708	21,931	153	154	153	160
Morogoro	A	18,040	18,993	19,969	16,972	17,857	18,767	99	92	102	90
Moshi	A	15,191	16,629	16,291	13,531	14,591	14,534	135	153	149	128
Mtwara	A	5,776	6,173	6,576	5,495	5,848	6,229	14	16	17	26
Musoma	A	6,356	6,960	8,120	5,893	6,456	7,568	10	26	27	23
Mwanza	A	21,634	23,079	26,988	20,200	21,188	24,869	4	6	117	124
Shinyanga	A	6,766	7,287	10,610	6,178	6,627	9,983	160	156	165	160
Songea	A	5,636	6,360	7,348	5,186	5,881	6,795	52	15	55	55
Tabora	A	9,248	9,711	9,891	8,678	9,243	9,410	62	64	69	68
Tanga	A	17,334	18,921	20,517	16,183	17,675	19,157	242	257	266	267
Total Category A		173,023	187,079	205,995	161,591	173,222	191,711	1,211	1,256	1,467	1,423
Bukoba	B	4,986	5,350	5,848	4,510	4,895	5,294	13	13	39	28
Kigoma	B	7,552	7,768	7,893	7,259	7,480	7,602	18	5	0	56
Singida	B	3,900	4,132	4,417	3,331	3,557	3,841	42	43	43	46
S'wanga	B	3,840	4,009	4,193	3,621	3,794	3,997	28	26	14	21
Babati	C	1,746	1,990	2,244	1,562	1,758	1,990	19	22	22	25
Lindi	C	1,981	2,038	2,072	1,831	1,913	1,826	25	26	31	35
Total Category B&C		24,005	25,287	26,667	22,114	23,397	24,550	145	135	149	211
TOTAL		197,028	212,366	232,662	183,705	196,619	216,261	1,356	1,391	1,616	1,634
DAWASCO		127,074	140,815	145,579	120,603	135,495	140,706	115	167	195	NA

Table A2.9 Metering Ratio and Composition of Metered Customers

Utilities	Category	Metering Ratio (%)				Composition of Metered Customers 2008/09				
		2006/07	2007/08	2008/09	PA Target	Domestic	Institution	Commercial	Industrial	Kiosk
Arusha	A	100	100	100	100	24,748	414	1,491	425	117
Dodoma	A	100	100	100	100	3,217	122	233	-	113
Iringa	A	72	82.9	86.4	100	3,217	312	234	52	117
Mbeya	A	64.8	71.6	76.3	80	16,511	291	462	12	153
Morogoro	A	80	82	92	85	17,295	374	539	71	86
Moshi	A	100	100	100	100	14,534	269	1,325	14	149
Mtwara	A	85	86	89	90	5,511	103	166	6	28
Musoma	A	56	51	51	70	3,420	132	252	11	27
Mwanza	A	94	96	96	100	23,535	461	1,197	354	117
Shinyanga	A	73.3	84.8	70.9	78	6,899	277	133	43	165
Songea	A	72	76	79.9	80	5,418	185	247	2	16
Tabora	A	79	79	79.6	78	7,440	237	148	27	69
Tanga	A	100	100	100	100	19,157	354	596	144	266

Utilities	Category	Metering Ratio (%)				Composition of Metered Customers 2008/09				
		2006/07	2007/08	2008/09	PA Target	Domestic	Institution	Commercial	Industrial	Kiosk
Average/Total Category A		82.8	85.3	86.2	89.3	150,902	3,531	7,023	1,161	1,423
Babati	C	40.7	53.5	88.5	60	1,755	92	103	-	22
Bukoba	B	63.6	69.2	89.4	100	4,860	172	293	8	39
Kigoma	B	40	43	43	60	1,337	132	107	9	-
Lindi	C	26	56	53	40	599	52	62	-	31
Singida	B	43.2	45.6	72.2	75	2,860	188	98	-	43
S'wanga	B	51	53.3	59.1	60	2,336	74	69	-	5
Average/Total Category B&C		44.1	53.4	67.5	65.8	13,747	710	732	17	140
OVERALL AVERAGE/TOTAL		70.6	75.3	80.3	81.9	164,649	4,241	7,755	1,178	1,563
DAWASCO		45	55	67	NA					

Table A2.10 Proportion of Population Living in the Service Area, Number of Households and Proportion of Population Served with Water

Utilities	Categ	Proportion of Population Living in the service area (%)				Total Households in the Service area (thousands)			Proportion of Population Served with water (%)			
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	PA Target
Arusha	A	96	97.5	97.5	90	36	38	37	98	98	83.5	90
Dodoma	A	87	87	87	89	42	45	46	87	87	46.4	89
Iringa	A	92	92	92	94	22	27	29	66	67	72.7	94
Mbeya	A	71	71	89.9	91	33	41	43	80	72	89.5	91
Morogoro	A	84.8	93.6	94.4	95	63	72	72	82	94	47.9	80
Moshi	A	97	97	97.4	95	18	19	20	98	97	67.2	95
Mtwara	A	83	83	83	87	20	20	21	90	90	85.7	87
Musoma	A	73	77.8	77.8	78	12	13	16	56	63	59.7	78
Mwanza	A	83.1	73.9	73.9	86	38	43	50	44	41	45.3	86
Shinyanga	A	60.3	60	60	78	9	9	9	27	35	45	78
Songea	A	69.5	72.5	70.5	57	17	17	18	70	73	75	75
Tabora	A	84.3	88.6	86.5	87.5	18	19	21	60	61	58.4	87.5
Tanga	A	97.6	99	99	99	35	35	35	94	99	82.3	99
Total Category A		83.0	84.1	85.3	86.7	363	398	417	73.2	75.2	66.0	86.9
Bukoba	B	71	72.8	72.8	80	8	10	10	81	74	99.5	80
Kigoma	B	88.4	88.2	88.2	67	16	16	16	76	83	73.5	67
S'wanga	B	82.4	85.7	85.7	80	16	18	18	33	34	63.1	80
Singida	B	75	77.8	75	85	7	7	8	63.7	70.6	75.8	85
Babati	C	62.5	62.5	62.5	80	13	13	13	63	63	57	80
Lindi	C	65	66.6	62	70	5	6	6	65	66	66	70
Total Category B&C		74.1	75.6	74.4	77.0	65	70	71	63.6	65.1	72	77.0
TOTAL		80.2	81.4	81.8	83.6	428	468	488	69.0	70.8	68	82.3
DAWASCO				85.0					75.0	75.0	82.0	

Table A2.11 Number of Sewerage Connections and Proportion of Population Connected to Sewerage Network

Utilities	Category	Sewerage Connection (Number)				Population Connected to Sewerage Network (% of Total Population in the Service Area)			
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	PA Target
Arusha	A	3,240	3,457	3,543	3,163			17	18
Dodoma	A	3,165	3,393	3,571	3,757			13	15
Iringa	A	614	765	907	800			13.1	14
Mbeya	A	127	177	222	200			5	6
Morogoro	A	680	747	807	749			3.14	3.08
Moshi	A	2,085	2,103	2,063	1,566			47	45
Mwanza	A	1,470	1,957	2,413	2,000			27	27
Tabora	A	292	312	314	320			1.3	5.9
Tanga	A	2,375	2,430	2,483	2,140			9	16
Songea	A	0	174	457	600			3.7	5.6
TOTAL/AVERAGE		14,048	15,515	16,780	15,295			14	16
DAWASCO		23,873	23,000	23,873	NA				

Table A2.12 Average Hours of Service and Proportion of Connection with 24Hours of Service

Utilities	Category	Average Hours of Service (Hours)				Proportion of Population with 24 Hours of Service (%)		
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09
Arusha	A	24	24	18.5	24	97.5	98	95.1
Dodoma	A	24	20	20	23	100	80	80
Iringa	A	22.6	22.8	22.1	22.8	74.6	71.7	71.3
Mbeya	A	21.5	21.5	23.1	23	71	71	72.2
Morogoro	A	24	23.2	19.5	21.5	76	51	49.7
Moshi	A	24	23	23.5	23	95	98	98
Mtwara	A	9	10	10	12	22.6	23.6	27.2
Musoma	A	22	22	22	21	85	85	85
Mwanza	A	22	22	22	24	81	82	85
Shinyanga	A	11	13	15	15	11	0	0
Songea	A	24	24	24	24	100	88	100
Tabora	A	20.1	20.2	20.2	20.3	51.7	53.2	52.7
Tanga	A	24	24	24	24	100	100	99
Average Category A		21	21	20	21	74	69	70
Bukoba	B	22	24	23	24	95	86	80
Kigoma	B	9	12	7	12	38	0	
Singida	B	4	5	5.5	6	0	0	0
S'wanga	B	17.6	17	16	16	30.5	30.3	41.1
Babati	C	8	12	12	16	33.3	20	20
Lindi	C	5	6	6	8	9.2	9	9
Average Category B&C		11	13	12	14	34	24	30
OVERALL AVERAGE		18	18	18	19	62	55	59
DAWASCO		6.8	8	9	NA	10	25	25

Table A2.13 Revenue Collection Efficiency, Accounts Receivables and Overall Efficiency Indicator

Utilities	Category	Revenue Collection Efficiency (%)				Accounts Receivables (months)			Overall Efficiency Indicator (OEI) %		
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
		Arusha	A	93.6	93	96.2	94	2.5	3.3	3.6	50.0
Dodoma	A	93	93	97	93	0.7	1.0	1.3			54.1
Iringa	A	83	84	80.3	95	1.6	3.9	3.4	41.0	44.6	50.3
Mbeya	A	84	78	85.8	82	2.4	2.9	2.8	55.4	53.0	59.5
Morogoro	A	92.1	99.8	93.4	88	1.2	1.5	1.0	58.7	69.2	70.9
Moshi	A	98.1	96.7	97.8	94	3.3	2.6	2.4	69.0	69.3	66.0
Mtwara	A	98.1	96.7	53.8	85	3.6	3.7	3.6	48.7	52.5	39.3
Musoma	A	88.5	88.4	80.8	95	6.4	3.0	3.3	73.0	47.4	48.1
Mwanza	A	98.8	97.8	98.8	97	3.3	3.3	3.3			55.1
Shinyanga	A	99	98.7	89.1	98.9	2.0	2.0	1.9			64.2
Songea	A	91.6	84.3	70.7	90	5.0	4.0	3.2			42.6
Tabora	A	74.8	70.2	74.4	87	2.2	4.4	5.0	32.3	32.4	54.5
Tanga	A	90	96	98.2	96	1.9	1.9	1.6	70.3	67.1	74.0
Average Category A		83.7	83.1	82.1	92.1	2.8	2.9	2.8	55.4	55.7	57.7
Bukoba	B	86	88	83.7	96	4.1	2.7	0.0	52.6	27.8	40.4
Kigoma	B	70	90	61.8	75	4.0	4.0	12.9	20.3	31.8	35.3
Singida	B	91	112.4	92	65	3.4	2.1	2.1	57.8	55.4	50.4
S'wanga	B	89.99	90	94.5	83	2.6	2.1	2.1	50.4	51.3	53.8
Babati	C	79.76	80.57	61.8	80	1.0	1.0	12.1	48.4	42.3	37.0
Lindi	C	114	86	90.5	89	4.0	2.9	2.7	39.9	56.0	55.2
Average Category B&C		88.5	91.2	80.7	81.3	3.2	2.5	5.3	44.9	44.1	45.3
OVERALL AVERAGE		90.3	90.7	84.2	88.6	2.9	2.8	3.6	51.2	51.0	53.8
DAWASCO		66.4	75.1	84.8	N/A	1.76	1.55	1.26			39

Table A2.14 Billing Composition and Domestic Billing

Utilities	Category	Water Billing (Millions TZS)			Sewerage Billing (Millions TZS)			Other Operational Billing (Million TZS)			Domestic Billing (Million TZS)		
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
		Arusha	A	3,222	3,347	3,335	226.07	218.94	205.77	389.95	495.78	660.45	2348
Dodoma	A	2,312	2,351	2,841	250.50	256.99	218.86	469.84	591.87	912.73	1597	1770	1950
Iringa	A	1,133	1,252	1,571	58.93	81.03	109.60	58.62	63.68	122.65	743.35	829	1048
Mbeya	A	1,513	2,081	2,242	58.62	63.68	121.18	90.45	196.30	685.32	1183	1371	1929
Morogoro	A	2,402	2,588	3,421	22.95	28.63	44.55	0.00	0.00	492.69	1600	1749	2282
Moshi	A	1,724	1,800	2,050	247.40	232.90	227.41	342.33	465.59	677.82	1068	1372	1579
Mtwara	A	548	752	869			0.00	588.13	809.65	86.99	414	466	545
Musoma	A	550	861	966			0.00	9.28	13.16	171.94	351	506	697

Utilities	Category	Water Billing			Sewerage Billing			Other Operational Billing			Domestic Billing		
		(Millions TZS)			(Millions TZS)			(Million TZS)			(Million TZS)		
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Mwanza	A	2,934	3,431	5,210	207.36	225.75	311.47	313.01	271.62	458.52	1692	1865	2799
Shinyanga	A	698	786	952			0.00	2.94	27.20	1964.46	452	564.67	916
Songea	A	471	482	712		9.52	0.00	16.49	37.80	180.91	221	234.78	378.11
Tabora	A	1,344	1,411	1,421	13.92	20.66	17.89	11.61	10.57	8.33	644.00	647.76	682.59
Tanga	A	2,375	2,701	3,096	56.84	65.50	128.72	198.48	401.91	404.53	14734	1889	2273.81
Subtotal Category A		21,227	23,844	28,688	1,143	1,204	1,385	2,491	3,385	6,827	13,788	15,724	19,605
Bukoba	B	342.70	504.45	698.20	0.00	0.00	0.00	60.69	75.92	2.02	216.80	353.79	395.87
Kigoma	B	484.12	387.84	391.24	0.00	0.00	0.00	18.69	0.76	13.03	152.09	142.54	110.74
Singida	B	307.51	371.62	348.57	0.00	0.00	0.00	6.87	119.34	74.10	126.45	155.48	203.04
S'wanga	B	222.21	267.29	313.89	0.00	0.00	0.00	14.82	26.49	28.08	193.40	192.23	187.88
Babati	C	164.99	193.88	330.82	0.00	0.00	0.00	19.20	20.17	64.31	83.99	112.08	137.88
Lindi	C	123.20	161.92	180.49	0.00	0.00	0.00	5.91	9.64	35.50	65.96	79.71	99.97
Subtotal Category B&C		1,645	1,887	2,263	0.00	0.00	0.00	126.18	252.32	217.04	839	1,036	1,135
TOTAL		22,872	25,731	30,951	1,143	1,204	1,385	2,617	3,637	7,044	14,626	16,760	20,741
DAWASCO		23,005	23,839	17,022	2,142	2,040	1,020	1,431	857	607	0.00	17,378	17,568

Table A2.16a Cost Structure: Total O&M, Production, Distr & Maintenance and Admin. Costs

Utilities	Category	Total O & M Costs			Production, Distribution and Maintenance			Administration Costs		
		(Millions TZS)			(Millions TZS)			(Millions TZS)		
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Arusha	A	3,433	3,550	3,746	1,012	1,154	1,149	1,340	1,128	1,209
Dodoma	A	2,532	2,318	2,743	952	1,004	1,166	480	431	465
Iringa	A	1,158	1,321	1,584	562	509	620	248	295	347
Mbeya	A	1,361	1,693	2,771	363	370	552	376	426	506
Morogoro	A	3,171	3,488	4,069	1,092	1,122	1,168	529	683	904
Moshi	A	2,361	2,397	2,449	762	577	529	729	658	767
Mtwara	A	760	992	1,106	332	405	468	186	229	248
Musoma	A	594	824	1,077	339	394	445	107	114	165
Mwanza	A	4,077	4,101	4,898	1,556	1,599	1,847	707	780	1,176
Shinyanga	A	856	919	1,101	291	364	456	169	170	206
Songea	A	446	503	2,052	169	135	186	80	106	122
Tabora	A	1,003	976	1,438	549	440	611	222	212	262
Tanga	A	2,214	2,537	3,054	711	841	997	786	744	1,016
TOTAL Category A		23,966	25,619	32,090	8,689	8,913	10,195	5,958	5,976	7,392
Bukoba	B	484	574	695	176	235	267	103	116	142

Utilities	Category	Total O & M Costs			Production, Distribution and Maintenance			Administration Costs		
		(Millions TZS)			(Millions TZS)			(Millions TZS)		
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Kigoma	B	479	787	477	139	158	144	141	114	103
Singida	B	736	969	746	110	95	98	305	393	337
Sumbawanga	B	239	347	302	36	50	22	74	72	83
Babati	C	195	300	385	75	136	133	59	81	126
Lindi	C	274	370	476	83	142	217	54	87	85
TOTAL Category B&C		2,408	3,347	3,082	619	815	880	736	864	876
OVERALL TOTAL		26,374	28,966	35,171	9,309	9,729	11,075	6,694	6,840	8,269
DAWASCO		24,015	25,573	24,427	7,602	8,487	12,647	7,668	6,743	1,929

Table A2.16b Cost Structure: Personnel Costs and Other Costs

Utilities	Category	Personnel Costs			Other Costs		
		(Millions TZS)			(Millions TZS)		
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Arusha	A	917	1,048	1,183	165	220	204
Dodoma	A	884	830	1,043	217	54	68
Iringa	A	298	455	568	50	61	50
Mbeya	A	457	567	779	165	331	935
Morogoro	A	726	876	1,039	824	807	959
Moshi	A	679	1,011	1,035	191	151	118
Mtwara	A	204	280	359	37	78	31
Musoma	A	128	301	448	20	16	19
Mwanza	A	923	1,020	1,529	891	702	346
Shinyanga	A	227	268	406	169	118	33
Songea	A	188	252	288	9	10	1,455
Tabora	A	218	309	403	13	15	163
Tanga	A	565	865	931	152	85	110
TOTAL Category A		6,415	8,082	10,011	2,903	2,648	4,491
Bukoba	B	194	203	260	11	19	27
Kigoma	B	175	248	219	24	268	11
Singida	B	175	161	172	147	320	140
Sumbawanga	B	111	154	176	18	72	22
Babati	C	49	64	102	12	19	24
Lindi	C	51	68	91	87	73	83
TOTAL Category B&C		755	897	1,019	299	771	306
OVERALL TOTAL		7,170	8,979	11,030	3,202	3,418	4,797
DAWASCO		5,079	6,116	6,015	3,667	4,227	3,837

Table A2.17 Working Ratio, Operating Ratio and Average Tariff in use

Utilities	Category	Working Ratio				Operating Ratio				Average Tariff in Use (TZS/m3)		
		2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09	PA Target	2006/07	2007/08	2008/09
Arusha	A	0.9	0.9	0.89	0.85	0.91	0.88	0.96	0.90	337.39	306.23	310.81
Dodoma	A	0.9	1	0.96	0.95	0.80	0.90	1.08	0.85	0.00	0.00	556.84
Iringa	A	0.95	0.97	1	0.98	1.07	1.06	1.13	0.93	525.74	547.19	607.61
Mbeya	A	0.79	0.65	0.87	0.9	0.86	0.74	1.06	0.95	264.47	294.60	289.38
Morogoro	A			0.79	0.93	0.99	0.99	0.97	0.96	448.00	448.00	525.37
Moshi	A	0.9	0.9	0.83	0.87	1.01	0.99	0.91	0.90	314.93	323.54	347.87
Mtwara	A	0.8	0.8	1.38	0.9	1.10	0.94	1.63	1.20	570.93	559.64	624.26
Musoma	A		1	0.96	1	1.07	1.40	1.17	1.20	202.30	438.00	418.62
Mwanza	A	1	0.8	0.84	0.49	0.74	0.85	1.08	0.64	0.00	0.00	499.54
Shinyanga	A			NR	1.2	1.14	1.15	0.00	1.50	0.00	0.00	409.93
Songea	A	1.9	2	0.88	0.9	1.00	1.02	1.94	0.83	0.00	0.00	528.86
Tabora	A			0.99	0.78	0.80	0.76	1.12	0.83	650.00	650.00	423.53
Tanga	A	0.8	0.9	0.84	0.75	0.88	0.83	1.16	1.00	375.20	438.70	441.08
Average Category A		1.0	1.0	0.94	0.88	1.0	1.0	1.09	0.98	283.8	308.1	460.28
Bukoba	B	0.9	1	0.99	0.95	1.1	1.0	0.99	1.10	395.0	645.0	640.22
Kigoma	B	1.1	0.7	1.27	1.2	1.0	1.6	1.31	1.46	462.5	462.5	229.95
Singida	B	1	1	1.01	1	1.1	1.6	1.17	1.00	457.0	465.0	373.01
S'wanga	B			0.88	0.92	1.1	1.3	0.97	0.95	251.8	337.2	306.63
Babati	C	1	0.9	1.04	0.91	0.9	1.0	1.04	0.95	299.6	361.1	499.60
Lindi	C	1.07	1.16	1.82	1.5	0.8	2.0	2.16	1.80	650.0	650.0	640.46
Average Category B&C		1.00	1.0	1.01	0.94	0.96	1.1	1.15	1.05	324.43	361.7	456.69
OVERALL		1.00	1.0	1.01	0.95	0.97	1.1	1.15	1.05	326.57	364.6	456.50
DAWASCO		1.76	1.55	1.26		1.9	1.5	1.29		689.5	689.5	394.40

Table A2.18 Total Staff, Female Staff and Staff per 1,000 Water & Sewerage Connections

Utilities	Categ.	Total Staff (Number)			Total Female Staff (Number)			Staff/1000 Connection (W&S)			
		2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	PA Target
Arusha	A	183	185	190	39	40	42	7.6	7.2	7	7
Dodoma	A	148	153	172	34	37	45	9.2	9.8	9.3	9.7
Iringa	A	96	93	99	13	14	18	10.2	9	8.9	11.2
Mbeya	A	125	188	191	31	43	55	7.2	9.6	8.4	7.2
Morogoro	A	156	154	157	31	30	31	8.6	8.2	7.9	9.7
Moshi	A	138	145	144	40	44	46	9.1	8.9	8.8	10.6
Mtwara	A	56	53	58	7	8	9	9.7	8.6	8.8	11.5

Musoma	A	72	76	76	18	18	20	20.8	21.5	10.0	16
Mwanza	A	172	223	244	30	35	41	8.1	9.7	9.5	10.7
Shinyanga	A	68	60	68	24	19	21	10.3	9.5	6.7	15.9
Songea	A	61	67	57	17	17	14	49	10.8	10.5	7.8
Tabora	A	76	77	85	13	14	18	8.2	7.9	8.3	8.6
Tanga	A	120	127	121	31	32	30	6.9	6.7	5.9	7.5
Total/Ave. Category A		1,471	1,601	1,662	328	351	390	12.7	9.8	8.5	10.3
Bukoba	B	60	63	65	11	12	14	19	16	11.1	11
Kigoma	B	68	68	68	22	22	22	9	8.8	8.6	19
Singida	B	79	72	63	10	10	10	20.3	17.4	14.3	13
S'wanga	B	39	37	37	8	7	9	10.2	9.2	8.8	9
Babati	C	30	30	35	3	3	6	17.2	15.1	15.6	14
Lindi	C	40	50	49	4	6	6	20.2	24.5	23.6	14
Total/Av Category B&C		316	320	317	58	60	67	16.0	15.2	14.5	13.3
TOTAL/AVER		1,787	1,921	1,979	386	411	457	14.3	13.6	10.0	11.23
DAWASCO		836	885	885	217	242	235	16	13.9	12	NA