

ANNEX 2
DETAILS OF EMBU WATER AND SANITATION COMPANY
(EWASCO)
REGULAR TARIFF APPLICATION (2018/19 to 2022/23)

1. Cost and Revenue Structure for the Tariff Period

	Ksh.	Ksh.
Cost Subject to Annual Indexation		
Operations and Maintenance costs		278,650,172
Fixed Costs		
Average Annual Investment Cost	44,683,149	
Average Annual Debt Repayment	90,386,655	
Average Annual Asset Renewal	15,330,854	
Sub Total- Fixed Costs		150,400,658
Total Average Annual Cost		429,050,830
Projected Average Annual Revenue		469,268,118
Average Annual Cost Coverage		109%

2. Proposed Change in Water Tariff Structure for 2018/19 to 2022/23

Customer Category	Current Tariff Structure		Current Tariff Structure	
	Consumption Block in M ³	Ksh.	Consumption Block in M ³	Ksh.
Domestic	0-6	35	0-6	45
	7-20	52	7-20	60
	21-50	60	21-50	75
	51-100	70	51-100	80
	101-300	85	101-300	85
	300 and above	130	300 and above	130
Commercial & Government	0-6	35		
	7-20	52		
	21-50	60	0-50	75
	51-100	70	51-100	80
	101-300	85	101-300	85
	Above 300	130	Above 300	130
Public schools, Universities & colleges	0-600	50	0-600	55
	601-1200	50	601-1200	60
	Above 1200	50	Above 1200	90
Standpipes/Kiosks	Per M3	35	Per M3	35

3. Indexation of the Proposed Tariff

- i. The utility shall be eligible for annual indexation of the approved tariff, as per the regulations of the Water Services Regulatory Board (WASREB).
- ii. The inflation adjustment shall come into effect every **July** of the tariff period commencing **July 2020**.

4. Miscellaneous Charges

These shall be charged as per the approved miscellaneous charges approved by WASREB.

5. Service Delivery Conditions attached to the Tariff

Target	2018/19	2019/20	2020/2021	2021/22	2022/23
Water Coverage	83%	84%	85%	86%	87%
Sewerage Coverage	19%	22%	24%	26%	28%
Water quality standards	100% compliance with the quality standards				
Non- Revenue Water	38%	36%	33%	30%	27%
Hours of Supply (Hrs)	24	24	24	24	24
Staff per 1000 connections	4	4	4	4	4
Metering ratio (%)	89	92	95	96	97
Collection Efficiency (%)	88%	88%	90%	91%	92%
Resale at Kiosk	Regulate resale by kiosk vendors at Ksh. 2 per 20-litres. Tariffs at kiosks must be displayed at strategic points for public awareness				

6. Other Conditions

- i. **Annual budgets:** The WSP shall adhere to the budgetary levels set in the tariff.
- ii. **Reporting:** The utility shall submit to WASREB a quarterly performance report in the format provided.
- iii. **Investments:** The utility shall undertake the following investments:

EMBU WATER AND SANITATION CO.								
INVESTMENTS SCHEDULE - INTERNALLY GENERATED FUNDS								
2018-2019								
TARGETTED INVESTM	PROJECT AREA	GUIDE	SIZE	SAMPLE DESCRIPTIONS	UNIT	UNIT COST	QUANTITY	PROJECT COST (KSH)
A. Regional Master meters	North West	Zonal Meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	6	143,400
		Zonal Meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	4	130,000
		Zonal Meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	4	380,000
		Zonal Meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	2	290,000
	North East	Zonal meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	4	95,600
		Zonal meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	4	130,000
		Zonal meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	4	380,000
		Zonal meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	2	290,000
	South West	Zonal Meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	4	95,600
		Zonal Meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	4	130,000
		Zonal Meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	4	380,000
		Zonal Meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	3	435,000
	South East	Zonal Meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	4	95,600
		Zonal Meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	4	130,000
		Zonal Meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	4	380,000
		Zonal Meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	2	290,000
	Kanyuambora	Zonal meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	3	71,700
		Zonal meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	3	97,500
		Zonal meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	3	285,000
	Intake and Treatment Plant	Master meters	DN 300	Automatic Meter Reading (AMR) Meter type	No.	200,000	5	1,000,000
Sub -Total						1,537,000	73	5,229,400
B.NRW Reduction Plan	To reduce NRW from 40% to 38%	Purchase of support equipment for NRW Reduction		Portable Ultrasonic Flow Meter	No.	800,000	1	800,000
				Portable Meter Tester	No.	320,000	1	320,000
				Pipe Locator for Metal Pipes + Cable for Locating Plastic	No.	697,450	1	697,450
				Leak Noise Correlator	No.	1,897,120	1	1,897,120
				Pressure Logger	No.	82,740	4	330,960
				Ground Microphone (Leak Detector)	No.	530,000	1	530,000
				NRW Reduction Activities				Lumpsum
Sub -Total								19,201,060
C. Sewer Improvement	Rehabilitation of sewer system to improve services.	Majengo Line	DN 300	Majengo Sewer line- 300 mm uPVC pipe class 41, 600 M leng	No.	5,000	100	500,000
				Excavation	Length	1,000	100	100,000
				Sewer manholes at Majengo Line	No.	30,000	5	150,000
				Sub Total		36,000	205	750,000
D. Rehabilitation of Service Lines	Water line improvement-Rerouting	Kavindi-Gikiro	DN 160	160 mm diameter PN16 uPVC pipe (6M uPVC STRAIGHTS)	Length	6,968	3,500	4,064,667
				Kango- Mugwanjogu- Kirie	DN 160	160 mm diameter PN16 uPVC pipe (6M uPVC	Length	6,968
		Sub Total				20,904	11,000	6,963,355
E. Capital Works	Office	Office Improvement		Design and Construction of store	Lumpsum	2,500,000		2,500,000
TOTAL								34,643,815

INVESTMENTS SCHEDULE - INTERNALLY GENERATED FUNDS									
EMBU WATER AND SANITATION COMPANY LTD									
2019-2020									
	PROJECT AREA	GUIDE	SIZE	SAMPLE DESCRIPTIONS	UNIT	UNIT COST	QUANTITY	PROJECT COST (KSH)	
A. Purchase and Installation of Regional Master meters	North West	Zonal Meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	4	95,600	
		Zonal Meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	2	65,000	
		Zonal Meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	2	190,000	
		Zonal Meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	1	145,000	
	North East	Zonal meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	2	47,800	
		Zonal meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	2	65,000	
		Zonal meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	2	190,000	
		Zonal meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	1	145,000	
	South West	Zonal Meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	2	47,800	
		Zonal Meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	2	65,000	
		Zonal Meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	4	380,000	
		Zonal Meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	3	435,000	
	South East	Zonal Meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	3	71,700	
		Zonal Meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	2	65,000	
		Zonal Meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	2	190,000	
		Zonal Meters	DN 200	Automatic Meter Reading (AMR) Meter type	No.	145,000	1	145,000	
	Kanyuambora	Zonal meters	DN 90	Mechanical Cold Water meter Woltmann Water meter	No.	23,900	2	47,800	
		Zonal meters	DN 100	Mechanical Cold Water meter Woltmann Water meter	No.	32,500	2	65,000	
		Zonal meters	DN 150	Automatic Meter Reading (AMR) Meter type	No.	95,000	1	95,000	
	Sub -Total						1,337,000	40	2,550,700
B. Purchase of Movable Assets	Procurement of computers, software & Accessories	ICT support		Computer Server	Lumpsum	2,000,000	1	2,000,000	
				Accounting Software Upgrade	Lumpsum			6,000,000	
				Computers and Accessories	Lumpsum			2,715,000	
	Sub Total								10,715,000
	Motor Vehicles and Motor Cycles	Motor Cycles	125 cc	Stroke 54, Engine Displacement 123, Max Power 10.7 bhp@7500 rpm	No.	200,000	5	1,000,000	
			3000 cc	Diesel Engine ,5 speed Manual with transfer box for 4 x 4 selection	No.	6,000,000	1	6,000,000	
Sub Total						6,200,000	6	7,000,000	
C. Extension of Service Lines	Extension of service lines-New Distribution Area	Kithimu Distribution Area	DN 50	50 mm daimeter PN 16 HDPE pipe	Metres	210	3550	745,500	
			DN 63	63 mm daimeter PN 16 HDPE pipe	Metres	305	4,000	1,220,000	
		Ena Market Distribution Lines	DN 50	50 mm daimeter PN 16 HDPE pipe	Metres	210	2,300	483,000	
			DN 63	63 mm daimeter PN 16 HDPE pipe	Metres	305	3,500	1,067,500	
		Karurumo Market Distribution Lines	DN 50	50 mm daimeter PN 16 HDPE pipe	Metres	210	1,500	315,000	
			DN 63	63 mm daimeter PN 16 HDPE pipe	Metres	305	2,500	762,500	
		Gachoka- Gachuriri Area	DN225	225 mm diameter PN16 (6M uPVC STRAIGHTS)	Metres	14,148	5,500	12,969,000	
		Sub Total						15,903	25,100
D.NRW Reduction Plan	Reduce NRW from 38% to 35%	Planned activities to reduce NRW				12,400,000	1	12,400,000	
E. Water System rehabilitation	Line Rehabilitation	Muchonoke- Minuri-Mbita	DN 160	160 mm diameter PN16 uPVC pipe(6M uPVC STRAIGHTS)	Length	6,968	4,500	5,226,000	
		Kanyariri-Muchonoke-Cianyikavindi (old line)	DN 160	160 mm diameter PN16 uPVC pipe (6M uPVC STRAIGHTS)	Length	6,968	5,000	5,806,667	
		Sub Total							11,032,667
F. Capital Works		Office Improvement		Design of office block	Lumpsum	4,000,000	1	4,000,000	
TOTAL								98,983,367	

INVESTMENTS SCHEDULE - INTERNALLY GENERATED FUNDS								
EMBU WATER AND SANITATION COMPANY LTD								
2020 - 21								
	PROJECT AREA	GUIDE	SIZE	SAMPLE DESCRIPTIONS	UNIT	UNIT COST	QUANTITY	PROJECT COST (KSH)
A. Purchase of Movable Assets	Motor Vehicles and Motor Cycles	Motor Cycles	125 cc	Stroke 54, Engine Displacement 123, Max Power 10.7 bhp@7500 rpm	No.	200,000	10	2,000,000
		Motor Vehicle		Procurement of Motor Vehicle (Sampling Vehicle)	No.	6,000,000	1	6,000,000
	Sub Total							
B. Improvement on Treatment Plant.	Extension of Karigiri Treatment plant	Treatment plant		Floculation and Sedimentation Tanks	Lumpsum			40,000,000
		Sub Total						
C. Sewer Improvement	Rehabilitation of sewer system to improve services.		Phase 2 -Blue valley Estate	Construction of Manholes	No.	35,000	150	5,250,000
				Laying of sewer pipes	Metres	7,000	4,000	28,000,000
	Sub Total							
D. Rehabilitation of Service Lines	Water System rehabilitation	Kaunda Estate Rehabilitation	DN 110	110 mm daimeter PN 16 HDPE pipe	Metres	883	2,700	2,384,100
	Water line improvement-Rerouting	Improvement of P.I line	DN 160	160 mm diameter PN16 (6M uPVC STRAIGHTS)	Metres	6,968	3,750	4,355,000
	Sub Total							
E. Extension of Service Lines	Extension of service lines	Kithimu Distribution Area Neighborhood	DN 50	50 mm daimeter PN 16 HDPE pipe	Metres	210	6,000	1,260,000
			DN 63	63 mm daimeter PN 16 HDPE pipe	Metres	305	5,000	1,525,000
		Ena Market Distribution Lines Neighborhood	DN 50	50 mm daimeter PN 16 HDPE pipe	Metres	210	2,500	525,000
			DN 63	63 mm daimeter PN 16 HDPE pipe	Metres	305	5,000	1,525,000
		Ugweri Market Distibution Lines Neighborhood	DN 50	50 mm daimeter PN 16 HDPE pipe	Metres	210	2,500	525,000
			DN 63	63 mm daimeter PN 16 HDPE pipe	Metres	305	5,000	1,525,000
		Karurumo Market Distribution Lines Neighborhood	DN 50	50 mm daimeter PN 16 HDPE pipe	Metres	210	2,500	525,000
			DN 63	63 mm daimeter PN 16 HDPE pipe	Metres	305	3,000	915,000
Sub Total								23,306,000
F.NRW Reduction Plan	Planned activities to reduce NRW					12,100,000	1	12,100,000
				TOTAL				90,145,100

INVESTMENTS SCHEDULE - INTERNALLY GENERATED FUNDS							
EMBU WATER AND SANITATION COMPANY LTD							
2021-2022							
	PROJECT AREA	SIZE	DESCRIPTIONS	UNIT	UNIT COST	QUANTITY	PROJECT COST (KSH)
		0.5"	Replacement of consumer meters& New Connections	no.	3500	4,000	14,000,000
		0.75"	zonal meters	no.	4000	150	600,000
		1"	zonal meters	no.	8500	75	637,500
		1.5"		no.	22000	75	1,650,000
		2"		no.	35500	50	1,775,000
		3"		no.	42000	50	2,100,000
		4"		no.	50000	50	2,500,000
		6"		no.	95000	25	2,375,000
		8"		no.	145000	5	725,000
		10"		no.	250000	5	1,250,000
		12"		no.	300,000	5	1,500,000
				Sub Total			29,112,500
2	Movable Assets		Procurement of Motorbikes- 125 cc	no.	200,000	10	2,000,000
			Procurement of Motor Vehicle-3000 cc	no.	6,000,000.00	1	6,000,000
				Sub Total			8,000,000
				Sub Total			
			TOTAL				37,112,500

INVESTMENTS SCHEDULE - INTERNALLY GENERATED FUNDS							
EMBU WATER AND SANITATION COMPANY LTD							
2022-2023							
	PROJECT AREA	DESCRIPTIONS	UNIT	UNIT COST	QUANTITY	PROJECT COST (KSH)	
1	Extension of service lines	Kithimu Distribution Lines	Lumpsum			7,934,495	
		Ena Market Distribution Lines- Neighborhood	Lumpsum			3,267,145	
		Ugweri Market Distribution Lines-Neighborhood	Lumpsum			2,333,675	
		Karurumo Market Distribution Lines-Neighborhood	Lumpsum			2,333,675	
		Gachoka- Gachuriri-Makima	Lumpsum			50,080,245	
			Total			65,949,235	