



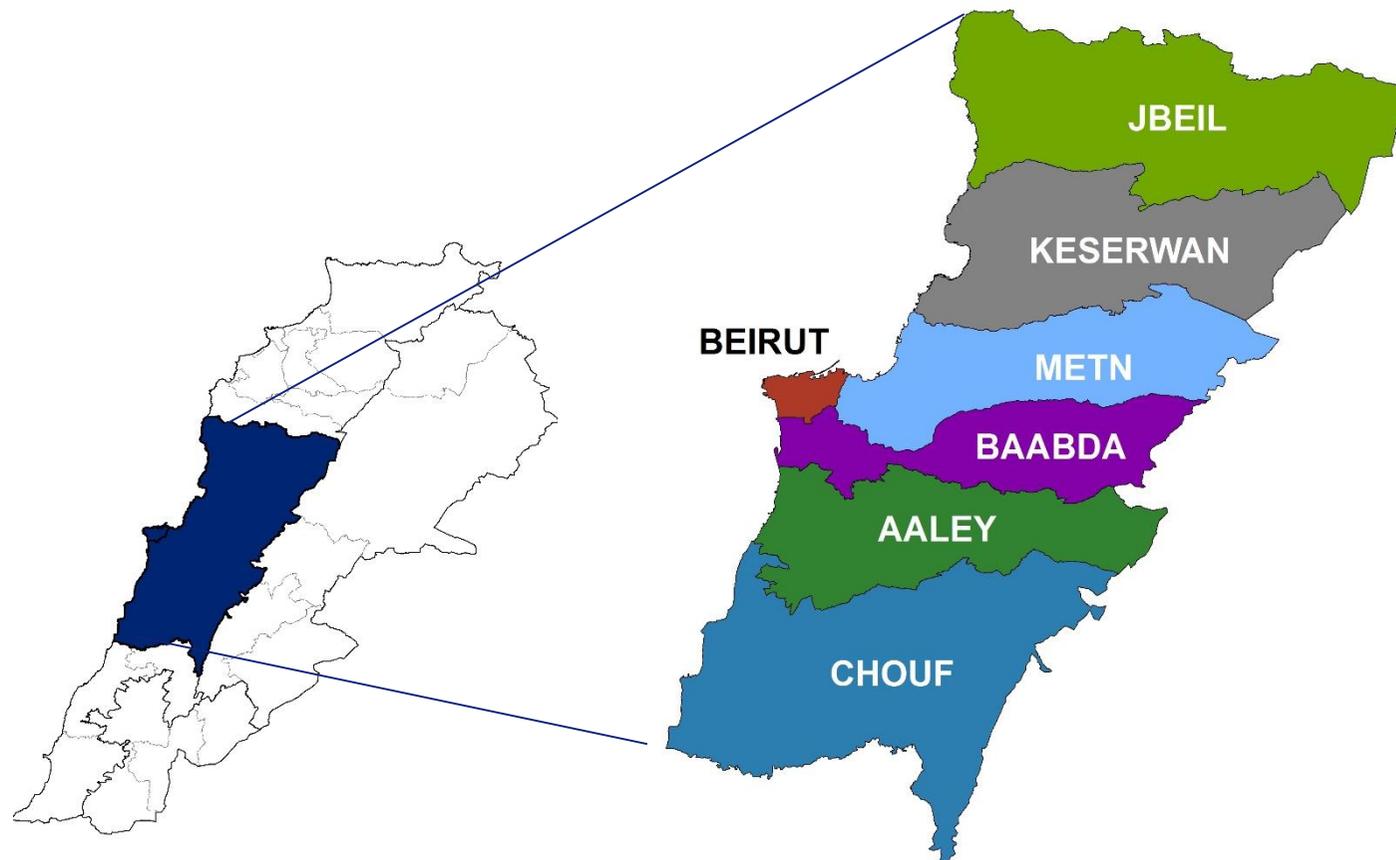
BMLWE Achievements and Future Plans

Presented by D.G. Jean Gebran

Badaro - May 2021

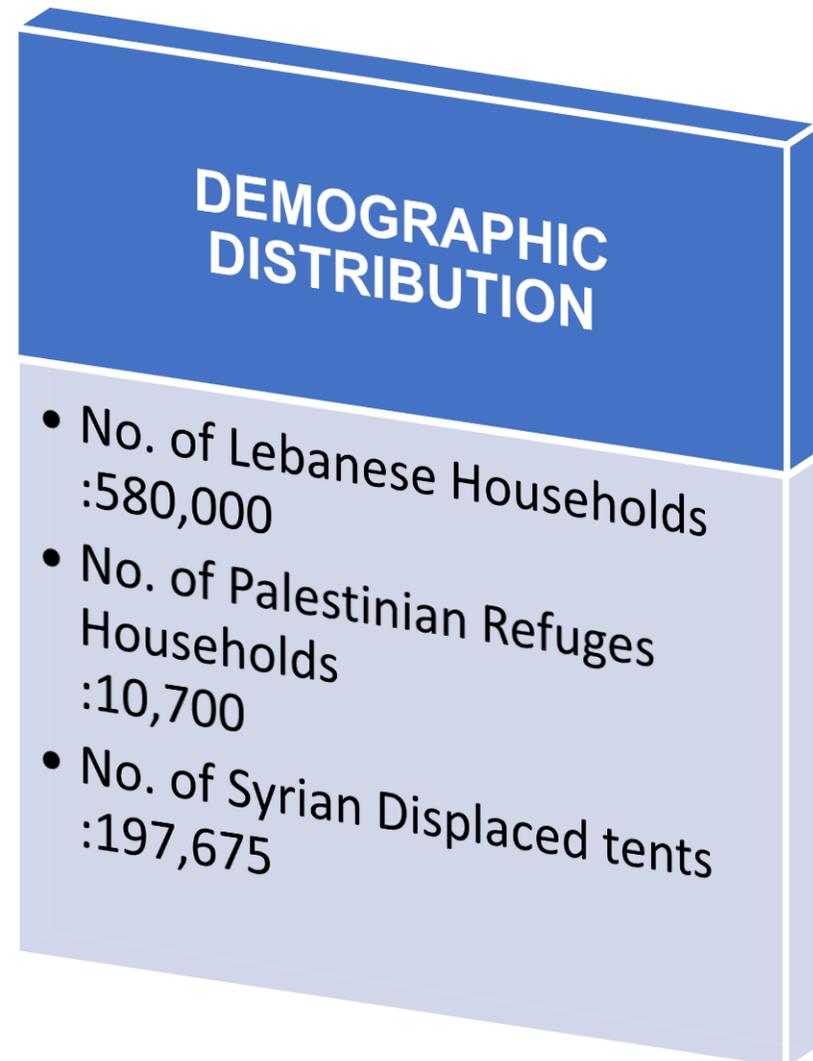
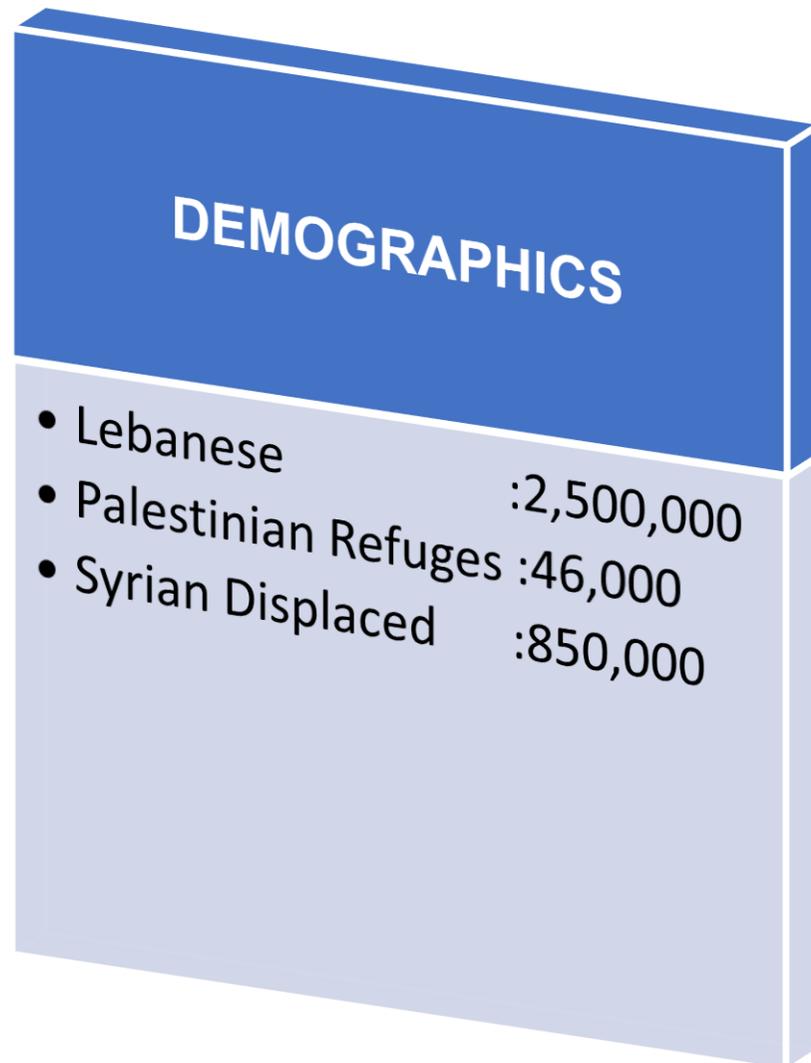
Service Area

- Lebanese Population served:
2,500,000
- Number of residential Units:
580,000
- Number of Subscribers (end 2020):
387,163
- Area:
200,000 Ha



Number of Villages: 533

Demographics and Demographic Distribution





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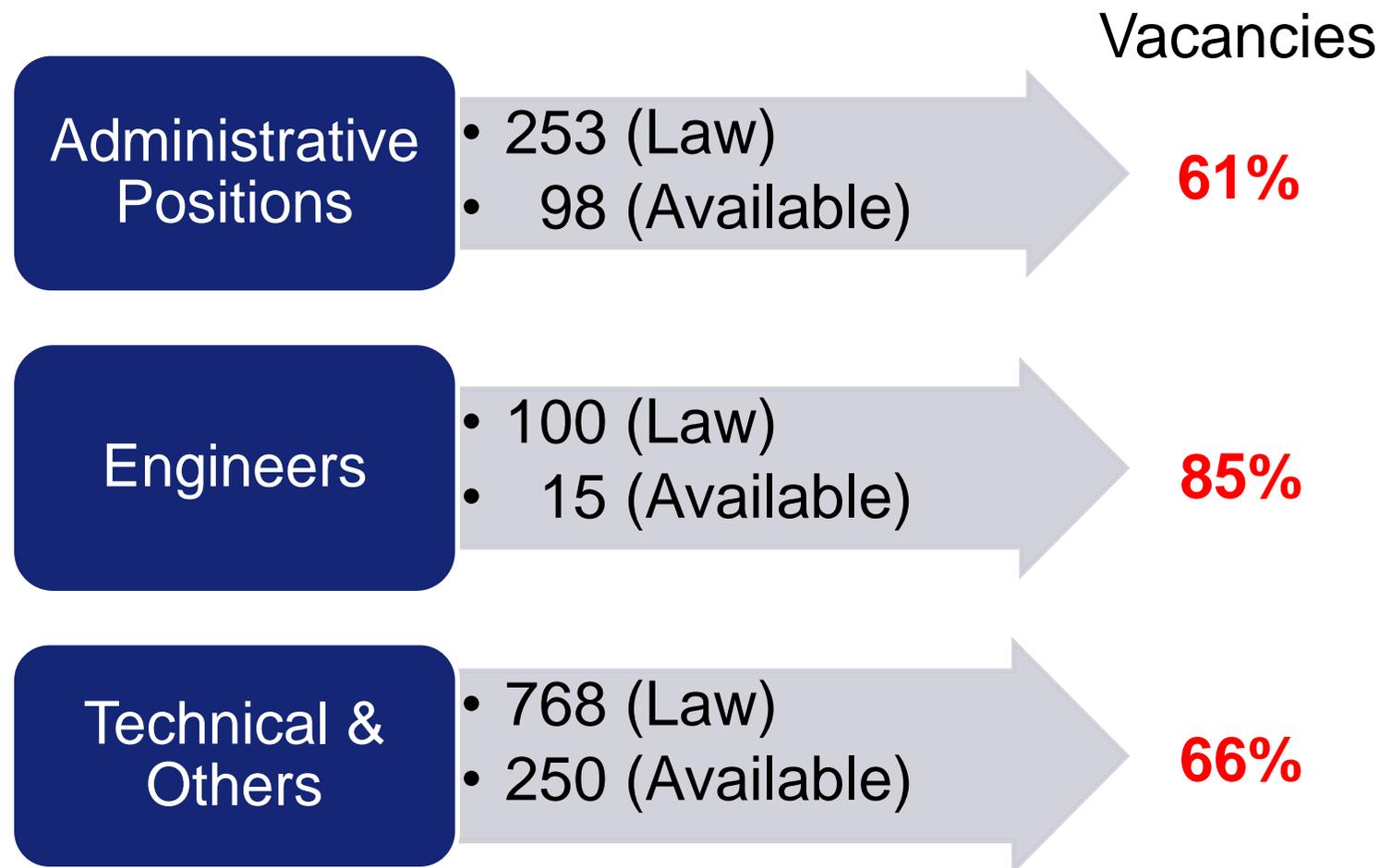
مؤسسة مياه بيروت وجبل لبنان

Our Vision

“To become one of the **leading** water utilities in the Middle East, and to serve as an example of **efficient, reliable** and **cost effective** water supply, irrigation and wastewater services”

Strategic Goals

1- Reduce the Gap of qualified labor force

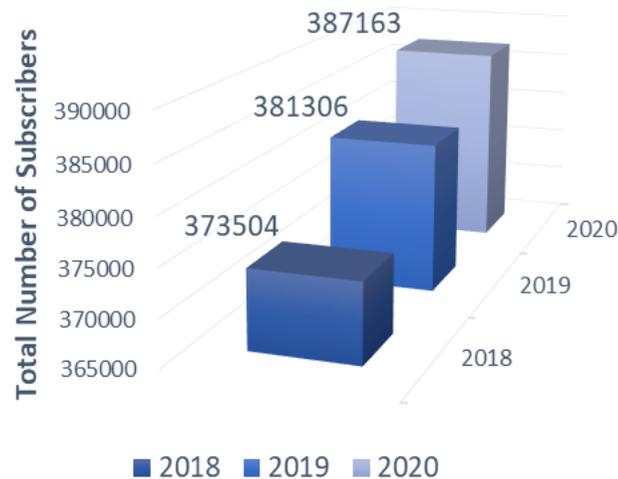


Strategic Goals

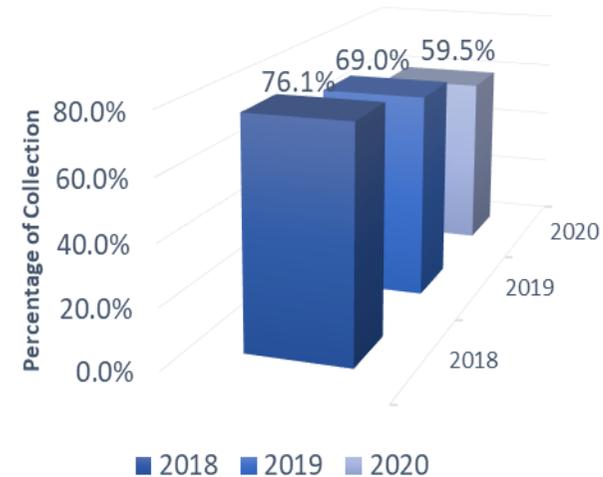
2- Achieve Financial Sustainability through:

- Increased Bill Collection Rate
- Reduce non-revenue water

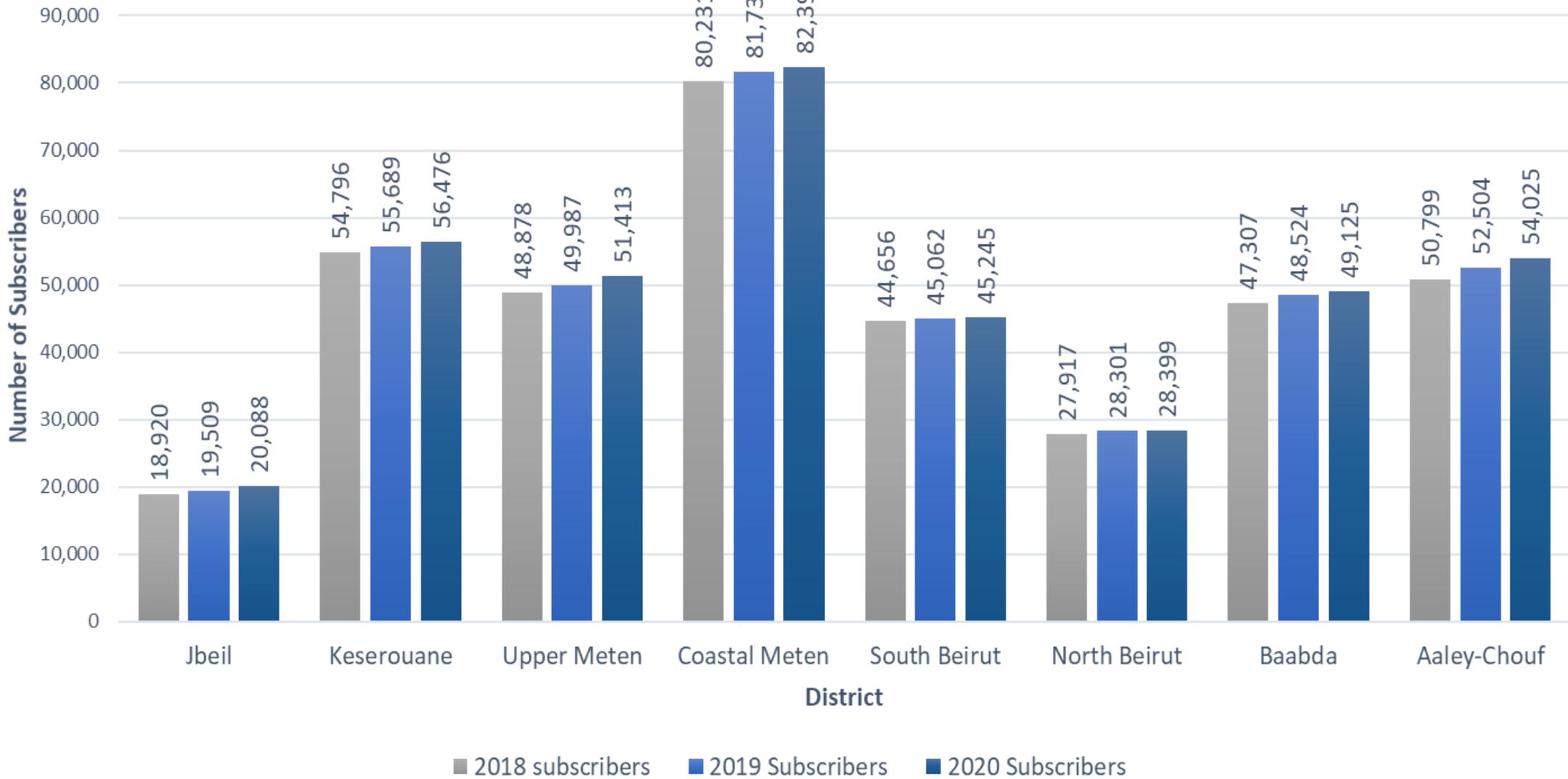
Subscription Progress



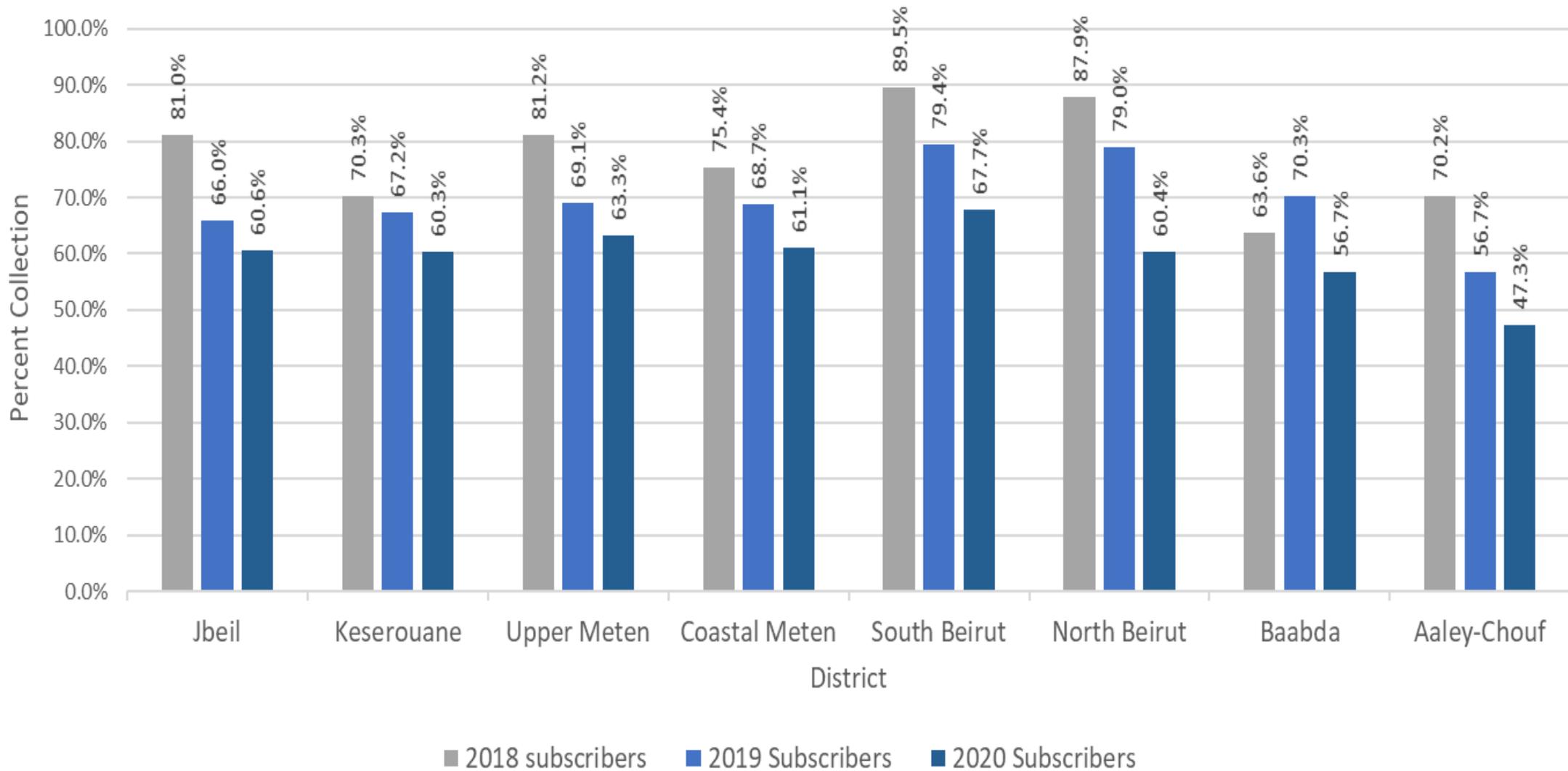
Bill Collection Progress



Number of subscribers Per District



Percent Collection Per District



No. of Customers 2018 – 2024

ACTUAL

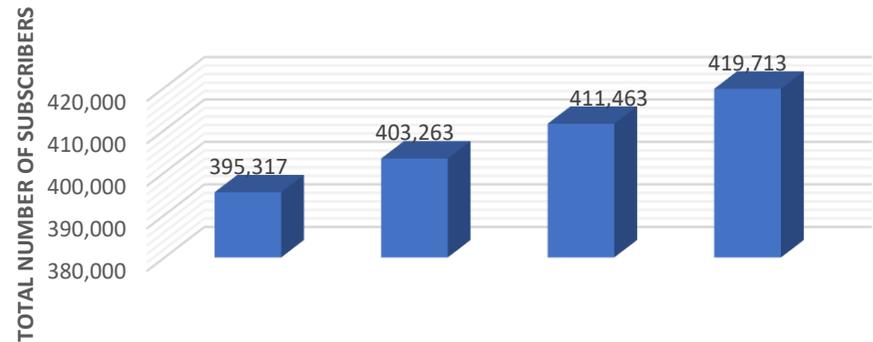
FORECAST

	2018	2019	2020	2021	2022	2023	2024
Total Subscribers:	373,504	381,306	387,163	395,317	403,263	411,463	419,713

Actual

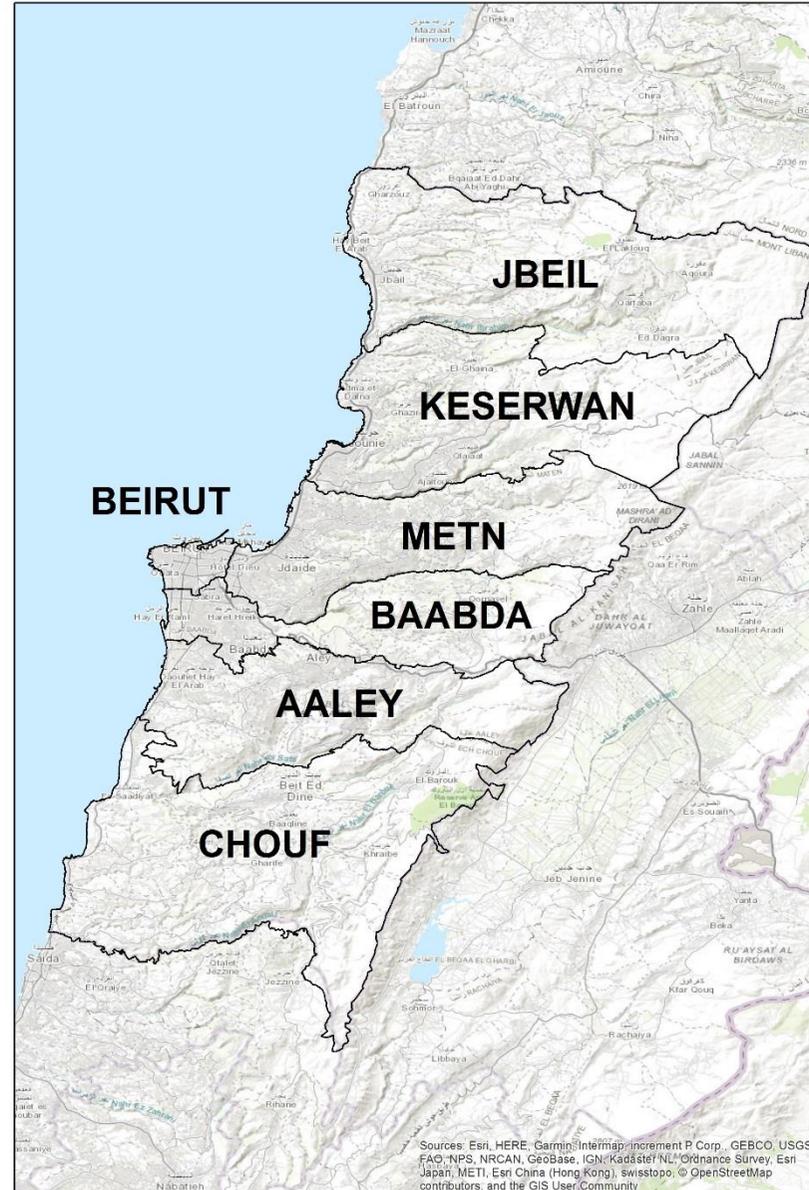


Forecast



	2021	2022	2023	2024
Forecast 21-24	395,317	403,263	411,463	419,713

Planned Investments (March 2020 to March 2025)



Jbeil / Water Supply

- Jbeil Water Treatment Plant (KFW)
- Rehabilitation & Equip the Laboratory Serving Kesserouan and Jbeil

2 M USD

- Naher Ibrahim Water Treatment Plant (KFW)

1 M USD

- Construction of 37 New Reservoirs (Capacity 17,000 cu.m) **3M USD**
- Construction and Rehabilitation of Jbeil Network (L=120Km) **6M USD**

9 M USD

Janneh Water Treatment Plant:

- Construction of Dhour- Adonis regional Reservoir (capacity 6,000 cu.m) **1.5M USD**
- Construction of Water Treatment Plant, New Balance tank (capacity 6,000 cu.m) and pumping station & Pumping lines **8.5M USD**

10 M USD

- Rehabilitation of Chlorine treatment plant 25/25

0.5 M USD

- Rehabilitation of Meshmesh distribution network (L=45Km) **2.25M USD**
- Rehabilitation of Lehfed distribution networks (L=30Km) **1.5M USD**
- Construction of New reservoirs and pumping station **1.5M USD**
- Equip of Lehfed and Meshmesh Wells **1 M USD**

6.25 M USD

- Rehabilitation of Ehmej and Mokhada distribution networks (L=45Km) **2.5M USD**
- Construction of New reservoirs and pumping station, equip of new well **1M USD**

3.5 M USD

Fatri:

- Rehabilitation of Fatri distribution Network (L=12.7Km) **0.5M USD**
- Construction of Water Treatment Plant, New Balance tank and pumping station & Pumping lines, equip of existing well **1M USD**

1.5 M USD

- Jbeil DMA, Customer Water Meter (12,000 Wm)

1.8 M USD

42.55 M USD

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri contributors, and the GIS User Community

Jbeil / Irrigation

Nahr Ibrahim-Jbeil

Area of Potential Lots to be converted to drip: 381 ha

Length of main canal:
32 km



0.5 M USD



Keserwan / Water Supply

- Construction of 10 New Reservoirs (Capacity 6,000 cu.m) **1M USD**
 - Construction and Rehabilitation of keserwen Network (L=140Km) **7M USD**
- 8 M USD**

- Faraya:**
- Rehabilitation of Faraya distribution Network (L=38Km) **2M USD**
 - Construction of New Reservoirs, pumping station & Pumping lines **0.5M USD**
- 2.5 M USD**

- Keserwen DMA, Customer Water Meter (60,000 Wm)
- 9 M USD**

- Jouret Beddran:**
- Rehabilitation of Jouret Beddran distribution Network (L=3Km)
 - Construction of New Reservoirs, pumping station & Pumping lines, equip the existing well
- 2.5 M USD**

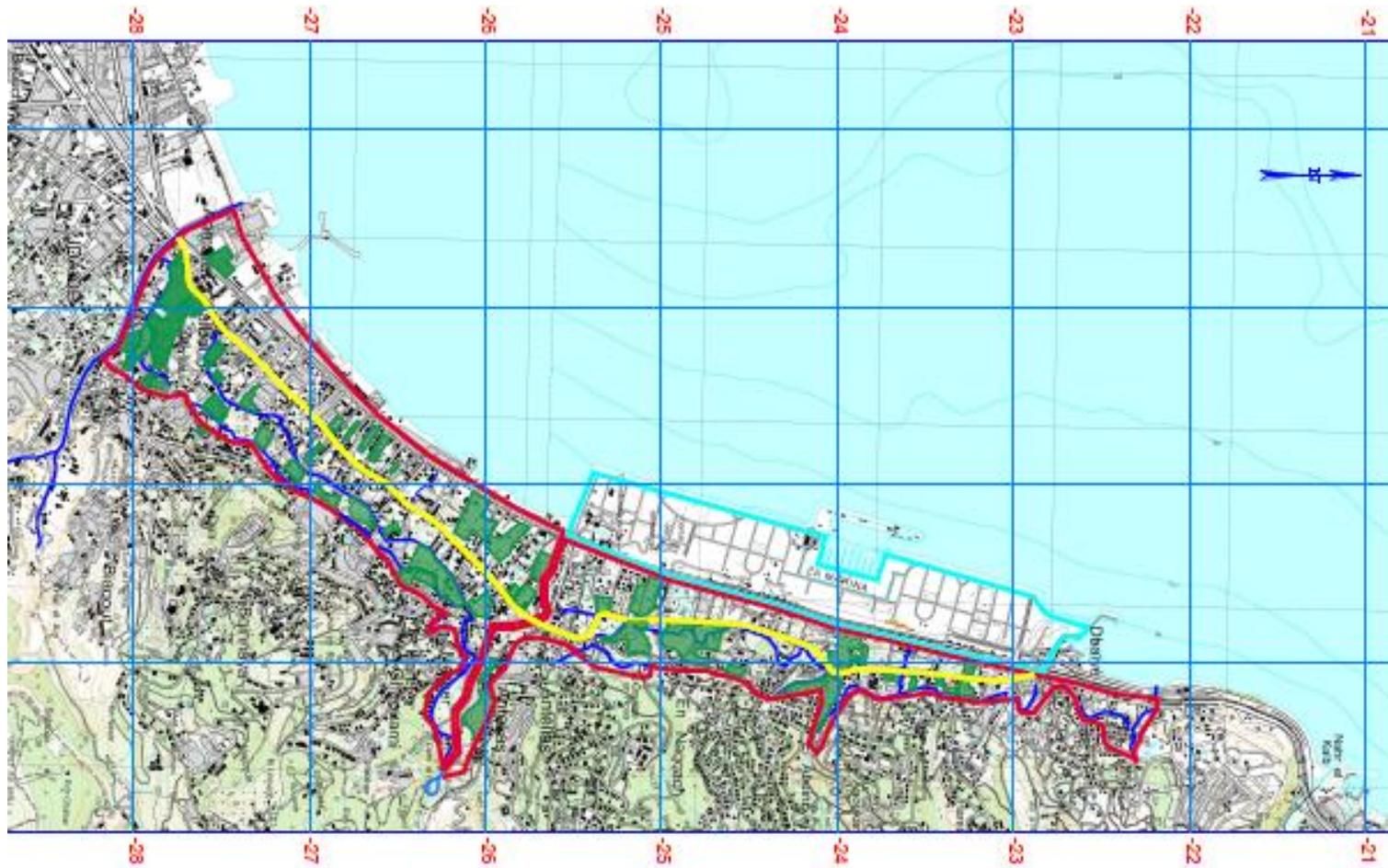
- Rehabilitation of Chlorine treatment plant
- 4/8**
- 0.08 M USD**

- Maysara:**
- Rehabilitation of Maysara distribution Network (L=18Km) **0.75M USD**
 - Construction of New Reservoirs, pumping station & Pumping lines **0.5M USD**
- 1.25 M USD**

23.33 M USD

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Swisstopo, and the GIS User Community

Meten / Irrigation



1 M USD



Baabda / Water Supply

- Reverse Osmosis for Borj El Brajneh Well. Capacity: 3000 cu.m/day
2.5 M USD

- Rehabilitation of Daychounieh WTP
- Treatment for Galery Semaan Well
- Rehabilitation of Jamhour Pumping Station
- Rehabilitation & Equip Laboratories Serving Baabda
2.5 M USD

- Reverse Osmosis for Kfarshima Wells Capacity: 3000 cu.m/day
2.5 M USD

- Drill and Equip 4 new wells in Daychounieh Damour and Ain el Delbeh **3M USD**
- Construction and Rehabilitation of Baabda Network (L=40Km) **2M USD**
5 M USD

- Reverse Osmosis for Choueifat Wells Capacity: 3000 cu.m/day
2.5 M USD

- Construction of new pumping station with pumping line from Lower Bdedoun Reservoir to Upper Bdedoun Reservoir
0.75 M USD

- Reverse Osmosis for Damour & Mechref Wells. Capacity: 20'000 cu.m/day
12.5 M USD

- Rehabilitation of Daychounieh artificial Aquifer recharge
0.5 M USD

- Baabda DMA, Customer Water Meter (50,000Wm)
7.5 M USD

- Rehabilitation of Chlorine treatment plant
10/18 **0.2 M USD**

36.45 M USD

Sources: Esri, HERE, Garmin, Intermap, increment P, IGN, Kadaster NL, Ordnance Survey, Esri Japan, ME contributors, and the GIS User Community

Aaley-Chouf / Water Supply

- Construction & Equip Laboratory Serving Aaley, Chouf and Iklim El Kharoub
0.25 M USD

- Construction of 20 New Reservoirs (Capacity 15,000 cu.m)
2.25M USD
- Construction and Rehabilitation of Network (L=700Km)
35M USD

37.25 M USD

- Transmission Line from Lake Anaan to Bkifa Tank
- Construction of Water Treatment Plant Capacity: 25'000 cu.m/day

20 M USD

- Rehabilitation of Chlorine treatment plant
20/47
0.4 M USD

- Catchment and Rehabilitation of Al Qaa Spring
3 M USD

- Catchment Works on Ain El Saouda Spring
- Catchment Works on Ain El Jawzeh Spring
- Transmission Lines From Ain El Jawzeh & Ain El Saouda To Ain Dara Tank

1 M USD

- Construction of Bisri Pumping Station (KFW)
- Construction of Bisri Transmission Line
- Construction of Bsaba Regional Reservoir Capacity: 2000 cu.m

3 M USD

- Transmission Lines (KFW) From Barouk Spring & Kafra Wells To Dhour Aabadiyeh Tank
3 M USD

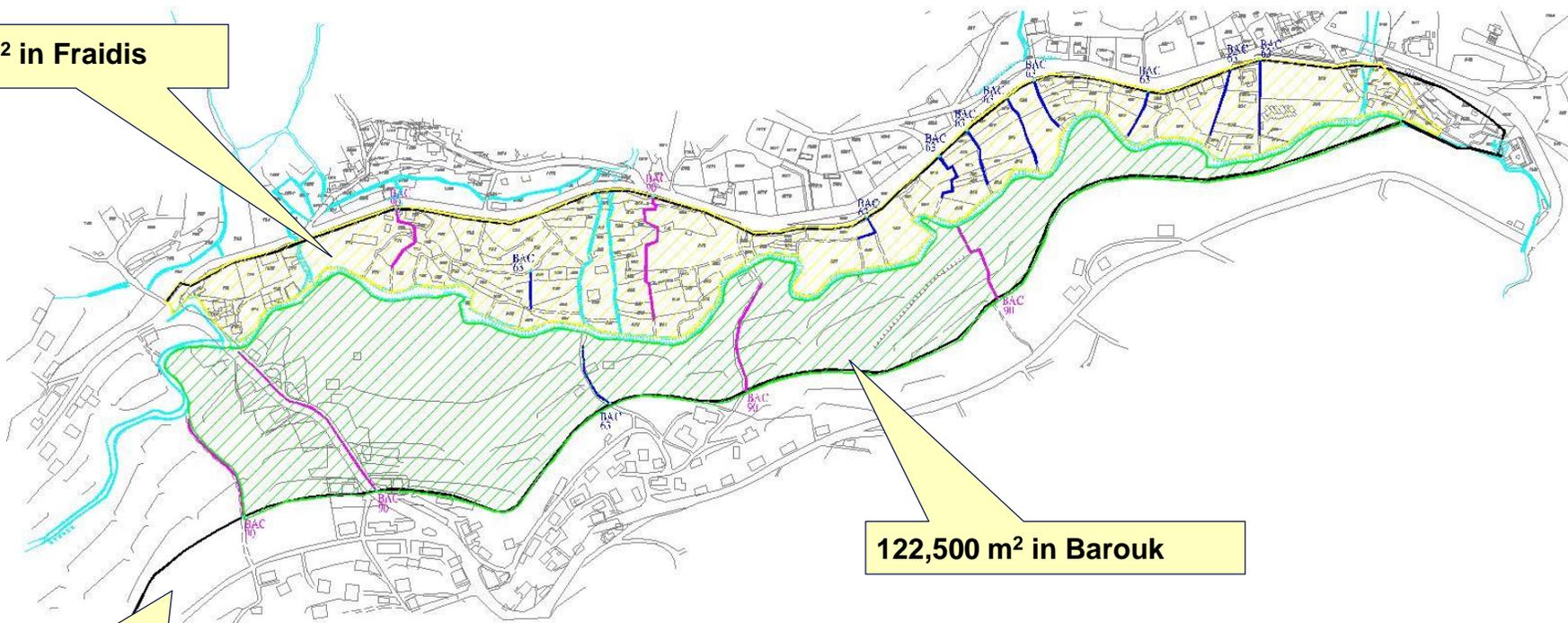
- Aaley, Chouf and Iklim El Kharoub DMA, Customer Water Meter (50,000Wm)
7.5 M USD

75.4 M USD

Aaley-Chouf

Barouk Irrigation Project

91,000 m² in Fraidis

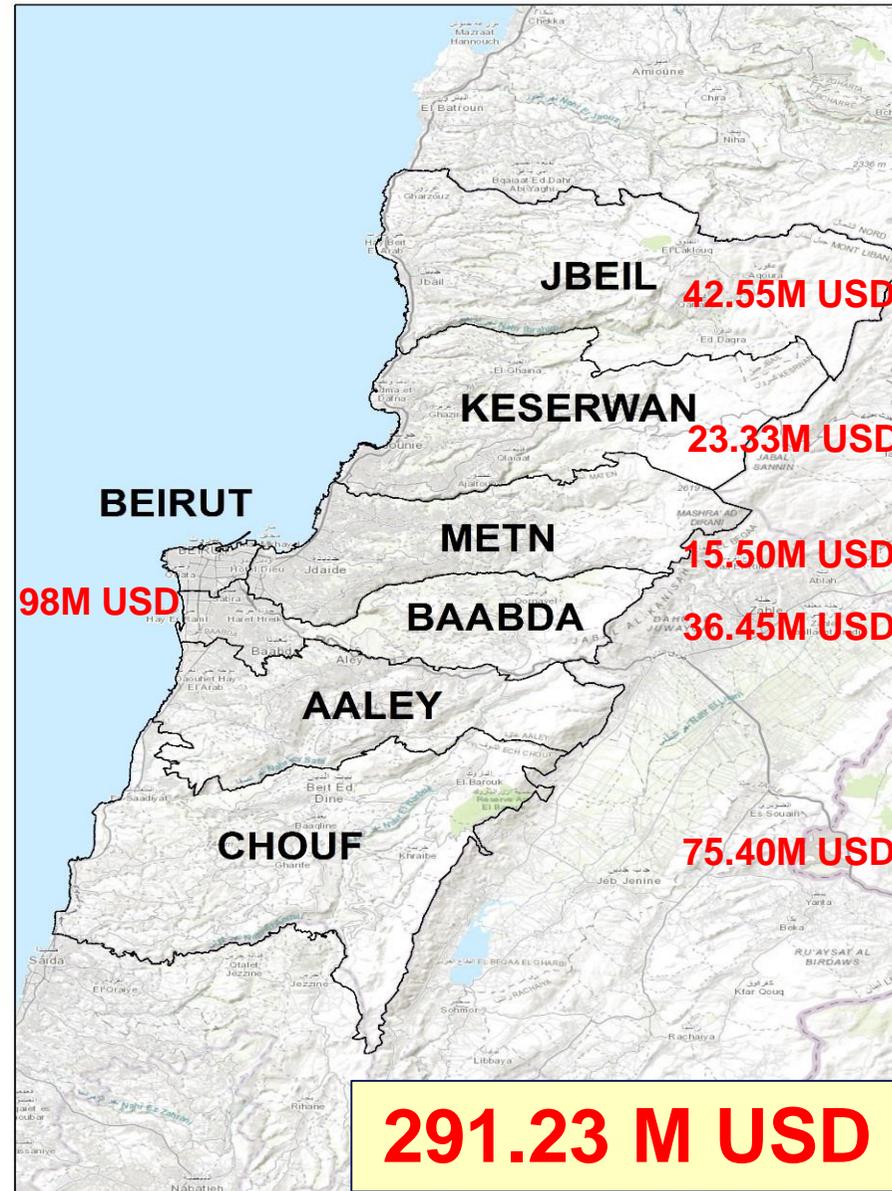


122,500 m² in Barouk

110,000 m² Potential area for extension

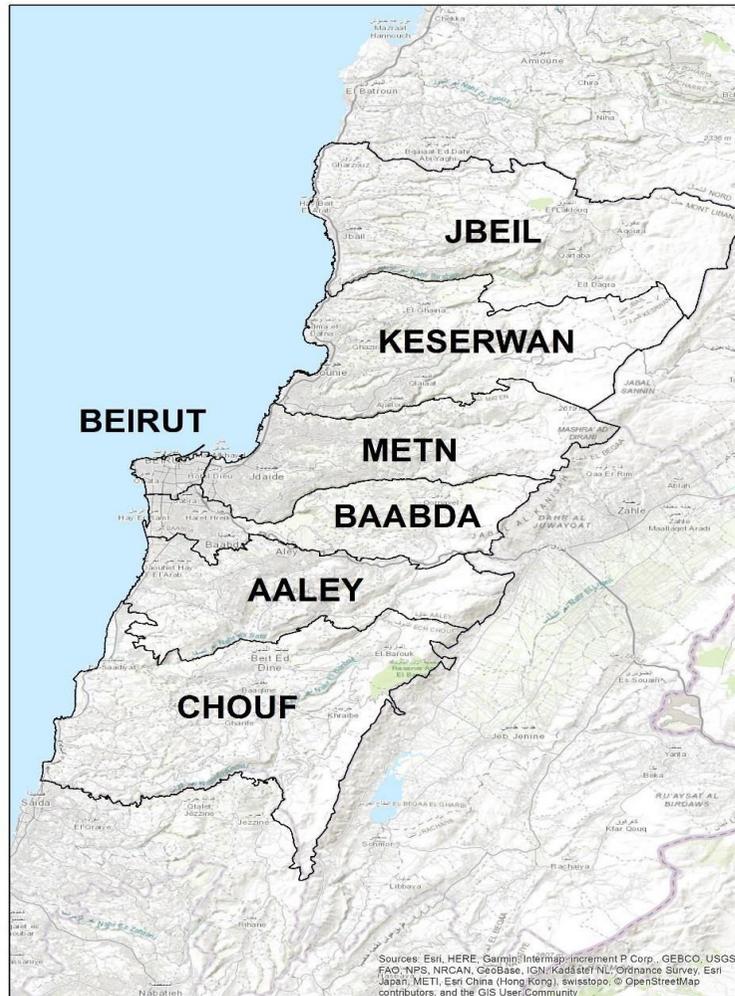
0.5 M USD

Planned Investments (March 2020 to March 2025)

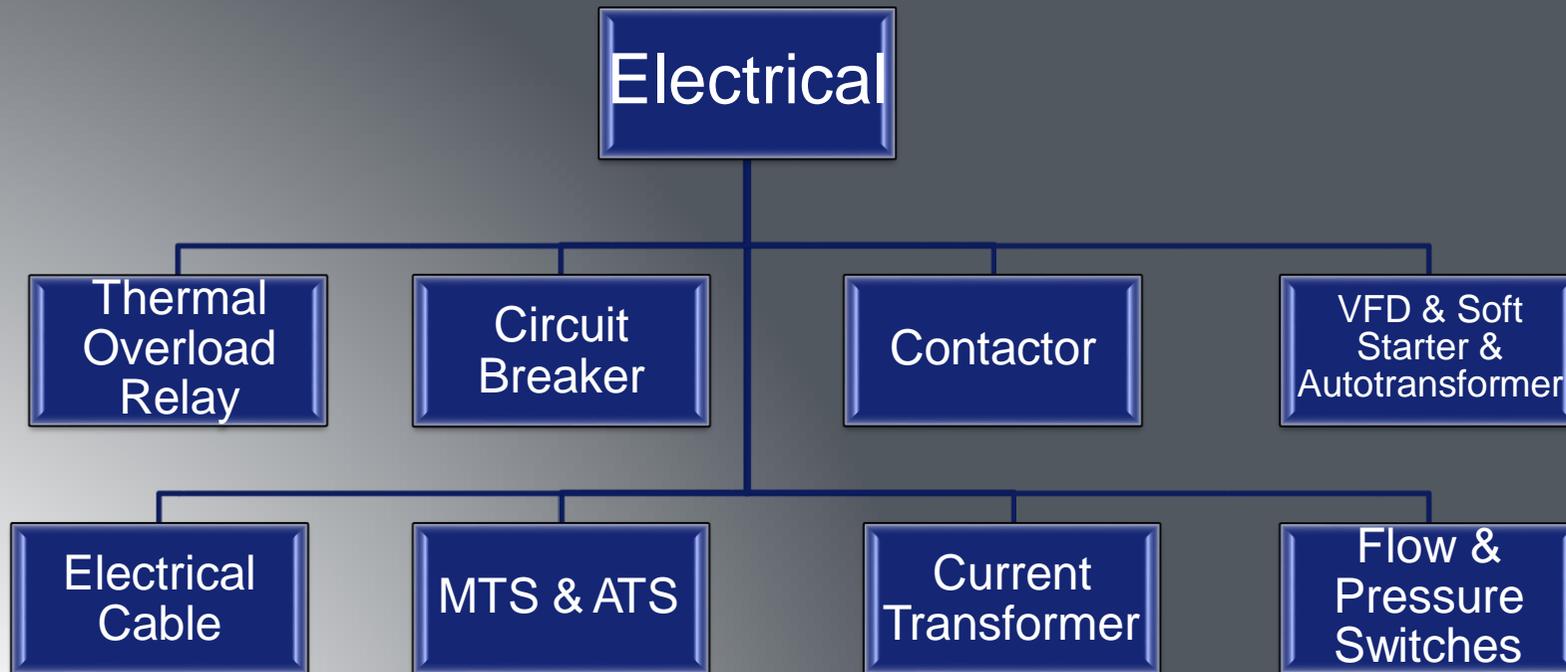


Emergency Measures for one Year 2021-2022

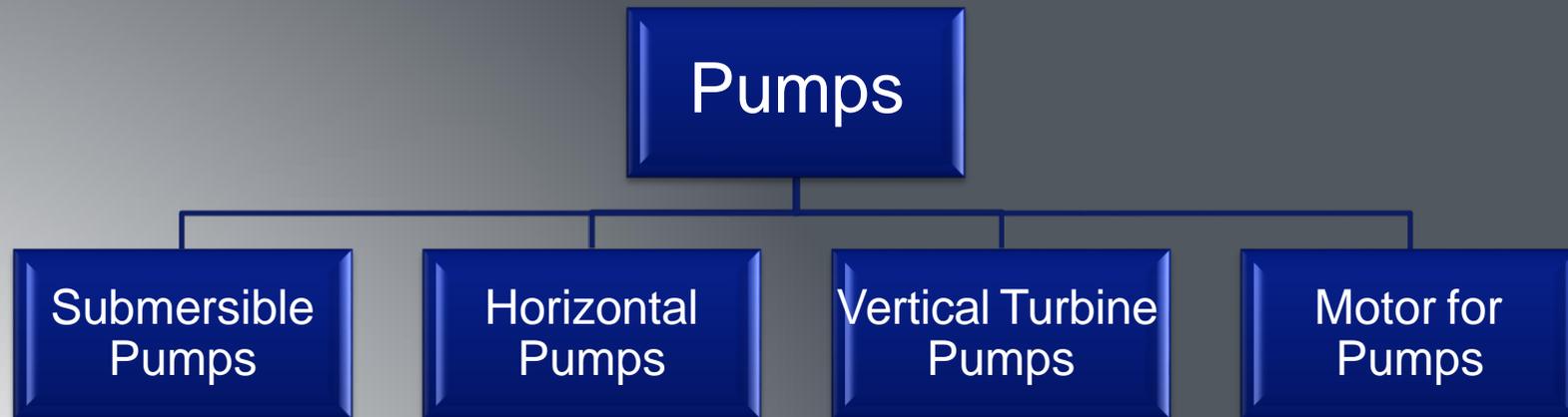
Water Supply and Sanitation Challenges Due to Financial Crises and the Deterioration of the Economic Situation



Items Needed



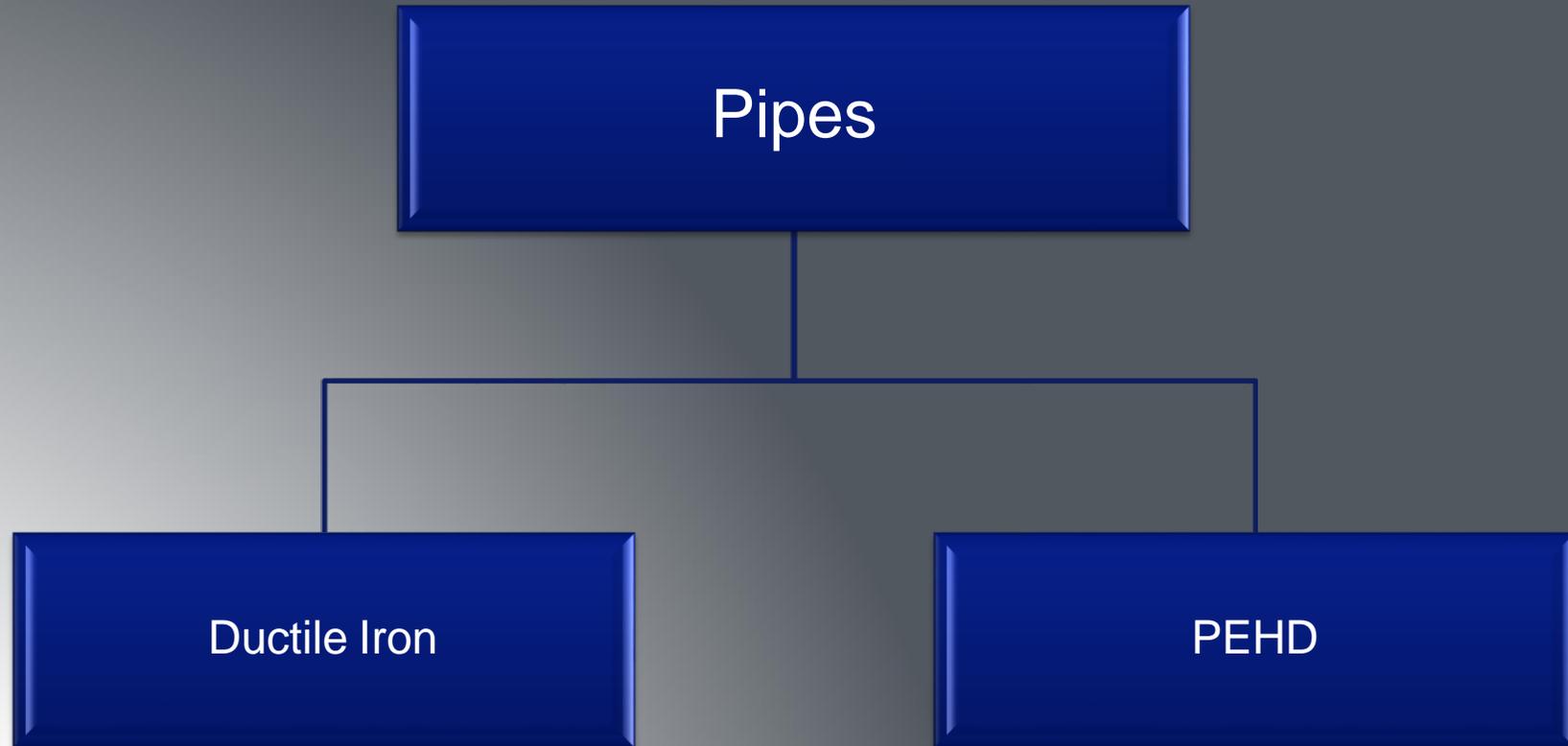
Items Needed



Items Needed



Items Needed



Items Needed



Items Needed

Consumable

Maintenace

Suspended
Project



ANNEXES

Electrical Equipment

Molded Case Circuit Breaker,3P/400V/36kA		
1250A	Unit	1
1000A	Unit	1
800A	Unit	1
630A	Unit	1
500A	Unit	2

Molded Case Circuit Breaker,3P/400V/30kA		
400A	Unit	4
300A	Unit	4
250A	Unit	4
150A	Unit	4
100A	Unit	4
50A	Unit	8
25A	Unit	8
15A	Unit	8
10A	Unit	8

Electrical Equipment

Circuit Breaker ,2P/240V/25kA		
40A	Unit	8
32A	Unit	10
16A	Unit	10
10A	Unit	15
6A	Unit	15

Differential Circuit Breaker,2P/240V/25kA		
40A	Unit	2
32A	Unit	2
16A	Unit	2
10A	Unit	2
6A	Unit	2

Electrical Equipment

Circuit Breaker 1P/240V/25kA		
40A	Unit	5
32A	Unit	5
16A	Unit	5
10A	Unit	10
6A	Unit	10

Coil for Contactor,3P/4P 380V		
1250A	Unit	1
1000A	Unit	1
800A	Unit	3
630A	Unit	3
500A	Unit	3
400A	Unit	5
300A	Unit	5
200A	Unit	5
150A	Unit	5
100A	Unit	5
Interlock for Contactor	Unit	5

Electrical Equipment

Contactor 3P/220V		
1250A	Unit	1
1000A	Unit	1
800A	Unit	3
630A	Unit	3
500A	Unit	3
400A	Unit	4
300A	Unit	4
200A	Unit	20
150A	Unit	20
100A	Unit	10
75A	Unit	10
50A	Unit	10
25A	Unit	45

Electrical Equipment

Contactor 1P/240V		
40A	Unit	10

Thermal Overload Relay (Adjustable)		
300A-500A	Unit	5
200A-330A	Unit	5
130A-220A	Unit	5
90A-150A	Unit	5
60A-100A	Unit	5
48A-80A	Unit	5
30A-50A	Unit	5
15A-60A	Unit	5
2A-8A	Unit	10

Electrical Equipment

Fuse & Fuse Holder		
200A	Unit	10
150A	Unit	10
100A	Unit	10
75A	Unit	10
10A	Unit	100
4A	Unit	100
Phase Relay	Unit	60
Control Relay	Unit	40
Float switch	Unit	20
Hour meter	Unit	20
Voltmeter	Unit	20
Ohmmeter	Unit	20
Level Relay	Unit	60
Timer/12-240V	Unit	80
Electrode	Unit	20

Electrical Equipment

Flow Switch		
4"	Unit	10
8"	Unit	10

Pressure Switch		
2-70 bar	Unit	10
2-28 bar	Unit	10
2-20 bar	Unit	10
2-15 bar	Unit	10
0.2-10 bar	Unit	10

Electrical Equipment

Current Transformer		
800/5	Unit	1
700/5	Unit	1
600/5	Unit	1
500/5	Unit	1
400/5	Unit	1
300/5	Unit	1
250/5	Unit	1
200/5	Unit	1
150/5	Unit	1
100/5	Unit	1
75/5	Unit	1
50/5	Unit	1

Electrical Equipment

MTS		
4*400A	Unit	3
4*250A	Unit	3

ATS		
1000A	Unit	1
800A	Unit	1
630A	Unit	1
500A	Unit	1
350A	Unit	1
150A	Unit	1
100A	Unit	1

Electrical Equipment

VFD		
50 HP	Unit	5
75 HP	Unit	5
100 HP	Unit	5
125 HP	Unit	5
150 HP	Unit	5
200 HP	Unit	5
250 HP	Unit	5

Soft Starter		
50 HP	Unit	5
75 HP	Unit	5
100 HP	Unit	5
125 HP	Unit	5
150 HP	Unit	5
200 HP	Unit	5
250 HP	Unit	5

Electrical Equipment

Autotransformer		
350 HP	Unit	5
300 HP	Unit	5
250 HP	Unit	5
200 HP	Unit	5
150 HP	Unit	5
100 HP	Unit	5
50 HP	Unit	5
Indicator Light	Unit	200
ON-Off Switch	Unit	15
Manual-Auto Switch	Unit	15

Electrical Cable		
Cable 4Px 1mm ²	l.m.	1000
Cable 6Px 1mm ²	l.m.	1000
Cable 2 x 1.5 mm ²	l.m.	1000
Cable 2 x 2.5 mm ²	Unit	1000
Cable 3 x 25 mm ²	Unit	500
Cable 3 x 25 mm ² + N	Unit	500
Cable 3 x 35 mm ²	Unit	500
Cable 3 x 50 mm ²	Unit	500
Cable 3 x 50 mm ² + N	Unit	500
Cable 3 x 70 mm ²	Unit	500
Cable 3 x 70 mm ² + N	Unit	500
Cable 3 x 95 mm ²	l.m.	1000
Cable 3 x 95 mm ² Torsadé	l.m.	500
Cable 3 x 120 mm ²	Unit	500
Cable 3 x 120 mm ² + N	Unit	500
Cable 1 x 150 mm ²	Unit	500
Cable 3 x 150 mm ² + N	Unit	250
Cable 1 x 185 mm ²	l.m.	500
Cable 3 x 185 mm ² + N	l.m.	250
Cable 1 x 240 mm ²	Unit	500
Cable 3 x 240 mm ² + N	Unit	250
1*2.5 mm ²	Roll	10
2*1.5 mm ²	Roll	10
2*2.5 mm ²	Roll	10
3*1.5 mm ²	Roll	20
3*2.5 mm ²	Roll	2

Electrical Cables

Flexible cable		
1*150 mm ²	Roll	100
1*120 mm ²	Roll	20
1*70 mm ²	Roll	10
1*50 mm ²	Roll	30

Cosettes		
Till 95 mm		100
Over 95 mm		50

Submersible Pumps		
Flow 75m ³ /h ; HMT=360	Unit	2
Flow 18m ³ /h ; HMT=300	Unit	1
Flow 60m ³ /h ; HMT=405	Unit	1
Flow 38m ³ /h ; HMT=395	Unit	1
Flow 65m ³ /h ; HMT=520	Unit	1
Flow 30m ³ /h ; HMT=260	Unit	1
Flow 45m ³ /h ; HMT=300	Unit	1
Flow 80m ³ /h ; HMT=280	Unit	1
Flow 30m ³ /h ; HMT=280	Unit	1
Flow 15m ³ /h ; HMT=170	Unit	1
Flow 50m ³ /h ; HMT=180	Unit	1
Flow 45m ³ /h ; HMT=240	Unit	1
Flow 45m ³ /h ; HMT=280	Unit	1
Flow 35m ³ /h ; HMT=320	Unit	1
Flow 45m ³ /h ; HMT=360	Unit	2
Flow 90m ³ /h ; HMT=60	Unit	1
Flow 110m ³ /h ; HMT=220	Unit	1
Flow 450m ³ /h ; HMT=160	Unit	1
Flow 500m ³ /h ; HMT=140	Unit	1

Pumps

Motors For Submersible Pumps		
Motor 25 Hp ; 6"	Unit	1
Motor 30 Hp ; 6"	Unit	5
Motor 40 Hp ; 6"	Unit	10
Motor 50 Hp ; 6"	Unit	10
Motor 50 Hp ; 8"	Unit	5
Motor 60 Hp ; 8"	Unit	5
Motor 75 Hp ; 8"	Unit	5
Motor 80 Hp ; 8"	Unit	5
Motor 90 Hp ; 8"	Unit	5
Motor 100 Hp ; 8"	Unit	5
Motor 125 Hp ; 8"	Unit	5
Motor 150 Hp ; 10"	Unit	2
Motor 180 Hp ; 10"	Unit	2
Motor 200 Hp ; 10"	Unit	2
Motor 220 Hp ; 10"	Unit	2
Motor 250 Hp ; 10"	Unit	2

Horizontal Pumps		
Flow 110m ³ /h ; HMT=350	Unit	3
Flow 55m ³ /h ; HMT=160	Unit	2
Flow 80m ³ /h ; HMT=100	Unit	2
Flow 450m ³ /h ; HMT=50	Unit	6
Flow 720m ³ /h ; HMT=50	Unit	6
Flow 100m ³ /h ; HMT=50	Unit	2
Flow 100m ³ /h ; HMT=70	Unit	2
Flow 110m ³ /h ; HMT=110	Unit	2
Flow 110m ³ /h ; HMT=185	Unit	2
Flow 110m ³ /h ; HMT=250	Unit	2
Flow 250m ³ /h ; HMT=70	Unit	2
Flow 180m ³ /h ; HMT=140	Unit	2
Flow 60m ³ /h ; HMT=180	Unit	2
Flow 30m ³ /h ; HMT=230	Unit	2
Flow 200m ³ /h ; HMT=230	Unit	2
Flow 110m ³ /h ; HMT=330	Unit	4
Flow 80m ³ /h ; HMT=220	Unit	2

Vertical Turbine Pump VTP		
Flow 220m ³ /h ; HMT=90	Unit	3
Flow 100m ³ /h ; HMT=340	Unit	3
Flow 800m ³ /h ; HMT=140	Unit	3

Accessories

Dismantling Joint 1200mm PN16		
For Ductile Iron Pipe,L=40cm	Unit	4
For Ductile Iron Pipe,GRP L=40cm	Unit	4
For Ductile Iron Pipe,EterniteL=40cm	Unit	4

Dismantling Joint 900mm PN16		
For Ductile Iron Pipe,L=40cm	Unit	4
For Ductile Iron Pipe,GRP L=40cm	Unit	4
For Ductile Iron Pipe,EterniteL=40cm	Unit	4

Dismantling Joint 1000mm PN16		
For Ductile Iron Pipe,L=40cm	Unit	8
For Ductile Iron Pipe,GRP L=40cm	Unit	8
For Ductile Iron Pipe,EterniteL=40cm	Unit	8

Accessories

Dismantling Joint 800mm PN16		
For Ductile Iron Pipe,L=40cm	Unit	8
For Ductile Iron Pipe,GRP L=40cm	Unit	8
For Ductile Iron Pipe,EterniteL=40cm	Unit	8

Dismantling Joint 700mm PN16		
For Ductile Iron Pipe,L=40cm	Unit	4
For Ductile Iron Pipe,GRP L=40cm	Unit	4
For Ductile Iron Pipe,EterniteL=40cm	Unit	4

Dismantling Joint 600mm PN16		
For Ductile Iron Pipe,L=40cm	Unit	4
For Ductile Iron Pipe,GRP L=40cm	Unit	4
For Ductile Iron Pipe,EterniteL=40cm	Unit	4

Accessories

Dismantling Joint 500mm PN16		
For Ductile Iron Pipe,L=40cm	Unit	4
For Ductile Iron Pipe,GRP L=40cm	Unit	4
For Ductile Iron Pipe,Eternite L=40cm	Unit	4

Dismantling Joint For Ductile Iron Pipe PN16		
450mm	Unit	4
400mm	Unit	4
350mm	Unit	4
300mm	Unit	10
200mm	Unit	10
150mm	Unit	10
100mm	Unit	10
80mm	Unit	10

Accessories

Dismantling Joint For Ductile Iron Pipe PN40		
300mm	Unit	2

Dismantling Joint For PEHD Pipe PN16		
180mm	Unit	10
160mm	Unit	10
140mm	Unit	10
125mm	Unit	10
110mm	Unit	10
90mm	Unit	10

Accessories

Joint Tolerance PN16		
600mm	Unit	5
500mm	Unit	5
450mm	Unit	5
400mm	Unit	5
350mm	Unit	5
300mm	Unit	5
200mm	Unit	5
150mm	Unit	5
100mm	Unit	5
80mm	Unit	5

Stainless Steel Pipe Repair Clamp PN16		
400mm	Unit	5
350mm	Unit	5
300mm	Unit	5
200mm	Unit	5
150mm	Unit	5
100mm	Unit	5
80mm	Unit	5

Pipes

PEHD PN16 , Ductile Iron DI , K9		
PEHD 20 mm	lm	40,000
PEHD 32 mm	lm	10,000
PEHD 40mm	lm	10,000
PEHD 50mm	lm	10,000
PEHD 63mm	lm	10,000
DI 80mm	lm	5,000
DI 100 mm	lm	10,000
DI 150 mm	lm	5,000

Chlorine

Chlorine Cylinder Capacity 50Kg	Nbre	50
Chlorine Cylinder Capacity 1000Kg	Nbre	15
Chlorination Kit,2000 g/h,with 1 Vaccum Regulator,1Regulator,1Injector.	Set	2
Chlorination Kit,1000 g/h,with 1 Vaccum Regulator,1Regulator,1Injector.	Set	5
Chlorination Kit,500 g/h,with 1 Vaccum Regulator,1Regulator,1Injector.	Set	20
Chlorination Kit,250 g/h,with 1 Vaccum Regulator,1Regulator,1Injector.	Set	20

Consumable

Fuel for Generators	Average Monthly:10h/day	500,000 Liters
	For 6 Months	3,000,000 Liters

Gas Chlorine for Treatment	Average Monthly	15,000 Kg
	For 6 Months	90,000 Kg

For Central Laboratory Operation		
<p>“Cylinder of Argon,He,Nitrogen,Azote “/”DPD free & Total,Nitriver,phosver,sulfaver,ferrover,...” (Detailed List Will be Delivered Upon Request)</p>		

Maintenance

For Generators	Total Number : 200 Gensets	Total Power :60.000 KVA
	For One Year	150,000\$

For Waste Water Pumping Station and Treatment	Total Operated Station:24	
	For One Year	500,000\$

Maintenance and Rehabilitation of Chlorine Treatment Station	Total Operated Station:125	
	For One Year	500,000\$

Suspended Project

Project	Description	Budget
Electro-Mechanical Equipment for Bsous Well	Equipping Well with Submersible Pump 150 Hp, Q=50 m ³ /hr H= 470 mts Head With all related Accessories.	300,000\$
Electro-Mechanical equipment for Bsous PS	Horizontal pumpset 55 KW, Q=30 m ³ /h H= 280 mts Head with all related Hydraulic Accessories and Fittings.	200,000\$
Bdadoun New Pumping Station	1 Horizontal pumpset 100 KW, Q=100 m ³ /h H= 200 mts Head with all related Hydraulic Accessories and Fittings. 2 Pumping line DI 150mm, L=600m	400,000\$
New Electrical Panels at Jamhour PS (VFDs)	Replace the existing 4 Autotransformers by 4 VFDs 30KW each.	50,000\$
Bazioun Reservoir Rehabilitation+ Network	1 Rehabilitation of Bazioun - Jbeil Network ,Supply and Install PEHD pipes of total length 3,000m, including house connections. 2 Rehabilitation of 75m ³ Bazioun Reservoir including all civil and hydraulic works.	200,000\$
Ghabat Reservoir Rehabilitation + Network in Upper Jbeil	1 Rehabilitation of Upper Jbeil Network , Supply and Install Pipes in the area of Afqa, Mzarib, Ghabat Seraiita and Lassa. for a total length of 3,750m which consist of: 2,500m PE and 1,250m FD. 2 Rehabilitation of 50m ³ Ghabat Reservoir including all civil and hydraulic works.	300,000\$
Rehabilitation of Aiin Hzebel Spring	Rehabilitation of Aiin Hezebel Capture, Including Suplly of Submersible pump serving Charoun Reservoir	50,000\$

Suspended Project

Project	Description	Budget
Rehabilitation of Raayan PS	Raayan PS consists of 7 VTP pumps. The Station needs hydraulic and electrical maintenance including Motorized Valves, Check Valves, Pipes, Pressure Switch, Flow Switch.	500,000\$
Bsalim Well BM3 , Coastal Meten	1 Supply and Install pumping line : Type FD, Length: 1,450m, DN150. 2 Supply and Install two Horizontal motopump sets in Bsalim pumping station 85m ³ /h at 125mts Head, ncluding all hydarulic and electrical equipment. 3 Supply and install of sand filter for two lines for 85m ³ /h with all related civil works.	300,000\$
Implementation of new Networks in Keserwan	.Supply and Install Pipes in Keserwan area in Chahtoul, Yahchouch, and Achkout Chamis. The length of the FD pipes (100, 150 and 300mm) is in total 4,850m. The work includes all necessary hydraulic accessories and fittings.	350,000\$
Resources for Southern Beirut Suburbs	Digging and Equipping of 6 Wells in Damour, Mechref, Daychounieh	3,000,000\$
Ressources For Jbeil	Digging and Equipping of 2 Wells in Kafr ,Blat	500,000\$

6.15 M USD

WATER SECTOR 2021 ... SUSTAIN AND GROW!

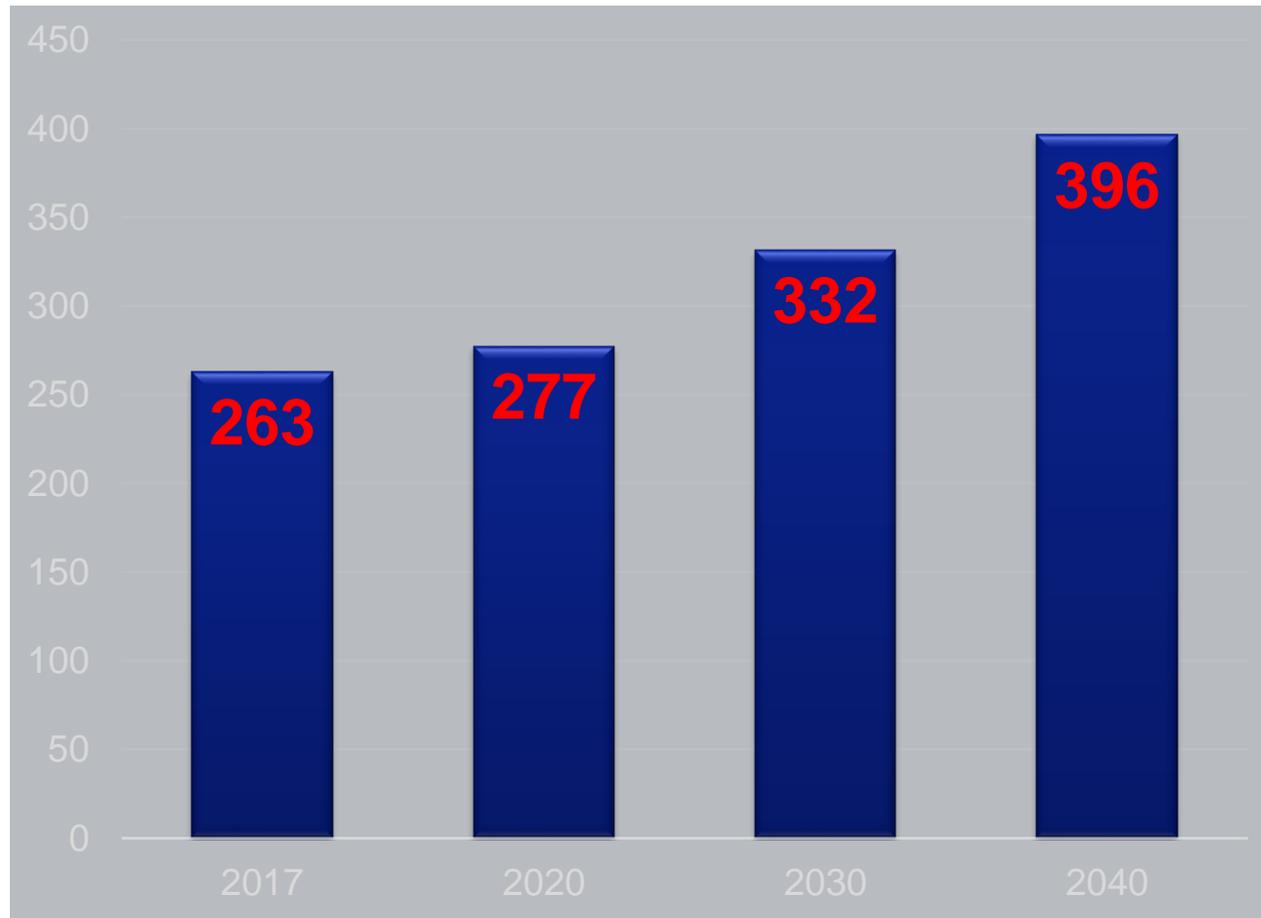
ENSURE WATER SERVICES SUSTAINABILITY & CONTINUITY

NEEDS AND FORECAST 2021 - 2024

Monthly Water Production 2020 (m3)

MONTH	SPRINGS	WELLS	TOTAL
JANUARY	16,013,042	2,173,887	18,186,929
FEBRUARY	16,537,133	2,105,481	18,642,614
MARCH	18,135,361	1,736,308	19,871,668
APRIL	18,517,876	1,809,065	20,326,941
MAY	18,943,983	2,532,846	21,476,829
JUNE	15,459,472	4,179,329	19,638,801
JULY	14,066,583	5,397,872	19,464,455
AUGUST	12,592,318	6,429,733	19,022,052
SEPTEMBER	10,315,820	6,323,115	16,638,935
OCTOBER	9,000,348	6,950,670	15,951,018
NOVEMBER	8,889,753	7,760,041	16,649,794
DECEMBER	9,698,543	6,250,496	15,949,039
TOTAL	168,170,232	53,648,842	221,819,075

Projected Yearly Water Demand (M.Cu.m)



GYD:Gross Yearly Demand Including Water Losses at the Source 25%:M.cu.m

PS:Potential of new Subscribers=5%

Capex 2018 – 2024

	ACTUAL			FORECAST			
	2018	2019	2020	2021	2022	2023	2024
Equipment	1,591,400,000	3,230,138,000	1,740,152,000	2,175,190,000	3,045,266,000	3,958,845,800	4,948,557,250
New secondary water network	6,404,399,000	8,045,005,000	3,599,911,000	4,499,888,750	6,299,844,250	8,189,797,525	10,237,246,906
Installation of water meters	17,305,000	97,369,000	68,412,000	85,515,000	119,721,000	155,637,300	194,546,625
Rehabilitation/replacement of old water network	1,069,899,000	1,418,245,000	129,974,000	162,467,500	227,454,500	295,690,850	369,613,563
Wells and pumping station	1,049,155,000	570,914,000	175,541,000	219,426,250	307,196,750	399,355,775	499,194,719
Water reservoirs	1,624,589,000	1,787,120,000	797,144,000	996,430,000	1,395,002,000	1,813,502,600	2,266,878,250
Water towers							
Laboratories	464,685,000	866,498,000	736,673,000	920,841,250	1,289,177,750	1,675,931,075	2,094,913,844
Total Capex	12B. L.L.	16B. L.L.	7B. L.L.	9B. L.L.	12.5B. L.L.	16.5B. L.L.	20.5B. L.L.

Opex 2018 - 2024

	ACTUAL			FORECAST			
	2018	2019	2020	2021	2022	2023	2024
O&M	2,871,294,000	3,866,541,000	3,669,851,000	4,587,313,750	5,504,776,500	7,156,209,450	10,018,693,230
EDL/EDZ/EDQ	15,664,990,000	18,193,248,000	17,315,168,000	21,643,960,000	25,972,752,000	33,764,577,600	47,270,408,640
DIESEL	4,995,743,000	7,446,988,000	6,195,801,000	7,744,751,250	9,293,701,500	12,101,173,828	15,126,467,285
STAFF TRANSPORT	766,000,000	700,208,000	630,344,000	787,930,000	984,912,500	984,912,500	984,912,500
SPARE PARTS	883,435,000	776,633,000	650,494,000	813,117,500	975,741,000	1,268,463,300	1,775,848,620
IT HARDWARE & SOFTWARE	1,256,711,000	1,970,927,000	2,458,184,000	3,072,730,000	3,687,276,000	4,793,458,800	6,710,842,320
WWTP	1,088,910,000	533,528,000	1,775,516,000	2,219,395,000	2,663,274,000	3,462,256,200	4,847,158,680
RENT WELLS	575,703,000	644,955,000	513,846,000	642,307,500	770,769,000	1,001,999,700	1,402,799,580
Total Opex	28B.L.L.	34B.L.L.	33B.L.L.	41.L.L.	50B.L.L.	64.5B.L.L.	88B.L.L.

ebml values rate are subject to 1\$ = 1507LBP

Manpower 2018 – 2024 | Permanent: On Duty and Retired Staff

	ACTUAL			FORECAST			
	STRUCTURE	2019	2020	2021	2022	2023	2024
No. OF POSITIONS AS STRUCTURE	1120	1120	1120	1120			
PERMANENT STAFF	1120	420	386	363	338	313	294
<i>ENGINEERS</i>	74	15	15	15	13		
<i>BA HOLDERS</i>	59	6	6	6	5		
<i>BT/TS HOLDERS</i>	59	44	40	36	30		
<i>TECHNICAL SKILLED LABOR (TECHNICAL, ADMIN, FINANCE)</i>	435						
<i>UNSKILLED LABOR (TECHNICAL AND NON-TECHNICAL)</i>	567						
RESIGNED PERMANENT STAFF							
RETIRED PERMANENT STAFF							
TOTAL VACANT POSITIONS							

Manpower 2018 – 2024 | Temporary Workers:

	ACTUAL			FORECAST			
	2018	2019	2020	2021	2022	2023	2024
TEMPORARY WORKERS		747	730				
<i>ENGINEERS</i>		20	21				
<i>BA HOLDERS</i>		39	39				
<i>BT/TS HOLDERS</i>		21	21				
<i>TECHNICAL SKILLED LABOR (TECHNICAL, ADMIN, FINANCE)</i>							
<i>UNSKILLED LABOR (TECHNICAL AND NON-TECHNICAL)</i>							
RESIGNED TEMPORARY WORKERS							
RETIRED TEMPORARY WORKERS							
TOTAL TEMPORARY WORKERS							

Fixed Assets 2018 – 2024

	ACTUAL			FORECAST			
	2018	2019	2020	2021	2022	2023	2024
FIXED ASSETS VALUES	1.5 B.USD >ebml>2 B. USD						
<i>DRINKING WATER ASSETS</i>							
<i>WASTEWATER ASSETS</i>							
<i>WATER FOR IRRIGATION ASSETS</i>							
<i>ADMINISTRATIVE AND OFFICE ASSETS</i>							
<i>STUDIES AND ACQUISITION EXPENSES</i>							
<i>DEBTS OR LIABILITIES ASSOCIATED WITH FIXED ASSETS</i>							
DEPRECIATION OF FIXED ASSETS (%)							
FIXED ASSETS DETERIORATION (%)							
COST TO MAINTAIN THE FIXED ASSETS RUNNING WITH GREAT VALUE							

Summary in L.L.– Current & Forecast (2018 – 2024)

	ACTUAL			FORECAST			
	2018	2019	2020	2021	2022	2023	2024
CAPEX	89,255,935,000	82,337,514,000	27,861,059,000	34,826,323,750	48,756,853,250	63,383,909,225	79,229,886,531
OPEX	25,181,056,000	26,879,775,000	27,101,903,000	33,877,378,750	40,652,854,500	52,848,710,850	73,988,195,190
SALARIES & BENEFITS	26,216,048,000	26,212,549,000	26,017,217,000	32,521,521,250	40,651,901,563	50,814,876,953	63,518,596,191
ICT HARDWARE & SOFTWARE AUTOMATION SYSTEMS DEVELOPMENT (ERP, CALL CENTER, MOBILE APPS, WEBSITES, CLOUD COMPUTING, ETC)	1,088,910,000	533,528,000	1,775,516,000	2,219,395,000	3,107,153,000	4,039,298,900	5,049,123,625
ADMIN CONSUMBALES (PAPERS, INKS, ETC..)	148,386,000	593,086,000	557,402,000	696,752,500	975,453,500	1,268,089,550	1,585,111,938
CARS (MAINTENANCE, INSURANCE, FUEL, OIL CHANE, ETC)	145,403,000	125,415,000	214,039,000	267,548,750	374,568,250	486,938,725	608,673,406
COMMUNICATION & MARKETING		188,137,000	164,528,000	205,660,000	287,924,000	374,301,200	467,876,500
MISCELLENIOUS (e.g., COVID19 PREPARDNESS AND RESPONSE)			19,166,000	23,957,500	29,946,875	37,433,594	46,791,992

ebml values rate are subject to 1\$ = 1507LBP

Summary in LBP : [Opex/Capex] Vs Collection: (2018 – 2024)

	ACTUAL			FORECAST			
	2018	2019	2020	2021	2022	2023	2024
OPEX	81,625,306,921	85,114,355,363	78,182,304,571	42,267,512,850	60,721,015,420	77,937,320,046	96,312,248,064
CAPEX	98,006,849,000	93,798,380,000	32,022,612,000	13,095,722,000	98,488,299,000	128,034,788,700	160,043,485,875
Collection	100,272,111,182	107,830,099,050	93,793,360,080	103,172,696,088	113,489,965,697	124,838,962,266	137,322,858,493
Difference	-79,360,044,739	-71,082,636,313	-16,411,556,491	47,809,461,238	-45,719,348,723	-81,133,146,480	-119,032,875,446



THANK YOU!