



NATIONAL WATER SECTOR STRATEGY UPDATE - 2020

Volume I
Executive summary

Volume II
WATER SECTOR GOVERNANCE

VOLUME III
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Volume VI
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May 2020



FOREWORD

The present volume is part of the *National Water Sector Strategy Update – 2020*, which includes the following volumes :

VOLUME I : EXECUTIVE SUMMARY

VOLUME II : WATER SECTOR GOVERNANCE

- Section II A Strategy pillar – SDG 6
- Section II B Current legal and Institutional frameworks
- Section II C Human Resources of the WEs
- Section II D Water tariff analysis
- Section II E Strategic action - Recommendations

VOLUME III : WATER RESOURCES MANAGEMENT

- Section III A Available water resources - Impact of climate change
- Section III B Surface water resources management
- Section III C Groundwater resources management
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VOLUME IV : WATER SECTOR CURRENT SITUATION (this volume)

- Section IV A Tapped water resources and wastewater facilities
- Section IV B Demand criteria, assumptions and water balance
- Section IV C Appendices to Volume IV

VOLUME V : PROPOSED PROJECTS

- Section V A Criteria for projects and priorities selection
- Section V B Proposed Projects
- Section V C Appendices to Proposed Projects

VOLUME VI : DRAWINGS



PREAMBLE

The Ministry of Energy and Water prepared and adopted the Lebanese National Water Sector Strategy (NWWSS) in 2010 which, in turn, was endorsed by the Government of Lebanon in 2012 (Resolution No.2, Date 09/03/2012).

Since then, the Ministry has been implementing plans and projects identified in the strategy and, in parallel, the CDR and the Water Establishments have prepared regional water resources allocation plans, and national and regional groundwater resources studies for the catchment, treatment and distribution of water to all areas of Lebanon. In addition, regional plans for the collection and treatment of wastewater were prepared.

Seven years through, time has come to review what has been realized from the original roadmap and update the Water & Wastewater strategies of 2012 by revisiting the water allocation and supply plans, wastewater collection and treatment plans, water storage / dams master plans, and irrigation plans.

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OBJECTIVE OF THE CONSULTANCY

The national water sector strategy of 2012 has put an end to a phase and started a new phase for developing a wide and comprehensive vision and confirming the general principles of the national water policies on the short, medium and long terms.

The updated strategy maintains the main strategic principles of the water policies adopted by the Government of Lebanon in 2012, but reassesses the then set priorities in light of today's actual context. This update also merges the National Water and Wastewater strategies of 2012 into one consolidated strategy that we shall call "Updated National Water Sector Strategy 2020", taking into account studies and projects completed between 2012 and 2019 in both fields.

The objective of the Consultancy is to merge the National Water and Wastewater strategies of 2012 into one consolidated strategy, and will take into account studies and projects that were completed between 2012 and 2019 in both fields.

DATA COLLECTION

The first phase of the consultancy services is the Data Collection.

All available data and necessary information were collected from the relevant stakeholders such as MoEW, the four Water Establishments, the Litani River Authority, the CDR, relevant Ministries such as MoE and MoA, the Council of the South, Donors involved in the water sector, UN Agencies, local and international NGOs, and else.



This information covers all what is available to date about

- Water governance and tariffs of the four WEs.
- Available updated data about rainfall, population count and growth, water needs
- Available water resources and water balance by sector, for each WE
- Status of the production, treatment, conveying and distribution systems for drinking and irrigation water
- Status of the collection, conveying, and treatment of sewage
- Implemented and planned projects,
- Status of large scale projects in progress such as dams, hill lakes, treatment plants, big water conveyors, ...
- Conducted hydrogeological and hydrological studies and other relevant studies,
- Available regional water, wastewater, and irrigation master plans,

It needs to be pointed out that at the present stage the collected data is not comprehensive and some information such as the construction dates and the conditions of the existing infrastructure (and else) is scarcely available. However it gives an overall picture of the present status of the subjects covered under this report.



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SLWE	South Lebanon Water Establishment
UFW	Unaccounted for Water
UN	United Nations
WE	Water Establishment
WEs	Water Establishments
WES	Water Establishments



SECTION IV A TAPPED WATER RESOURCES AND WASTEWATER FACILITIES

IV A.2. SURFACE WATER

IV A.2.1 MAJOR SPRINGS

Table IV A 1 shows the list of the major springs tapped for drinking water purposes by each WE, sorted by caza. The situation may be summarized as follows :

- The total number of tapped springs exceeds 2,000, including small local springs. However, small springs are subject to a progressive dryness due to increasing urbanisation and groundwater misuse.
- The yearly Average yield of springs exceeds 1200 MCM. However, the maximum available yield in dry months is approximately 200 MCM.
- The WEs are currently tapping some 90% of the water resources available from springs. Therefore, little future optimisation is expected (less than 10 %)

Table IV A 1 List of Major springs in use for drinking water.

Spring	Average Yield (Mm ³ /Year)	Average volume extracted (Mm ³ /Year)	Spring	Average Yield (Mm ³ /Year)	Average volume extracted (Mm ³ /Year)	Spring	Average Yield (Mm ³ /Year)	Average volume extracted (Mm ³ /Year)
NLWE			BMLWE			BWE		
Tripoli			Baabda Aley			Baalbeck		
Abou Halka	14.60	14.60	Abou Laban		3.10	Ain Daher	1.00	
El Hab	23.70	13.70	Ain el Sfayat	3.20	0.10	Ouyoun Orghosh	9.00	4.80
Akkar			Ain Baradaa		0.20	Laboue	9.80	3.70
Ain el Tine		0.10	Chaghour Hammana		1.10	Ras Baalbek		14.20
el Jaouz (Qobayat)		0.70	Chouf			Yahfoufa- Ain Es Sikeh		5.50
Ain el Jrab		0.05	Aamatour		0.30	Fekha		0.50
Es Sabaa		0.40	Barouk	5.50	1.60	Nabi Sbat		2.20
Keftine		1.10	El Qaa	6.90	3.30	El Ioulouj		2.00
Naassah		0.80	Raayan		6.60	Ech Chaghour		0.30
Safa		4.00	Safa		2.20	Yammouneh	35.00	6.10
Houe		0.40	Jbeil			West Bekaa		
Hamde		1.30	Afqa	123.2 (BGR)	4.40	Ain Zarka	44.00	40.30
Batroun			Roueiss	96.6 (BGR)		Naba Bir Ez Zhour		3.10
EL Kareem		0.20	Keserwan			Es Saalouk		7.50
Zahle		2.60	Aassal	24 (BGR)	3.60	Ana		11.70
Dalle an Ghouaout		4.50	El Madiq		26.60	Ain el Hajar		7.90
Rahoue		0.50	Jeita	166.4 (BGR)	7.30	El Khreizat	13.00	7.60
Bcharreh			Laban	14.4 (BGR)		Hermel		
Iskandar		0.70	Metn			Ain El Haour		0.40
Mar Challita		1.30	Jamajem spring		0.20	El Kharbe & El Wardeh		0.40
Mar Semaan		2.70	Ain El Delbe	9.10	2.20	Maabour		0.30
Qadisha		5.40	Daychounieh		2.20	Lezzabe		0.30
Minieh-Danniyeh			El Mamboukh	2.30	1.20	Aarouba & Al Hariq		0.30
Es Sekkar	22.60	1.70	Fouar Antelias	6.30		Oyoun Obeid		0.10
Kseim	22.70	1.20	Jouaizat		6.00	Zahleh		
Oyoun Es Samak	3.90	3.80	SLWE			Anjar	156.00	60.00
Ain el Abdeen	1.10	1.10	Hasbaya			Berdaouni	57.00	4.60
Ras el Ain	6.70	0.30	Hasbani	7.10		Chamsine		15.90
Nabaa el Breissa	9.80	0.20	Nabatiyeh			Chtaura	15.50	5.40
Nabaa el Bire	12.00		Aalman	3.50	1.00	Ouadi el Delem		20.50
Nabaa Ez Zahlan	11.00	0.20	Ghalle	16.00		Ras el Ain		15.50
Ain el Bire	7.90		Tasseh	10.00	10.00	Zahleh old spring		2.80
Fraidis		0.40	Tyre					
Sir	2.10	1.20	Rachidiye		3.00			
Ain Boulos		0.40	Ras el Ain	27.00	22.80			
Arbain	12.60							
Zgharta								
El Ghar		0.50						
El Qadi		1.20						
Rachaiine	86.70	5.10						

Table IV A 4 Number of wells by Water Establishments

	BMLWE	BWE	NLWE	SLWE	Total
Sorted by aquifer					
Aptian	7	1	1	1	10
Cenomanian	24		10	2	36
Cenomanian/Turonian	71	95	42	231	439
Eocene		40			40
Jurassic	70	49	25		144
Lower Cretaceous	34	4			38
Miocene	1		30		31
Neogene/Quaternary		23			23
Pliocene			6		6
Quaternary	1				1
Undefined	197	67	180	237	681
Total	405	279	294	471	1449
Sorted by status					
In service	256	236	93	358	943
Needs to be equipped		7	1		8
Out of service	69	24	36	26	155
Proposed	25	1	39	3	68
Under construction	29	4	18	5	56
Undefined	26	7	107	79	219
Total	405	279	294	471	1449

It can be seen that :

- Around 30 % of the existing wells are out of service for various reasons
- Around 50 % of the existing wells are tapping an undefined aquifer due to lack of data.
- The status of around 20 % of the existing wells is undefined due to lack of data.

The total volumes extracted from wells is impossible to assess with an acceptable margin due to the poor data available from the WEs, and the absence of data on private wells. It has been estimated as follows¹ :

- Total withdrawal from aquifers is about 700 MCM/year
- Withdrawn by the WEs 270 MCM/year.
- Maximum allowable withdrawal must be limited to 500 MCM/year

It is not possible to update the above figures because since then, no comprehensive data measurement and collection campaign was initiated. Also the number of hours of operation of the boreholes, due to recurrent power cuts, is unknown, which adds to the uncertainty of the figures put forward by various sources.

The full list of wells including all available details is provided in *APPENDIX IV C.1*, under *Section IV C* of the present volume.

¹ MoEW – NWSS 2012

IV A.4. DAMS

A number of dams/lakes is currently operational or under construction in Lebanon, as shown on Table IV A 5

Table IV A 5 Total dynamic storage capacity of existing dams

Dam	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)	Status	Usage
BMLWE					
Chabrouh Dam	9	11	65	Operational	Potable / Irrigation
Ballout Lake	0.5	0.5	15	Operational	Potable / Irrigation
Qaysamani Lake	1	1	15	Operational	Potable
Janneh Dam	38	95	-60+100	Under Construction	Potable / irrigation / Hydropower
Bisri Dam	125	125	74	Under Construction	Potable / irrigation / Hydropower
Boqaata Dam	6	12	71.5	Under Construction	Potable
	179.5	244.5			
NLWE					
Kouachra Lake Rehab.	0.4	0.4	11	Operational	Irrigation
Brissa Dam	0.8	0.8	35	Needs repair	Irrigation
Mseilha Dam	6	12	35	Under Construction	Potable / Irrigation
Balaa Dam	1.2	2.2	35	Under Construction	Potable
	8.4	15.4			
BWE					
Yammouneh Lake	1.45	1.45	7	Operational	Irrigation
Assi Dam - Phase I		63	10	Under Construction	Irrigation
	1.45	64.45			
SLWE					
Qaraaoun Dam	220	300	62	Operational	Potable / irrigation / Hydropower
Total storage capacity at country scale	409	624			

Some 40 others are proposed and are presently in various stages of investigation or design. The total storage capacity is summarized as follows:

Table IV A 6 Total dynamic storage capacity of dams

(M m³)

	BMLWE	NLWE	BWE	SLWE	Total
Total existing or under construction	244.50	15.40	64.45	300.00	624.35
Total proposed Ready for Construction or in Detailed Design phase	7.32	118.50	41.42	50.00	217.24
Total proposed in preliminary stage	106.00	58.90	10.00	152.07	326.97
Total	357.82	192.80	115.87	502.07	1 168.56

IV A.5. WWTP

Table IV A 8 shows the present (January 2020) situation of WWTP in Lebanon.

Table IV A 8 WWTP in Lebanon

	BMLWE	BWE	NLWE	SLWE	Grand Total
Existing					
Activated Sludge	1	1	1	1	4
Activated Sludge with nutrients removal		1			1
Activated Sludge with UV disinfection	1				1
Aeration tanks				1	1
Hybrid (Trickling Filter & Activated Sludge)	2				2
MBBR	1				1
Preliminary Treatment	1				1
Reed bed	12	7	20	20	59
Trickling Filter		1			1
Unknown		1	3	1	5
Wetland				2	2
Total existing	18	11	24	25	78
Under Construction					
Activated Sludge			1		1
Activated Sludge with nutrients removal			1		1
Reed bed	2	2	3	2	9
Total under construction	2	2	5	2	11
Proposed					
Activated Sludge	1	6	2	1	10
Biofilters	1				1
MBR	1				1
RBC (Rotating biological contractors)			1		1
Reed bed	27	17	72	19	135
Trickling Filter		1	10		11
Unknown	5	1		3	9
Wetland			13		13
Total proposed	35	25	98	23	181
Grand Total	55	38	127	50	270

Common technologies used for existing WWTP are as follows :

- Reed bed 60 plants
- Activated Sludge 6 plants
- Trickling Filter 3 plants
- MBBR 1 plant

A list of all WWTP, in alphabetic order, providing all available details including capacities, is given in APPENDIX IV.c.4, under Section IV C of the present volume



SECTION IV B DEMAND CRITERIA, ASSUMPTIONS AND WATER BALANCE

<p>P₀ = Population year 0 P_n = Population year n α = Annual growth factor</p>	$P_n = \frac{K}{1 + \left(\frac{K}{P_0} - 1\right)e^{-\alpha n}}$ <p style="text-align: center;">Logistic formula (K = max bearing capacity)</p>	$P_n = P_0 e^{\alpha n}$ <p style="text-align: center;">Logistic formula w/o limit (K = infinite)</p>
$P_n = P_0(1+\alpha)^n$ <p>Exponential formula</p>		

Figure IV B 1 Various formulas used for the calculation of the population growth

Therefore, the most reliable way to assess the population growth factor for this study horizon is to rely on available surveys, and common sense.

The NWSS 2010 has estimated the growth factor at 1.75 %, which, in our opinion, is a high figure to date.

Recent field surveys¹ covering a number of municipalities have shown that the demographic growth factor is much lower than that estimated in the NWSS 2010. Moreover, in a number of rural municipalities, the growth factor appeared to be negative. This may reflect the fact that in the surveyed cases, we are getting close to saturation (or maybe the population growth is dampened by emigration); and negative growth factors could well be due to some kind of "rural exodus". The NWSS 2010 growth factor must now be reviewed downwards. It is realistic to consider a slightly lower factor for urban areas (covering a possible rural exodus) and a lower factor in rural areas.

Therefore, for the time period 2020-2035, we shall consider the following Growth Factors for all of Lebanon except SLWE :

- In rural areas: 1.5%
- In urban areas: 0.75%

For the districts under the jurisdiction of SLWE, ongoing studies (commissioned by SLWE), supported by field investigations and surveys, have shown a tendency for the population to "return to their lands", probably due to the stable socio-political conjecture.

Therefore a flat growth factor of 2% was used for SLWE jurisdiction, for a projection to 2050.

IV B.1.3 POTABLE WATER DEMAND PER CAPITA

The WEs are installing more and more household water meters. However, to date the areas covered are not large enough to be representative and the meters are not read on a regular basis. Therefore there is a lack of large scale data on measured water consumption.

Recently NGOs equipped and followed up pilot areas in various regions of Lebanon (i.e. JVC in the Beqaa; USAID in Jezzine district). Surprisingly, it appeared that the measured consumption exceeds 300 or 400 l/c/d. This reflects the fact that the subscribers pay a flat rate regardless the volumes consumed, which does not encourage them to limit the consumption to their actual needs. Water is not looked at as a paid for product that should not be wasted.

¹ Bcharreh district; ELARD 2016 – Baadda Aley district; BTD 2018 – Kesrwan district; BTD 2019



Therefore, as long as water consumption is not metered and billed accordingly, the strategy should NOT be to meet the "water demand", but rather the realistic "water needs"

The WEs strategy is to generalise water metering, to eradicate (or at least to significantly reduce) illegal connections, and to reduce UFW. Therefore, the water consumption in 2035 will certainly decrease, which means that the water consumption figures adopted in the NWSS of 2012 (160 l/c/d in urban and 140 l/c/d in rural zones) are to be revised downwards. Detailed calculation (see *Appendix IV C.1* in *Section IV C* of the present volume) shows that the domestic water needs is around 125 l/d/capita.

Therefore, the strategic target for 2035 is to meet the following (regardless of the endless discussion about the accuracy of the figures) :

Drinking water demand per capita in 2035 shall be :

• Domestic consumption:	125 l/cap/day
• Non-Domestic = 20 % of the domestic	<u>25 l/cap/day</u>
	150 l/cap/day
• Physical losses = 25 % of the total needs	<u>50 l/cap/day</u>
Total needs	200 l/cap/day

Wastewater flow per capita is calculated based on the following assumptions:

- Produced wastewater flow = 80 % of the needs (excluding physical losses) = 120 l/cap/day
- Infiltration = 10 %

IV B.1.4 THE PARTICULAR CASE OF INFORMAL TENTED SETTLEMENTS

This sub-section addresses the particular case of displaced Syrian populations' Informal Tented Settlements (ITS). The case of Slum neighbourhoods occupied by Lebanese citizens is addressed under *Sub-Section II D.1.3* in *Section D* of *Volume II*.

It is not the Government's policy to allow permanent infrastructure in ITS.

Therefore, presently, most of the ITS are equipped :

- For water supply, with plastic household tanks filled by tankers.
- For sanitation, in few cases with local underground plastic septic tanks connecting a number of tents in a row through plastic pipes, but in the majority of cases latrines are connected to holding tanks that are desludged periodically.

Water supply and desludging is provided by Agencies and NGOs. This is not a sound situation, because on one hand such services are highly expensive and unsustainable, and on the other hand because these services are solely under the responsibility of the WE's, not to mention that random water extraction and desludging cause severe damage to the environment.

The Government pushes for a close but safe return of the displaced Syrian populations, in which case it is better to keep the present status quo. However, as long as there is no clear timeline for their return, solutions must be found to preserve the environment and allow the WEs to collect water and sanitation fees.

IV B.2. CRITERIA FOR IRRIGATION WATER NEEDS ASSESSMENT

IV B.2.1 IRRIGABLE LAND

Based on the inventory of the irrigation schemes across the country, presently irrigated land area is around 100,000 ha.

Irrigation development in the future is conditioned by:

- Implementing new projects
- Securing new water resources (storage structures & water wells).

The construction of the proposed projects would allow for the irrigation of an additional 38,000 ha at the country level.

Table IV B 1 Irrigable land in Lebanon

	Presently irrigated area (ha)	Irrigable land from proposed irrigation projects (ha)	Total (ha)
NLWE (18 schemes)	23 600	Noura el Tahta & Dam Baachtar dams	4 200
		Hill lakes	730
		4 930	28 530
BMLWE (15 schemes)	5 835	Hill Lakes	540
BWE (36 schemes)	66 115	Aassi dams	6 000
		Massa dam	1 600
		Younine dam	1 200
		8 800	74 915
SLWE	4 210	Conveyor 800	13250
		Khardale dam	1300
		Qasmieh Ras el Ain	3 200
		Choumariyeh dam	4000
		Saida Jezzine	430
		Ibl el saki dam	3800
Small local schemes	580		
Hill lakes	1235		
	4 210	23 585	27 795
TOTAL	99 760 ha	37 855 ha	137 615 ha

IV B.2.2 WATER REQUIREMENTS FOR IRRIGATION

Under the presently prevailing irrigation conditions, considering network losses and the irrigation practices, the irrigation efficiency is around 50 to 60%. The average irrigation water requirement for a representative ha at the country level is around 8,475 m³/ha /year as shown in

Table IV B 2 Irrigation water needs

	Irrigated area (ha)	Rates commonly used in Lebanon (m ³ /ha/year)	Total needs Mm ³ /year
NLWE	23 600	7 500 (Most of the area is coastal)	177.0
BWLWE	5 835	6 500 (most of the irrigated area is at high altitude)	37.9
BWE	66 115	9 000 (most of the irrigated area is inland/dry weather)	595.0
SLWE	4 210	7 500 (Most of the area is coastal)	31.6
TOTAL	99 760	8 435 (Average irrigation water requirement for one representative ha at country level)	841.5

Future irrigation water requirements

Assessment of future irrigation water requirements is based on the following assumptions :

- Irrigated areas would reach in 2035 around 138,000 ha.
- Irrigation efficiency will be improved and will be upgraded from 60% to 75% by rehabilitating or constructing concrete or piped & conveyance structures and catchment structures and by modernizing on-farm irrigation practices (micro-irrigation). Consequently irrigation water requirement for 1 representative ha will drop from 8,435 m³/ha/year to 6,750 m³/ha/year.(based on 5040m³/ha/year as a net water requirement i.e. without water losses, then 5061 / 0.75 = 6750 m³/ha/year would be the gross water demand per ha per year when overall system efficiency will reach 75%)

Based on the above, the present irrigation water requirement at the country level is 878.3 Mm³ and would reach 930 Mm³ approximately in 2035, should the proposed project be implemented.

On the other hand, Agricultural National Census (MoA) 2010 reveals that only 65% of the irrigated areas are permanently irrigated whereas 35% of the remaining are partially irrigated. Moreover, only 50% of the irrigated area are covered by natural surface water whereas the rest is covered by "expensive" underground water and/or hill lakes stored water.

The above observations lead us to conclude the existence of a serious gap between irrigation water demand and the irrigation water "real" use.

Therefore, it is estimated that only some 75% of the present Irrigation water requirement (660 Mm³) are presently sustained by available water for irrigation and reflect the Irrigation water consumption figure across the country.

Out of these 630 Mm³ it is estimated that some 315 Mm³ are covered by surface water.

- Irrigation water is mostly contaminated with raw sewage water in most irrigation schemes located downstream urban agglomerations. Some areas are solely dependent on raw sewage water , especially during dry season
- Development of modern Irrigations schemes is observed in many newly reclaimed areas and often compensates irrigated area shrinkage within traditional schemes due to uncontrolled urban development over agricultural and fertile areas. These new developed areas are mainly dependent either on pumped water from existing close irrigation schemes or from newly developed water resource such as:
 - Rain and snow melting harvesting by constructing storage Hill lakes and ponds.
 - Underground water exploitation by drilling (deep) wells.In most of these newly developed areas modern irrigation equipment and practices are adopted optimizing water use and crop production. These modern schemes represent relatively success story examples and concretize promising prospects for the entire irrigation sector in Lebanon.

Therefore, irrigation sector in general present a lack of:

- Sufficient data about each scheme (Agronomic, agro-climatic, water resources -quantity and quality-monitoring, GIS data and geo-referenced information about irrigation infrastructure conditions, social and economic information and indicators...)
- Sufficient Water Resources.
- Upgrade Irrigation water quality up to acceptable standards.
- Rehabilitation and development of existing Irrigation infrastructure.

On the other hand, the existing newly developed modernized Irrigation schemes illustrate promising progress prospects.

Consequently the target of this strategy is to address the following (the proposed projects – see *Volume V* - are selected accordingly) :

- Develop water resources by increasing water harvesting thru promoting hill lakes and small dams construction.
- Rehabilitate and modernize existing irrigation infrastructure to reduce water losses and improve water efficiency by the mean of upgrading water catchment and deviation structures, and by repairing concrete broken structures converting earthen channels into concrete one. Moreover irrigation modernization plans should aim at the gradual conversion of open channel systems into pressurized piped system; each and every time that topographical conditions allow for, pump free, pressurized system development. This Conversion will enhance modernization of on farm irrigation systems.
- Accelerate wastewater treatment strategies up to Irrigation acceptable standards and in conjunction with crops selection adoption criteria.
- Perform detailed study for each existing irrigation scheme in order to assess in details the existing condition, taking into consideration all irrigation scheme components, and in order identify, select, quantify and price all necessary actions and works needed to upgrade and modernize the selected scheme.



Table IV B 3 NLWE negative water balances

Distribution system	Water balance (m ³ /day)				Proposed works and Corresponding project (in Volume V-A)
	2020	2025	2030	2035	
DISTRICT OF QOBAYATE					
Distribution system 6 and 7	-136	695	462	210	Present deficit will be covered by ongoing construction of new wells
Distribution system 8	-389	47	-60	-386	Proposed 1 new well - See Volume V-A project NL-W. H.7
Distribution system 9	-93	-194	-303	-420	Proposed 1 new well - See Volume V-A project NL-W. H.8
Distribution system 10	-2 112	-2 310	-2 523	-2 754	Proposed 3 new wells - See Volume V-A project NL-W. H.9
Distribution system 11	-843	-737	-1 027	-1 131	Proposed 2 new wells - See Volume V-A project NL-W. H.10
Distribution system 13	-336	-955	-1 029	-1 110	Proposed 1 new well - See Volume V-A project NL-W. H.11
Distribution system 17	-538	-614	-695	-783	Proposed 1 new well - See Volume V-A project NL-W. H.14
Distribution system 18	-265	-771	-831	-895	Proposed 1 new well - See Volume V-A project NL-W. H.15
Distribution system 19	41	-19	-85	-155	Proposed 1 new well - See Volume V-A project NL-W. H.16
Distribution system 20	-557	-870	-937	-1 011	Proposed 1 new well - See Volume V-A project NL-W. H.17
Distribution system 21	-109	-225	-243	-262	Proposed 1 new well - See Volume V-A project NL-W. H.18
Distribution system 22	-1 484	-1 923	-2 073	-2 235	Proposed 3 new wells - See Volume V-A project NL-W. H.19
Distribution system 23, 24 and 12	-5 672	-6 410	-7 044	-7 727	Proposed 8 new wells - See Volume V-A project NL-W. H.20
DISTRICT OF HALBA					
Distribution system 1	-2 840	-3 263	-3 719	-4 210	Proposed 4 new wells - See Volume V-A project NL-W. B.1
Distribution system 2	-424	-644	-881	-1 137	Proposed 1 new well - See Volume V-A project NL-W. B.2
Distribution system 3	-3 555	1 090	546	-40	Proposed 1 new well - See Volume V-A project NL-W. B.3
Distribution system 5 and 6A	-38	-4 918	-5 301	-5 714	Proposed 6 new wells - See Volume V-A project NL-W. B.5
Distribution system 7A	1	-1 086	-1 507	-1 961	Proposed 2 new wells - See Volume V-A project NL-W. B.6
Distribution system 7B	-23	-3 261	-3 609	-3 984	Proposed 4 new wells - See Volume V-A project NL-W. B.7
Distribution system 9	-2 620	-3 161	-3 744	-4 372	Proposed 5 new wells - See Volume V-A project NL-W. B.8
Distribution system 10	-1 927	-2 615	-3 357	-4 157	Proposed 4 new wells - See Volume V-A project NL-W. B.9
Distribution system 11	0	-131	-276	-432	Proposed 1 new well - See Volume V-A project NL-W. B.10
Distribution system 12	-3	-2 988	-3 241	-3 514	Proposed 4 new wells - See Volume V-A project NL-W. B.11
Distribution system 14A	-1 053	918	787	647	Proposed 1 new well - See Volume V-A project NL-W. B.12
Distribution system 14B	-4 839	-5 882	-6 467	-7 098	Proposed 7 new wells - See Volume V-A project NL-W. B.13
Distribution system 14C	-2 169	-1 744	-2 364	-3 032	Proposed 3 new wells - See Volume V-A project NL-W. B.14
Distribution system 14D	-5 581	-6 169	-6 802	-7 485	Proposed 7 new wells - See Volume V-A project NL-W. B.15
DISTRICT OF ED DANNIYEH					
Distribution system 12	-90	-100	-111	-123	Proposed 1 new well - See Volume V-A project NL-W. E.9
Distribution system 13	-112	-123	-136	-150	Proposed 1 new well - See Volume V-A project NL-W. E.10
Distribution system 16	-1 373	-1 499	-1 636	-1 783	Proposed 2 new wells - See Volume V-A project NL-W. E.13
DISTRICT OF MINIEH					
Distribution system 1a	-16	-17	-19	-21	Proposed 10 new wells - See Volume V-A project NL-W. D.1
Distribution system 2a	4	-97	-206	-324	Proposed 1 new well - See Volume V-A project NL-W. D.2
Distribution system 3a	298	-73	-473	-904	Proposed 1 new well - See Volume V-A project NL-W. D.3
Distribution system 6a	331	83	-1 943	-474	Proposed 1 new well - See Volume V-A project NL-W. D.6
DISTRICT OF KOURA					
Distribution system 3	-320	-681	-1 071	-1 491	Proposed 2 new wells - See Volume V-A project NL-W. C.2
DISTRICT OF ZGHARTA					
Distribution system 1	-116	-142	-170	-200	Proposed 1 new well - See Volume V-A project NL-W. F.1
Distribution system 2	67	-14	-101	-195	Proposed 1 new well - See Volume V-A project NL-W. F.2
Distribution system 3	-111	-142	-175	-211	Proposed 1 new well - See Volume V-A project NL-W. F.3
Distribution system 5	-222	-257	-295	-336	Proposed 1 new well - See Volume V-A project NL-W. F.4
Distribution system 6	-72	-106	-142	-181	Proposed 1 new well - See Volume V-A project NL-W. F.5
Distribution system 11	-961	-1 194	-1 446	-1 718	Proposed 2 new wells - See Volume V-A project NL-W. F.10
Distribution system 12	-130	-230	-338	-455	Proposed 1 new well - See Volume V-A project NL-W. F.11
Distribution system 13	26	-136	-310	-498	Proposed 1 new well - See Volume V-A project NL-W. F.12
Distribution system 18	131	24	-91	-215	Proposed 1 new well - See Volume V-A project NL-W. F.17



Table IV B 5 SLWE negative water balances

Distribution system	Water balance (m ³ /day)				Proposed works and Corresponding project (in Volume V-A)
	2020	2025	2030	2035	
Local Systems	-4 091	-4 997	-6 103	-7 454	Proposed 3 new wells and PS in Chebaa See Volume V-A project SL-W. G.7
DISTRICT OF NABATIYE					
Northern System	3 234	171	-3 570	-8 139	Proposed rehab. of Nabeh el Tasseh and Kfar Roummane PS + Gravity conveyor See Volume V-A project SL-W. A.1 and SL-W A.8
Nabatiye System	8 034	2 562	-4 122	-12 285	Proposed supply scheme from Yohmor WTP See Volume V-A project SL-W. A.2
Western System	-999	-2 509	-4 352	-6 605	Proposed rehab of Fakhr el Din scheme See Volume V-A project SL-W. A.3
Middle System	5 828	3 345	312	-3 392	Proposed new regional reservoir and gravity line See Volume V-A project SL-W. A.9
Southern System	4 023	1 537	-1 499	-5 207	Proposed new regional reservoir and gravity line See Volume V-A project SL-W. A.10
Arnoun Yohmor System	582	266	-119	-590	Proposed new regional reservoir and gravity line See Volume V-A project SL-W. A.4
DISTRICT OF SOUR					
Kfardounine System	-1 032	-4 658	-9 088	-14 498	Proposed new conveyors lines See Volume V-A project SL-W. C.1
Maaroub System	4 018	646	-3 473	-8 503	Proposed new gravity conveyor See Volume V-A project SL-W. C.2
Borj Ech Chemali System	943	-2 216	-6 073	-10 786	Proposed new PS + Rehab of Ras el Ain and El Bass WTPs and PSs See Volume V-A project SL-W. C.3
Saddiqine System	-6 741	-8 913	-11 567	-14 808	Proposed Rehab of Siddiquin PS + new Siddiquine-Batoulay lift line See Volume V-A project SL-W. C.4
Hanaouay Sub System	3 844	2 228	253	-2 158	Proposed Rehab of Batoulay PS - See Volume V-A project SL-W. C.5
Kafra + Ramiye Sub System	1 503	-2 962	-8 412	-15 070	Proposed Rehab of Kafra PS + new Ramya PS and lift and gravity lines See Volume V-A project SL-W. C.6
Chehabiye Sub System	-3 309	-5 158	-7 417	-10 175	Proposed Rehab of Chhabiyeh PS + Ouadi Jilo PS1 lift line See Volume V-A project SL-W. C.7
Haddatha Sub System	-715	-1 757	-3 029	-4 583	Proposed Regional reservoir 3000 m ³ See Volume V-A project SL-W. C.8
Es Soultaniye Sub System	-8 258	-11 889	-16 323	-21 739	Proposed Rehab of Ouadi Jilo PS1 See Volume V-A project SL-W. C.9
Deir Aames Sub System	232	-478	-1 346	-2 406	Deficit will be covered by Saddiqine works See Volume V-A project SL-W. C.4
Aaitit System (Ouadi Jilo 1)	-1 598	-2 700	-4 045	-5 687	Deficit will be covered by El Soultaniyeh works See Volume V-A project SL-W. C.9
Ouadi Jilo 2	-895	-1 789	-2 880	-4 212	Proposed Rehab of Ouadi Jilo PS2 See Volume V-A project SL-W. C.10



SECTION IV C APPENDICES



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APPENDIX IV C 1. DOMESTIC WATER DEMAND PER CAPITA

Domestic water demand per capita is here calculated based on realistic water consumption for different uses, with the assessment of 5.8 persons per household.

Washing and Showers

- Equivalent to 5 showers / week / capita
- consuming $5 \times 75 = 375$ l/week/capita
- That is $375 \times 5.8 = 2175$ l/week/household.

Flushing systems

Average frequency: 5.5 flushing operations/day/capita and 3 flushings/day/capita for the two persons who are assumed to work outside the study area during a part of the day from Monday to Friday:

- From Monday to Friday: $5 \text{ days} \times [(3.8 \times 5.5 \times 8) + (2 \times 3 \times 8)] = 1076$ liters.
- On weekends: $2 \text{ days} \times (5.8 \times 5.5 \times 8) = \underline{510.4 \text{ liters.}}$
1586.4 liters/week/household.

Laundry

- Average frequency: 4 times/week/household.
- Consuming : 90 liters/washing
- That is : $4 \times 90 = 360$ liters/week/household.

Dishwashing

- Average frequency (manual dishwashing) : 3 times/day:
- Consuming : 20 liters/dishwashing
- That is : $3 \times 20 \times 7 = 420$ liters/week/household.

Cooking and drinking

- 4 liters / day / capita
- that is: $4 \times 7 \times 5.8 = 162.4$ liters/week/household.

House cleaning

- Estimated : 20 buckets of 12 liters for house cleaning per week,
- That is $20 \times 12 = 240$ liters/week/household.

Plants watering

- Estimated 300 liters/week



Consequently, the average weekly water consumption per household (for scenario C) is as follows:

- Washing and Showers 2175 l/week/household
 - Flushing systems 1586.4 l/week/household
 - Laundry 360 l/week/household
 - Dishwashing 420 l/week/household
 - Cooking and drinking 162.4 l/week/household
 - House cleaning 240 l/week/household
 - Plants watering 300 l/week/household
- 5243.8 l/week/household

That is 129 l/day/capita, say **125** liters/day/capita.



APPENDIX IV C 2. LIST OF WELLS

List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Aabba Ain el Biyara Well	-348 039	-86 492	313	375	144.00	Cenomanian/Turonian	C4c - C5		SLWE
Aabba El Samouaa Well	-348 176	-86 672	308	300	73.00	Cenomanian/Turonian	C4c - C5		SLWE
Aabba Rass el Douri well	-348 105	-86 583	338	400	223.00	Cenomanian/Turonian	C4c - C5		SLWE
Aabbasiye el Horch well	-363 065	-93 685	99	350	45.00	Cenomanian/Turonian	C4 - C5	In service	SLWE
Aabbasiye Kadmous well	-362 022	-93 040	88	170	35.00		e1-e2	In service	SLWE
Aabbasiye well 2	-359 683	-93 258	190	220	65.00		e1-e2	In service	SLWE
Aabbassiye well 1	-359 591	-93 305	190	225	45.00		e1-e2	In service	SLWE
Aabdilli	-316 055	7 201	502	460	47.00	Cenomanian/Turonian	C4 - C5		NLWE
Aabey	-334 895	-45 525		650	29.00	Jurassic	J4	Under construction	BMLWE
Aabra well	-347 081	-64 122						In service	SLWE
Aabrine 1	-317 484	12 025			28.80				NLWE
Aachech	-295 088	28 966	190	55	15.50				NLWE
Aadchit El Ain Well	-347 351	-88 543	360	400	57.00	Cenomanian/Turonian	C4c - C5		SLWE
Aadchit Municipality Well	-346 835	-88 404	370	400	53.00	Cenomanian/Turonian	C4c - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Aadloun El Mshaa well 1	-360 357	-81 976	150	160	10.20		e1-e2	In service	SLWE
Aadloun El Mshaa well 2	-360 356	-82 030	149	155	5.70		e1-e2	In service	SLWE
Aaimar	-291 915	21 312	1 148		10.50	Cenomanian	C4		NLWE
Aaitanit	-322 420	-63 560	1 050	212	36.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Aakaba	-309 708	-71 680	952	300	67.50	Jurassic	J4 - J7	In service	BWE
Aakaba new well	-310 239	-71 593	912	250	25.20	Jurassic	J4 - J7	In service	BWE
Aalay	-327 578	-37 618	915		436.00			In service	BMLWE
Aalma	-298 816	30 802	241	350	36.00				NLWE
Aalma Ech Chaab new well	-369 584	-114 663	381	485	35.00	Cenomanian/Turonian	C4 - C5	In service	SLWE
Aalma Ech Chaab well	-369 671	-114 683	382	490	39.00	Cenomanian/Turonian	C4 - C5	In service	SLWE
Aalman	-346 009	-60 691	230	350	50.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Aalmat	-311 170	-4 747	860	400	44.00			In Service	BMLWE
Aamaret El Baykat well	-273 993	48 597	315	510	28.80	Pliocene	Pliocene basalt	In service	NLWE
Aamaret El Beikat municipality well	-273 721	49 322			5.40			In service	NLWE
Aamchit	-321 993	26	230	330	8.00			In Service	BMLWE
Aana	-315 272	-51 022	1 035	311	90.00	Jurassic	J4 - J7	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Aanout	-337 212	-56 502	690	450	25.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Aanqoun Well 1	-347 282	-70 982	312		32.51			In service	SLWE
Aanqoun Well 2	-345 575	-72 097	315		61.52			In service	SLWE
Aanqoun Well 3	-345 997	-71 153	375		79.99			In service	SLWE
Aaqbet Bkeftine	-302 076	25 633	127		10.00	Miocene	m		NLWE
Aarabet Kouzhaya well 1	-296 830	16 613	1 071	450	8.00				NLWE
Aarabet Kouzhaya well 2	-297 749	17 505	1 142		12.00				NLWE
Aaramta Well 1	-332 314	-75 531	1 025					In service	SLWE
Aaramta Well 2	-331 744	-75 919	1 122		28.01			In service	SLWE
Aardat	-295 088	28 966	120						NLWE
Aarfan	-329 405	-36 103	590					In service	BMLWE
Aarjes	-300 414	19 545	310	125	15.00				NLWE
Aarqa	-284 288	40 956						Proposed	NLWE
Aarqa well	-284 233	41 004	165	375	64.80		P1 - P2	Under construction	NLWE
Aarsal Ain El Shaeb	-254 726	2 104	1 180	63	18.75	Cenomanian/Turonian	C4 - C5	In service	BWE
Aarsal High School	-251 342	22	1 470	350	21.80	Cenomanian/Turonian	C4 - C5	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Aarsal Wadi El Matlab	-254 126	2 143	1 243	450	21.80	Cenomanian/Turonian	C4 - C5	In service	BWE
Aarsal Wadi Soueid	-253 638	525	1 475	450	48.60	Cenomanian/Turonian	C4 - C5	In service	BWE
Aasoun	-288 974	25 376	902		36.00	Cenomanian	C4		NLWE
Aayoun1	-272 825	40 048	583	70	325.00	Jurassic	J4	Out of service	NLWE
Aayoun10	-272 817	40 040	584	70	67.00	Jurassic	J4	Out of service	NLWE
Aayoun11	-272 827	40 039	584	140		Jurassic	J4	Out of service	NLWE
Aayoun2	-272 819	40 054	584	70	216.00	Jurassic	J4	In service	NLWE
Aayoun3	-272 814	40 059	583	80	216.00	Jurassic	J4	In service	NLWE
Aayoun4	-272 807	40 063	584	80	216.00	Jurassic	J4	In service	NLWE
Aayoun5	-272 799	40 065	583	120	67.00	Jurassic	J4	Out of service	NLWE
Aayoun6	-272 791	40 063	584	190	67.00	Jurassic	J4	Out of service	NLWE
Aayoun7	-272 795	40 056	584	190		Jurassic	J4	Out of service	NLWE
Aayoun8	-272 804	40 052	584	180	67.00	Jurassic	J4	Out of service	NLWE
Aayoun9	-272 810	40 047	584	180	67.00	Jurassic	J4	Out of service	NLWE
Aayta el Jabal well	-349 711	-106 784	619	700	25.00	Cenomanian/Turonian	C4 - C5	In service	SLWE
Aazki	-289 105	30 556	384	180	32.00	Cenomanian/Turonian	C4 - C5	Out of service	NLWE
Aazour Well	-335 749	-65 276	833		6.30			Out of service	SLWE
Aazze Well	-345 334	-76 302	401		14.40			In service	SLWE
Aba	-305 509	21 215			18.75				NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ablah Dalloul	-294 270	-32 497	927	200	15.00	Neogene/Quaternary	n/Q	In service	BWE
Ablah Garden	-294 452	-32 297	944	80	15.00	Neogene/Quaternary	n/Q	Out of service	BWE
Ablah High	-294 827	-31 030	937	120	10.00	Neogene/Quaternary	n/Q	In service	BWE
Adous Well 1	-330 963	-70 329	1 185		79.92			In service	SLWE
Adous Well 2	-331 034	-70 326	1 184		42.12			In service	SLWE
Agrotech(amioun)	-307 652	18 542	265	251	36.00	Miocene	m		NLWE
Aidamoun	-261 802	47 645	550		18.00			In service	NLWE
Aiha New	-303 830	-72 673	1 260	420	45.00	Jurassic	J4 - J7	In service	BWE
Aiha Old	-306 134	-72 465	1 279	420	45.00	Jurassic	J4 - J7	In service	BWE
Ain 1	-254 121	5 898	1 096	102	7.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Ain 2	-254 204	5 817	1 085	200	67.50	Cenomanian/Turonian	C4 - C5	In service	BWE
Ain 3	-254 150	5 740	1 081	200	7.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Ain Aanoub	-334 235	-39 029	320					In service	BMLWE
Ain Aata	-310 494	-79 973	1 292	450	72.00	Jurassic	J4 - J7	In service	BWE
Ain Akrine	-304 185	14 541			54.00				NLWE
Ain Al Bahsa	-278 442	9 956			150.00			Out of service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ain Arab	-304 903	-63 779	1 103	380	69.84	Cenomanian/Turonian	C4 - C5	In service	BWE
Ain arab well	-328 580	-94 306	410	220	35.00			In Service	SLWE
Ain Baal El Haouch well	-361 777	-100 749	196	400	50.20	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ain Bous souar Well	-337 231	-74 280	944		49.00			In service	SLWE
Ain Cheikh (Serian)	-331 959	-29 584	35	194	60.00	Lower Cretaceous	C1	In Service	BMLWE
Ain Dara	-315 042	-40 643	1 315		30.00	Jurassic	J4	In service	BMLWE
Ain Dara- municipality	-318 066	-41 035	1 320	80	10.00	Aptian	C2a2 - C2b1	In service	BMLWE
Ain Ebel Well 1-Old	-348 998	-113 241	763	580	25.00			In Service	SLWE
Ain Ebel Well 2-Hospital	-352 269	-115 557	672	500	30.00			In Service	SLWE
Ain Ed Delb Well	-347 718	-66 731	136		87.48			In service	SLWE
Ain ed Delbé 1	-312 638	-11 978	1 065	427	100.00			In Service	BMLWE
Ain ed Delbé 2	-312 641	-12 005	1 065	427	100.00			In Service	BMLWE
Ain El Delbe	-320 659	-36 052	500	97	55.00	Jurassic	J6	In service	BMLWE
Ain el Delbeh New								Under construction	BMLWE
Ain El Hawr	-338 257	-54 075	645	450	30.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Ain El Mir Well	-342 090	-67 293	367		42.01			In service	SLWE
Ain El Rihané 1	-323 622	-21 371	380	450	44.00			In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ain El Rihané 2	-323 666	-21 397	370	420	140.00			In Service	BMLWE
Ain El Tine	-326 454	-72 628	1 039	250	45.00	Jurassic	J4 - J7	In service	BWE
Ain ElJdideh	-325 638	-37 808	920	220	30.00	Lower Cretaceous	C1	In service	BMLWE
Ain Em Khalil	-287 874	-22 644	1 096					In service	BWE
Ain Harsha new well	-313 116	-77 842			35.00	Jurassic	J4 - J7	In service	BWE
Ain Horche New	-313 111	-77 843	994	664	27.36	Jurassic	J4 - J7	In service	BWE
Ain Horche Old	-313 346	-77 203	979	180		Jurassic	J4 - J7	Out of service	BWE
Ain jarfa well 1	-322 071	-85 583	648	500	12.00			In Service	SLWE
Ain jarfa well 2	-321 995	-85 625	644	500	12.00			In Service	SLWE
Ain jarfa well 3	-321 785	-85 502	657	500	12.00			In Service	SLWE
Ain Ksour	-335 670	-44 114	620	700	29.00	Jurassic	J4	proposed	BMLWE
Ain Malloule	-346 646	-102 428	452	500	18.00		e1-e2	In Service	SLWE
Ain Qana Ouadi El Jouaniyat Well	-338 247	-75 797	660	616	60.00	Cenomanian/Turonian	C4c - C5		SLWE
Ain Qana Well	-338 126	-75 029	620		36.00			In service	SLWE
Ain Taya	-267 576	39 934	699	203	108.00	Jurassic	J4	In service	NLWE
Ain Taya	-267 578	39 734						Proposed	NLWE
Ain Taya'	-267 437	39 965	694	290				Out of service	NLWE
Ain Yaacoub	-270 497	39 747						Proposed	NLWE
Ain Yaacoub1	-270 541	39 486	741	200	83.00	Jurassic	J4	Out of service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ain Yaacoub2	-270 496	39 475	748	200	50.00	Jurassic	J4	In service	NLWE
Ain Zebde	-320 340	-58 466	179	275	28.00	Jurassic	J4	In service	BWE
Aintoura	-324 668	-20 721	190	250	36.00			In Service	BMLWE
Aita Ech Chaab municipality well	-356 245	-116 146	669	480	20.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Aita Ech Chaab well	-355 922	-114 523	630	500	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Aitit well 1	-358 565	-100 541	286	300	64.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Aitit well 2	-359 120	-101 912	307	450	100.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Aito 1	-296 366	16 777	1026	150	6.50				NLWE
Aito 2	-296 835	16 642	1059	140	15.00				NLWE
Akroum	-255 215	42 489						Proposed	NLWE
Akroum (F1) well	-256 477	42 517	780	410	39.60	Cenomanian	C4c		NLWE
Al Aayun	-272 048	39 357	588					Out of service	NLWE
Al Jisr 1 well	-303 429	30 376	120	220	178.00			In service	NLWE
Al Jisr 2 well	-303 415	30 388	40						NLWE
Al Massoudiyeh	-283 774	48 946						Proposed	NLWE
Al Rafah Well	-346 342	-65 261	220					In service	SLWE
Aley New 1	-327 435	-38 168	905	290	436.00	Lower Cretaceous	C1	In service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Aley New 2	-327 797	-38 721	800		5.00	Lower Cretaceous	C1	In service	BMLWE
Aley New 3	-327 200	-37 955	895	375	5.00	Lower Cretaceous	C1	In service	BMLWE
Ali Al Nahry 1	-289 290	-32 854	957	160	150.00	Neogene/Quaternary	n/Q	In service	BWE
Ali Al Nahry 2	-288 055	-32 824	985	290	120.00	Neogene/Quaternary	n/Q	Out of service	BWE
Amioun	-305 940	14 492	347		25.21				NLWE
Andket	-259 980	46 494	580	200	36.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
Antelias BA1	-327 972	-26 469	57	283	64.80				BMLWE
Antelias Ecole	-329 063	-25 922	25	100	180.00	Lower Cretaceous	C1	In Service	BMLWE
Antelias Naher	-329 058	-26 022	15	100	240.00	Lower Cretaceous	C1	In Service	BMLWE
Antounieh	-334 279	-34 683	190	120	35.00	Cenomanian	C4c	In service	BMLWE
Anwar	-331 297	-28 791	35					Out of service	BMLWE
Aramoun The village	-337 565	-42 186	365	362	40.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Aramoun(New)	-337 208	-41 891	365	470	54.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Araya	-330 052	-34 836	375	450	35.00	Jurassic	J4	In service	BMLWE
Araya New	-330 733	-35 014	275	350	45.00	Jurassic	J4	In service	BMLWE
Arbet Koshaya - Haouqa	-294 916	12 372	1 245	450	24.00	Jurassic	J4	In service	NLWE
Arida	-290 576	53 038	9	275		Miocene	ml	In service	NLWE
Arkey Well	-347 257	-75 415	335		27.00			In service	SLWE
Arkey Well 2	-347 277	-75 527	280		36.00			In service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Arnoun Well	-336 558	-88 949	386	350	72.00	Cenomanian/Turonian	C4c - C5		SLWE
Arsoun	-319 638	-32 178	710					Under construction	BMLWE
Arsoun 1	-319 693	-32 149	715					In service	BMLWE
Arzai Khelet el Safra	-357 377	-89 563	290	300	49.40	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Arzoun Bouday well	-351 424	-95 749	424	560	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Asnoun1	-299 864	25 661	130	125	9.50				NLWE
Asnoun2	-299 849	25 666	130	125	9.50				NLWE
Assia	-309 705	8 568	655	700	39.60			in service	NLWE
Aynata Well	-344 306	-113 436	731		60.00			Out of service	SLWE
Ayta Al Foukhare Ain El Kniseh	-301 453	-57 593	1 199		17.50	Jurassic	J4 - J7	Out of service	BWE
Ayta Al Foukhare Al Bayyada	-302 095	-57 681	1 164	150	14.40	Cenomanian/Turonian	C4 - C5	Out of service	BWE
Ayta Al Foukhare New	-300 562	-56 917	1 295	199	8.00	Jurassic	J4 - J7	In service	BWE
Ayta Al Foukhare Old	-300 152	-57 747	1 308	220	17.00	Jurassic	J4 - J7	Out of service	BWE
Ayta Al Shaab Well- Al Mahfara	-356 254	-116 158	632	480	33.00			In Service	SLWE
Ayta Al Shaab Well-El Aawrah	-355 912	-114 484	626	450	30.00			In Service	SLWE
Aytaroun Well -Al Khanouk	-343 577	-114 764	690	425	20.00			In Service	SLWE
Baabda (Tallit Rayes)	-333 440	-34 919	285	305	30.00	Cenomanian	C4c	In service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Baabda 1	-333 440	-34 920	783	385	43.00	Cenomanian	C4	Under construction	BMLWE
Baabda 2								proposed	BMLWE
Baabda 3								proposed	BMLWE
Baalbek Maslakh	-273 424	-18 117	1 134		11.25			In service	BWE
Baalbek No 10	-268 190	-18 247	1 379	312	14.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek No 12	-268 518	-17 952	1 351	297	11.25	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek No 14	-270 107	-21 141	1 393	400	25.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek No 16	-269 572	-19 926	1 386	500	1.90	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek No 17	-269 812	-20 528	1 381	350	4.50	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek No 18	-269 991	-20 721	1 354		30.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek No 19	-270 022	-20 825	1 374	335	1.90	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek No 9	-268 213	-17 685	1 362	311	52.35	Cenomanian/Turonian	C4 - C5	In service	BWE
Baalbek Sharawneh	-272 533	-16 179	1 117	150	70.20			In service	BWE
Baalechmey	-325 149	-37 967	950	174	29.00	Aptian	C2a	In service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Baaloul	-317 489	-63 112	969	300	33.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Baaloul new well	-315 536	-62 034			36.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Baaqlin 1	-333 620	-53 969	765	360	40.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Baaqlin 2	-334 411	-53 624	715	275	20.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Baasir	-343 644	-53 807	270	350	30.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Baasir Nouveau	-342 301	-54 000	385	350		Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Baawerta 1								Under construction	BMLWE
Baawerta 2								Under construction	BMLWE
Badghane	-321 706	-42 103		400	12.50			Under construction	BMLWE
Bafliye well 1	-352 959	-97 360	280	350	36.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Bafliye well 2	-351 642	-97 439	398	500	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Bafliye well 3	-352 682	-98 469	384	525	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Bahsas 1 well	-304 853	29 147		58				Out of service	NLWE
Bahsas 2 well	-304 836	29 016	100	59	58.00			In service	NLWE
Bahsas 3 well	-304 927	29 063		50				Out of service	NLWE
Bahsas 4 well	-304 954	29 080	100	39	34.00			In service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Bahsas 5 well	-304 939	29 167	100	36	65.00			In service	NLWE
Bahsas 6 well	-304 975	29 216		32				Out of service	NLWE
Bahsas 7 well	-305 048	29 281	70	18	38.00			In service	NLWE
Baka New	-299 211	-61 960	1 406	420	20.00	Jurassic	J4 - J7	In service	BWE
Baka Old	-301 023	-62 257	1 264	120	18.00	Jurassic	J4 - J7	In service	BWE
Baka Unused	-299 684	-62 315	1 416	320	28.44	Jurassic	J4 - J7	Out of service	BWE
Bakifa Jmaeyyi	-309 583	-72 692	1 012	620	28.44	Jurassic	J4 - J7	Out of service	BWE
Bakifa Mountain	-308 751	-72 839	1 092	530	28.44	Jurassic	J4 - J7	In service	BWE
Bakifa Valley	-310 379	-74 617	935	550	56.30	Jurassic	J4 - J7	Out of service	BWE
Bane 1	-293 574	12 045	1 568					In service	NLWE
Bane 2	-294 017	12 877	1 360	500	42.00			Proposed	NLWE
Bani Hayyan Well	-340 834	-99 357	510	570	30.00			In Service	SLWE
Bani Saab	-301 008	10 088	1 057		12.50				NLWE
Baraachit well	-346 665	-106 618	606	700	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Baraachit Well -Der Ina	-346 667	-106 633	603	700	25.00			In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Barich el bellane well	-352 976	-96 201	332	355	67.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Barich municipality well	-353 878	-96 301	362	475		Cenomanian/Turonian	C4 - C5	In Service	SLWE
Barja Ain Saghir	-343 083	-55 087	330	350		Cenomanian/Turonian	C4 - C5	Out of service	BMLWE
Barja Cental	-344 166	-55 280	330	425	50.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Barja Ecole	-344 123	-55 623	340	425	14.00	Cenomanian/Turonian	C4 - C5	Out of service	BMLWE
Barja El Hamra	-343 844	-54 491	225	280	25.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Barja Jadra	-344 932	-56 070	230	425		Cenomanian/Turonian	C4 - C5	Under construction	BMLWE
Barja Wadi Imrin	-343 626	-55 065	320	350	35.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Barr Elias 1	-296 149	-43 351						In service	BWE
Barr Elias 2	-295 702	-42 796						In service	BWE
Barsa	-305 785	25 673	200	220	9.00	Miocene	m		NLWE
Bater	-327 673	-60 881	890		108.00			In Service	BMLWE
Batoulay B-1	-363 409	-101 354	71	220	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Batoulay B-2	-362 953	-101 477	77	190	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Batoulay B-3	-362 856	-101 442	77	220	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Batoulay B-4	-362 875	-101 560	77	190	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Batoulay B-5	-363 048	-101 709	100	190	238.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Batoulay B-6	-363 185	-101 667	92	190	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Batoulay Municipality Well	-362 700	-101 438	153	250	70.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Bazbina	-270 915	38 482	744	201	180.00	Jurassic	J4	In service	NLWE
Bazoune MOEW	-291 647	9 504	1 365	425	41.40	Jurassic	J4	Under construction	NLWE
Bchamoun	-334 934	-40 588	480					In Service	BMLWE
Bchamoun BH3	-336 897	-40 021	260	430	29.00	Cenomanian/Turonian	C4c - C5	In Service	BMLWE
Bchamoun BH4	-336 985	-40 743	335	431	44.00	Cenomanian/Turonian	C4c - C5	In Service	BMLWE
Bchamoun BHI	-335 365	-40 877	365	480	22.00	Lower Cretaceous	C1	In Service	BMLWE
Bcharré - El Arz	-284 734	10 082	1 998	300	54.00			Proposed	NLWE
Bcharré - El Arz (Yamle)	-284 899	9 576	1 966	263	54.00	Aptian	C2b	In service	NLWE
Bcharré - El Marj	-290 241	12 160	1 635	250	25.00			Proposed	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Bdedoun	-332 181	-37 940		300				Out of service	BMLWE
Bdedoun 1	-332 024	-37 275	417		12.00	Lower Cretaceous	C1	In Service	BMLWE
Bdedoun 2	-331 669	-37 003	385		8.00	Lower Cretaceous	C1	In Service	BMLWE
Bebnine	-291 392	36 818	49	350	180.00	Miocene	mcg	In service	NLWE
Bebnine new	-289 511	36 774		945	72.00	Miocene	mcg	Needs to be equipped	NLWE
Bebnine1	-290 070	36 856						Proposed	NLWE
Bebnine2	-290 070	36 633						Proposed	NLWE
Bechmezzine	-308 310	18 036	267		20.83				NLWE
Bechmizzine Well (SNAWBAR)	-307 964	18 120	277	260	33.00	Miocene	m		NLWE
Bechouat	-275 566	-2 091	1 160		15.00			In service	BWE
Bechtayel	-290 220	27 527	594	420	42.00	Cenomanian	C4a	Under construction	NLWE
Bedias new well	-358 349	-90 752	219	230	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Bedias well	-358 354	-91 634	195	250	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Bednayel El Kouroum	-291 047	-26 470	1 113	200	84.40	Neogene/Quaternary	n/Q	In service	BWE
Bednayel Jabbaneh	-290 821	-26 488	1 071	200	56.25	Neogene/Quaternary	n/Q	In service	BWE
Bednayel Kharrar	-290 840	-25 983	1 118	200	33.75	Neogene/Quaternary	n/Q	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Beit Chama	-289 739	-25 372	1 105	220	75.00	Neogene/Quaternary	n/Q	In service	BWE
Beit Haouch	-289 266	34 544						Proposed	NLWE
Beit Kozah	-279 444	-4 128	1 074	350	5.25	Cenomanian/Turonian	C4 - C5	In service	BWE
Beit Lahia	-311 299	-74 176	852	300	20.00	Jurassic	J4 - J7	In service	BWE
Beit Lif Saha well	-356 296	-111 468	536	325	90.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Beit Mellat1	-274 252	41 039						Proposed	NLWE
Beit Mellat2	-274 025	41 095			36.00			Proposed	NLWE
Bekhaaz (Gharzouz)	-320 547	3 936	445	457	28.00			In Service	BMLWE
Benwate Well	-331 804	-63 078	808		32.98			In service	SLWE
Beqaa Safrine	-288 239	22 682	1 300		36.00	Cenomanian	C4		NLWE
Berhalioun - Chira	-302 475	12 267	796	445	54.00	Cenomanian	C4a	In service	NLWE
Berj Al Yahoudiyeh	-297 132	32 953	198	250	8.33	Cenomanian/Turonian	C4 - C5		NLWE
Berti Well	-340 009	-69 049	335		25.52			In service	SLWE
Betchay 1	-333 278	-35 369	235	390	27.00	Cenomanian	C4c	In Service	BMLWE
Betchay 2					40.00	Cenomanian	C4c	In Service	BMLWE
Bhamdoun	-324 185	-38 353	915	295	29.00	Lower Cretaceous	C1	Under construction	BMLWE
Bhamdoun				400				proposed	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Bhamdoun 1 (Borj)	-323 402	-38 619	1 055	275	40.00	Lower Cretaceous	C1	In Service	BMLWE
Bhamdoun 2	-323 904	-38 639	1 005					Out of service	BMLWE
Bhamdoun Mhata (Malaab)	-327 568	-38 427	865						BMLWE
Bhannine	-291 939	36 491	102	350	126.00	Miocene	mcg		NLWE
Bhannine Well	-329 963	-62 015	657					In service	SLWE
Bijdarfel	-317 152	10 384	317	420	68.00	Cenomanian/Turonian	C4 - C5		NLWE
Bikaa kafra	-290 073	8 632	1 434	600	33.50			Proposed	NLWE
Binnay 1	-332 716	-46 779	290		100.00	Jurassic	J4	In Service	BMLWE
Binnay 2	-332 496	-46 559	295		58.00	Jurassic	J4	In Service	BMLWE
Binnay 3	-332 384	-46 614	275		70.00	Jurassic	J4	In Service	BMLWE
Binnay 4	-332 636	-46 796	285		28.00	Jurassic	J4	In Service	BMLWE
Bire	-269 166	45 748	629		36.00			In service	NLWE
Bire (EL) - Aazze	-309 778	-61 253	1 105	350	64.50	Eocene	e2b	In service	BWE
Bkarkacha	-290 416	8 952	1 408	500	50.00			Proposed	NLWE
Bkarkasha new (Haret El Berkashiyeh)	-303 925	25 913	114	155	70.00				NLWE
Bkeftine	-302 499	25 032	180		17.10				NLWE
Bkifa Mazmoura	-338 049	-61 743	540		35.00			In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Blaibel Nouveau	-333 409	-37 956	280	258					BMLWE
Blaouza 1	-293 985	11 875	1 480		5			In service	NLWE
Blaouza 2	-293 726	11 176	1 320	500	50.00			Proposed	NLWE
Blat municipality well	-328 939	-84 661	678	150	62.50			In Service	SLWE
Bleibel	-332 663	-37 508	300					Out of service	BMLWE
Bleibel	-333 412	-37 965	298	258	76.00	Jurassic	J4	Under construction	BMLWE
Blida Well	-340 706	-111 078	641	550	40.00			In Service	SLWE
Bmariam 1	-317 558	-35 599	865	370	90.00	Jurassic	J4		BMLWE
Bmariam 2	-317 686	-35 576	835					Out of service	BMLWE
Bmariam 3	-317 507	-35 617	870					Out of service	BMLWE
Bmehrey	-317 019	-43 076	1 354	240	13.00	Jurassic	J4	In service	BMLWE
Bnaafoul Well	-347 473	-72 279	222		49.00			In service	SLWE
Bnehrane	-303 206	14 451	660		42.00			proposed	NLWE
Borj Brajneh 1	-337 783	-34 291	30					Out of service	BMLWE
Borj Brajneh 2	-337 785	-34 305	30					Out of service	BMLWE
Borj Brajneh privé	-337 659	-34 852	15					In Service	BMLWE
Borj Ech Chemali El Sabiini Well	-364 136	-97 078	85	350	100.00		e1-e2	In Service	SLWE
Borj Qalaouiye well	-348 199	-98 067	395	450	16.00		e1-e2	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Borj Rahal well 3	-361 134	-91 531	131	180	65.00	Cenomanian/Turonian	C4 - C5	Proposed	SLWE
Borj Rahhal well 1	-359 582	-91 547	175	184	58.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Borj Rahhal well 2	-359 507	-91 396	220	350	52.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Borjein	-339 727	-54 153	495	400	15.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Boueida	-251 684	29 883	687		28.75			In service	BWE
Bourghliye	-364 021	-91 641	28	60	22.00		e1-e2	In Service	SLWE
Boustane Municipality private well	-363 868	-113 957	447			Cenomanian/Turonian	C4 - C5	Out of service	SLWE
Boustane well	-364 379	-114 014	414	360	26.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Boutmeh	-325 353	-53 822						Out of service	BMLWE
Bouwarej Exploded	-309 160	-36 889	1 412	120	15.00	Lower Cretaceous	C1	Out of service	BWE
Bouwarej New	-309 148	-36 841	1 412	120	15.00	Lower Cretaceous	C1	In service	BWE
Bouwarej Old	-309 154	-36 841	1 477	110	22.00	Lower Cretaceous	C1	In service	BWE
Braiqaa Khelet Yalouch Well	-350 784	-89 094	282	287	41.00	Cenomanian/Turonian	C4c - C5		SLWE
Braiqaa Sehet el Blata Well	-350 762	-88 698	326	380	50.00	Cenomanian/Turonian	C4c - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Brissa	-260 984	28 814	1 400	375	93.75			In service	BWE
Brissat	-296 334	9 142	1 380	600	42.00			Proposed	NLWE
Brital 1	-276 293	-26 763	1 203	350	1.25	Cenomanian/Turonian	C4 - C5	In service	BWE
Brital 2	-275 919	-25 628	1 200	345	7.50	Cenomanian/Turonian	C4 - C5	In service	BWE
BS5	-328 572	-26 018	50					Under construction	BMLWE
Bsaba	-334 010	-38 391	275		54.00	Lower Cretaceous	C1	In service	BMLWE
Bsaba	-333 242	-59 956	795	540	22.00	Lower Cretaceous	C1	In Service	BMLWE
Bsaillet	-279 876	-2 969	1 277	525	45.00			In service	BWE
Bsatine	-335 276	-42 818	620	335	29.00	Aptian	C2a	Under construction	BMLWE
Bsatine (F2) well	-256 507	45 339	680	450	28.80	Cenomanian	C4c	Out of service	NLWE
Bsatine F1	-256 523	45 293	685	700		Cenomanian/Turonian	C4 - C5	Out of service	NLWE
Bsatine new well	-257 260	45 588	810	300	18.00	Cenomanian/Turonian	C4 - C5	Under construction	NLWE
Bserrin	-326 463	-43 728	840	500	40.00	Jurassic	J4	Under construction	BMLWE
Bsous	-330 834	-36 673	400	295	2.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Bssatin 1	-335 265	-42 828	612	335				Out of service	BMLWE
Btater	-325 608	-41 945	960		15.00	Lower Cretaceous	C1	In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Btebiat	-318 353	-35 357	730		115.00	Jurassic	J4	In Service	BMLWE
Btedaii	-280 840	-5 173	1 073	400	36.00			Needs to be equipped	BWE
Bterram	-306 645	19 304	267	450	24.00	Miocene	m		NLWE
Bterram	-306 610	19 159	262		10.42	Miocene	m	proposed	NLWE
Btouratij	-304 586	22 717	209	175	19.00	Miocene	m		NLWE
Bzal	-284 536	34 558	386		72.00			In service	NLWE
Bzal	-284 228	34 597	386		108.00			In service	NLWE
Bzal	-285 235	34 519						Proposed	NLWE
Bzebdine	-315 069	-30 634	740	450	40.00	Jurassic	J4	In Service	BMLWE
Bziza	-306 351	13 370			41.70				NLWE
Casern well	-302 295	31 347		84				Out of service	NLWE
Chaat New	-268 989	-2 909	961	275	0.90	Cenomanian/Turonian	C4 - C5	In service	BWE
Chaat Old	-269 249	-3 206	960	275	22.50	Cenomanian/Turonian	C4 - C5	In service	BWE
Chabrouh	-307 050	-15 270	1 340	250	75.00			In Service	BMLWE
Chabtine	-313 479	6 906			20.50				NLWE
Chadra1 (Al saha)	-259 238	50 154	367	120	20.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
Chadra2 (Al Madrasa)	-259 323	49 879	377	135	16.00	Cenomanian/Turonian	C4 - C5	In service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Chadra3 (New)	-259 459	49 592	380		32.00			Out of service	NLWE
Chahtoûl	-316 005	-13 169	985	375	35.00			In Service	BMLWE
Chakdouf	-268 845	38 960	1 005	303	100.00	Jurassic	J4	In service	NLWE
Chamaa well	-367 956	-109 441	344	485	28.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Chammiss	-342 032	-55 950	405	498	29.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Champville 1	-327 150	-23 705	145	170	65.00	Jurassic	J4	In Service	BMLWE
Champville 2	-327 419	-23 569	115	160		Jurassic	J4	Out of service	BMLWE
Champville 3	-327 443	-23 583	120	160		Jurassic	J4	Out of service	BMLWE
Chamsine new	-295 900	-45 978	874			Cenomanian/Turonian	C4 - C5	In service	BWE
Chamssine 1	-295 871	-45 951	819	20	180.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Chamssine 2	-295 870	-45 950	819	20	180.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Chamssine 3	-295 869	-45 949	819	20	180.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Chaqra Well-Bou Hatem	-341 777	-104 466	434	310	48.00			In Service	SLWE
Charbine	-256 015	31 972	938	380	43.75			In service	BWE
Charoun	-318 880	-40 638	1 200					Out of service	BMLWE
Chbeniyeh 1	-317 808	-37 133	985					Out of service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Chbeniyeh 2	-318 604	-36 763	900	420	18.75	Jurassic	J4	In service	BMLWE
Chehabiye new well	-351 828	-99 083	430	510	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Chehour well 1	-351 503	-94 342	388	365	20.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Chehour well 2	-351 094	-94 634	402	580	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Cheikh Taba new well	-282 162	41 566	204	390	18.00		P1 - P2	Out of service	NLWE
Cheikh Taba well	-282 681	41 939	100	195	108.00		P1 - P2	In service	NLWE
Cheikh Zennad	-288 956	50 095	9					In service	NLWE
Chekka 1 (Jradeh)	-313 878	20 807	23	22	110.00	Cenomanian/Turonian	C4 - C5		NLWE
Chekka 2 (Jradeh)	-313 874	20 736	21	22	110.00	Cenomanian/Turonian	C4 - C5		NLWE
Chekka BH1	-314 049	20 311			216.00			in service	NLWE
Chekka BH2	-314 167	20 023			216.00			in service	NLWE
Chekka BH3	-313 716	20 134			26.00			in service	NLWE
Chhim Mehaniyeh	-340 919	-55 849	440		30.00			In Service	BMLWE
Chhim Wede Bare2	-340 447	-58 535	430	500	40.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Chihine well	-362 701	-112 254	497	525	17.50	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Chinanaair	-321 052	-15 641	405	400	70.00			In Service	BMLWE
Chir Hmayrine	-277 847	50 938						Out of service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Chir Hmayrine	-277 938	50 711						In service	NLWE
Chir Hmayrine new	-277 810	50 901		550		Miocene	mcg	Under construction	NLWE
Chlifa	-282 047	-8 496	1 024	435	90.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Chmistar Al Azir	-290 313	-20 885	1 182	530	78.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Chmistar Hage Ahmad	-289 709	-22 102	1 182	450	75.60	Cenomanian/Turonian	C4 - C5	In service	BWE
Chmistar Kuwait	-290 415	-21 237	1 188	550	39.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Chouaghir	-252 124	25 522	699	200	25.00			Under construction	BWE
Chouayfet3	-335 365	-37 131	100					Under construction	BMLWE
Choukine El Seha Well	-343 320	-87 474	530	550	40.00		e1-e2		SLWE
Choukine Maysse Well	-342 958	-86 841	512	700	70.00		e1-e2		SLWE
Chweyfah (Richani)	-336 143	-36 792	60	80	115.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Coint Vert	-307 201	-15 461	1 310	200	75.00			In Service	BMLWE
Dabbabiye1	-270 183	51 716						Proposed	NLWE
Dabbabiye2	-270 014	51 982						Proposed	NLWE
Daher El Mougher well	-303 401	30 849		82				Out of service	NLWE
Dahr Abou Yaghi (Bkayaa)	-315 335	4 400	486	535	25.00	Cenomanian/Turonian	C4 - C5		NLWE
Dahr El Ain (Mar Youssef)	-303 708	26 031	124	150	5.00	Miocene	m		NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Dahr El-Ahmar	-309 459	-68 564	976		21.60	Cenomanian/Turonian	C4 - C5	In service	BWE
Dalhoun	-342 027	-57 256	405	450	50.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Damour 1	-342 403	-47 352	60	140	130.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Damour 1	-342 068	-45 377	65		82.00				BMLWE
Damour 2	-342 396	-47 370	60	135	150.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Damour 2	-342 454	-46 881	30	130	50.00				BMLWE
Damour 3	-342 385	-47 364	60					Out of service	BMLWE
Damour 3	-342 133	-47 407	85	130	65.00				BMLWE
Damour 4	-342 013	-47 402	100	60				In service	BMLWE
Damour 5	-342 491	-47 321	50	135	90.00			In service	BMLWE
Damour 6	-342 028	-47 544	115					Out of service	BMLWE
Damour village	-341 802	-45 554	105					In service	BMLWE
Dannawi well	-303 473	31 045	120	150	238.00			In service	NLWE
Daqoun				650		Jurassic	J4	Under construction	BMLWE
Dar Aali 1	-307 294	-15 972	1 305	250	110.00			In Service	BMLWE
Dar Aali 2	-307 292	-15 954	1 300	375	75.00			In Service	BMLWE
Dar Aaloum	-336 480	-35 862	30					Out of service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Dar Bechtar	-308 917	12 868			43.20				NLWE
Dar Bechtar 1	-307 045	14 492			16.70				NLWE
Dar Bechtar 2	-306 941	14 506			41.70				NLWE
Daraya	-338 018	-55 440	660	400	40.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Daraya	-301 547	18 999	336	125					NLWE
Daraya (izal)	-289 589	22 946	1 128	300	16.00	Cenomanian/Turonian	C4 - C5		NLWE
Darb Es Sim Well	-349 671	-67 896	41		49.97			In service	SLWE
Darine 1	-279 588	49 827	55	85	108.00	Pliocene	Pliocene basalt	In service	NLWE
Darine 2	-279 257	49 025	55	100	108.00	Pliocene	Pliocene basalt	In service	NLWE
Darine 3	-279 268	48 790		120	108.00	Pliocene	Pliocene basalt	In service	NLWE
Darine BH1	-279 254	48 910		550		Miocene	mcg	Under construction	NLWE
Darine BH2	-279 163	48 881		550		Miocene	mcg	Under construction	NLWE
Daychounieh 1	-329 746	-34 120	110					In Service	BMLWE
Daychounieh 2	-329 798	-34 120	145					In Service	BMLWE
Daychounieh 3	-329 839	-34 153	110					Out of service	BMLWE
Daychounieh A	-330 643	-33 766	100	232		Jurassic	J6		BMLWE
Daychounieh B	-330 409	-34 071	100	301		Jurassic	J4		BMLWE
Daychounieh C	-332 493	-33 115	65	228	96.00	Jurassic	J6	In service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Daychounieh D	-332 436	-33 327	55	160	70.00	Lower Cretaceous	C1	In service	BMLWE
Daychounieh E	-332 524	-32 963	75	145	70.00	Jurassic	J6	In service	BMLWE
Daychounieh F	-332 781	-32 363	45	220		Jurassic	J6	Out of service	BMLWE
Daychounieh G	-332 775	-32 368	45	192	110.00	Jurassic	J6	In service	BMLWE
Daychounieh H	-332 541	-32 621	60	147		Jurassic	J6	Out of service	BMLWE
Dayr Mar Youssef Jrabta	-314 986	6 011	1 057		33.30				NLWE
Debaal new well	-355 235	-98 641	195	235	44.00		e1-e2	In Service	SLWE
Debaal old well	-354 641	-98 630	250	350	36.50		e1-e2	Out of service	SLWE
Debbieh	-339 413	-52 906	470	395	20.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Debel Municipality well	-353 921	-113 034	512	350	50.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Debel well	-354 119	-113 245	533	350	46.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Deir Aamar	-297 630	33 085	130	126	25.00	Cenomanian/Turonian	C4 - C5		NLWE
Deir Aamar new	-298 015	33 078	423	321	11.16	Cenomanian/Turonian	C4 - C5		NLWE
Deir Aames well 1	-355 334	-104 440	416	380	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Deir Aames well 2	-354 904	-105 791	598	570	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Deir Dourit	-334 188	-50 929	510		23.00			In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Deir El Achayer	-291 413	-67 421	1 261	180	9.00	Aptian	C2	In service	BWE
Deir El Mkhaless	-340 032	-61 855	435					In Service	BMLWE
Deir El Qamar 1	-331 538	-50 223	685		17.00			In Service	BMLWE
Deir El Qamar 2	-334 014	-50 482	675		30.00			In Service	BMLWE
Deir El Zahrani El Marj Well	-343 760	-80 078	418	450	25.00	Cenomanian/Turonian	C4c - C5		SLWE
Deir El Zahrani El Naher Well	-341 895	-79 433	375	450	25.00	Cenomanian/Turonian	C4c - C5		SLWE
Deir El Zahrani El Salam Well	-344 153	-78 915	455	450	35.00	Cenomanian/Turonian	C4c - C5		SLWE
Deir El Zahrani Private Well and Pool	-342 451	-80 578	483	450	35.00	Cenomanian/Turonian	C4c - C5		SLWE
Deir Kifa well	-349 628	-97 905	385	420	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Deir Mar Youssef	-278 690	-4 137	1 048	320	60.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Deir mimes well-Elkhalle	-335 421	-94 259	528	240	20.00			In Service	SLWE
Deir Mimes Well-Houra	-335 309	-94 618	510	220	25.50			In Service	SLWE
Deir Nabouh	-295 944	23 791	289		10.50	Cenomanian/Turonian	C4 - C5		NLWE
Deir Nabouh proposed	-295 130	24 408				Cenomanian/Turonian	C4 - C5	Proposed	NLWE
Deir Qanoun en Nahr well 1	-356 652	-93 629	260	510	66.00		e1-e2	In Service	SLWE
Deir Qanoun en Nahr well 2	-357 989	-92 946	217	350	30.00		e1-e2	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Deir Qanoun en Nahr well 3	-357 320	-93 541	255				e1-e2	Proposed	SLWE
Deir Qanoun Ras El Ain Well	-362 512	-102 568	177	260	62.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Deir Qoubel	-336 746	-38 962	225					In service	BMLWE
Deir Qoubel 2-School well	-336 807	-38 967	220	370	0.50	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Deir Qoubel 3	-335 618	-39 179	360	500	11.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Deir Qoubel I- Beit el Dayaa	-337 026	-39 109	210	340	16.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Dekkane-Ed-Daher	-317 871	915	420	400	20.00			In Service	BMLWE
Dekweneh	-332 795	-30 017	35	53	55.00	Quaternary	q	Out of service	BMLWE
Derdghaiya well	-351 385	-94 983	416	470	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Derya	-315 013	6 928	474	455	54.00	Cenomanian/Turonian	C4 - C5	in service	NLWE
Dhour Zahle	-302 165	-32 927	1 266	550	54.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Difaa El Madane	-337 138	-37 943	85					Out of service	BMLWE
Dmit	-337 444	-49 520	175		35.00			In Service	BMLWE
Douris	-274 607	-19 485	1 112	500	61.20	Eocene	e2b	In service	BWE
Ebl saqi complex well	-329 677	-87 474	615	250	80.00			In Service	SLWE
Ebl saqi well	-328 447	-86 407	658	106	50.00			In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ech Chaaitiye-El Malkiye Chanachel Well	-361 211	-105 181	335	420	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ech Chaaitiye-El Malkiye Hay el Jabana Well	-361 922	-104 505	264	250	37.50	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ech Charqiye Al Jabana	-347 426	-82 619	415	334	30.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ech Charqiye Tal el Hayat	-346 495	-81 920	425		40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ed Dhaira Municipality private well	-366 927	-114 529	415		40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ed Dhaira well	-367 157	-113 980	408	500	19.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ed Douair El Qachmaaiye Well	-348 444	-82 780	355		10.00	Cenomanian/Turonian	C4c - C5		SLWE
Ed Douair El Wadi Well	-348 494	-84 355	308	400	50.00	Cenomanian/Turonian	C4c - C5		SLWE
Ed Douair Zbib Well	-345 870	-83 822	400	400	45.00	Cenomanian/Turonian	C4c - C5		SLWE
Edde	-320 951	-658	285	330	16.50			In Service	BMLWE
Edde	-318 277	9 157			36.00				NLWE
Ej Jarmak Well	-336 681	-83 682	383					In service	SLWE
Ej Jarmak Well 2	-336 354	-84 517	380					In service	SLWE
Ej Jibbain well	-365 157	-112 753	394	300	27.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
El Aaddoussiye Main Well	-353 174	-74 948	230	225	27.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Aaichiye Well	-334 398	-81 888	661		3.60			In service	SLWE
El Babliye Baydar well	-353 796	-80 091	250	242	39.01	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Babliye Dahr Hassoun well	-354 870	-79 870	228	210	30.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Bazouriye well 1	-361 182	-98 104	213	245	82.00		e1-e2	In Service	SLWE
El Bazouriye well 2	-360 931	-98 082	205	240	80.00		e1-e2	In Service	SLWE
El Beeri	-267 295	46 618	581	150	432.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
El Biyad El Ain well	-357 080	-103 500	320	400	35.60	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Biyad new well	-356 673	-103 685	428	495	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Biyada well	-370 210	-108 529	167	425	58.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Dakoueh	-303 501	-51 372	905			Eocene	e2b	In service	BWE
El Faouar Well No.1	-349 203	-65 678	97		150.01			In service	SLWE
El Faouar Well No.2	-349 120	-65 588	97		119.99			In service	SLWE
El Faouar Well No.3	-349 164	-65 753	97		119.99			In service	SLWE
El Faouar Well No.4	-349 106	-65 686	97		119.99			In service	SLWE
El Faouar Well No.5	-349 042	-65 645	97		37.51			In service	SLWE
El Faouar Well No.6	-348 964	-65 625	97					Out of service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
El Faouar Well No.7	-348 790	-65 731	77		117.50			In service	SLWE
El Fouar	-299 687	30 405	160	300	10.00			In service	NLWE
El Hababiye Well1	-348 284	-62 485	100		234.00			In service	SLWE
El Hababiye Well2	-348 178	-62 693	130		252.00			In service	SLWE
El Hadet 1	-286 721	-17 442	1 082					In service	BWE
El Hadet 2	-286 974	-17 264	1 108					Out of service	BWE
El Haissa	-283 626	47 306						Proposed	NLWE
El Hajje Well	-350 290	-73 842	137					Out of service	SLWE
El Henniye well	-366 114	-106 305	124	380	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Houaiche	-280 880	38 195			108.00			In service	NLWE
El Karne - Dhour (Upper Zahle)	-303 247	-32 357	1 262		90.00	Cenomanian/Turonian	C4 - C5	In service	BWE
El Kharayeb	-262 194	8 134	933	200	54.00			In service	BWE
El Kharayeb Well 1	-358 070	-88 243	210	300	104.26	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Kharayeb Well 2	-357 776	-88 249	265	555	80.25	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Kharayeb Well 3	-357 755	-88 260	265	269	85.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Khoder	-279 053	-29 864	1 147	335	104.00	Cenomanian/Turonian	C4 - C5	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
El Khoder New	-278 719	-30 063	1 202						BWE
El Khraibe 1	-276 173	-32 072	1 458	437	29.16	Cenomanian/Turonian	C4 - C5	In service	BWE
El Khraibe New	-276 171	-32 580	1 510	525	110.00				BWE
El Kouakh 1	-253 309	32 774	767	400	78.00			In service	BWE
El Kouakh 2	-253 216	32 876	765	415	71.90			In service	BWE
El Loubiye Mghar well	-357 142	-80 802	185		80.95	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Loubiye School well	-359 004	-79 028	159	160	16.70		e1-e2	In Service	SLWE
El Maamariye Well	-351 337	-72 639	203		99.50			In service	SLWE
El Mansouri well 1	-367 623	-106 979	151	385	44.70	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Mansouri well 2	-367 340	-107 534	255		35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Mbarkiye	-282 683	37 035	360	338	28.00			In service	NLWE
El Merouaniye Dahr el Hawa well	-349 617	-77 732	381	521	35.60	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Merouaniye El Barake well	-350 313	-76 893	317	315	32.25	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Merouaniye El Bedranieh well	-350 453	-76 380	360	640	50.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Merouaniye El Zaffata well	-350 730	-74 584	290	450	38.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
El Mjadel well	-352 911	-101 140	460	500	25.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
El Moukhada	-304 509	-2 039	1 124	400	90.00			Proposed	BMLWE
El Mourghan	-261 753	44 327	645		50.00			Out of service	NLWE
El Nabi Youchaa 2	-294 943	33 772	106	60	82.00	Miocene	m		NLWE
El Qaa New	-244 586	16 641	858	350	189.00	Cenomanian/Turonian	C4 - C5	In service	BWE
El Qaa Old	-245 537	18 823	648	140	32.40	Cenomanian/Turonian	C4 - C5	In service	BWE
El Qasr	-248 813	34 730	593	170	68.75			In service	BWE
El Qeddam	-273 592	1 621	1 217	350	60.00			In service	BWE
El Qlaile Omrani well	-365 141	-104 370	122	220	42.00		e1-e2	In Service	SLWE
El Qlaile Rouweise Well	-363 532	-104 947	192	342	30.00		e1-e2	In Service	SLWE
El Qraiye Well 1	-346 380	-67 411	200		63.00			In service	SLWE
El Qraiye Well 2	-346 854	-66 153	230		67.97			In service	SLWE
El Qsaibe El Aasayran Well	-349 606	-88 987	280	450	30.00	Cenomanian/Turonian	C4c - C5		SLWE
El Qsaibe El Mafraa Well	-348 818	-89 680	295	425	40.00	Cenomanian/Turonian	C4c - C5		SLWE
El Qsaibe El Qalaa Well	-349 874	-88 452	354	550	40.00	Cenomanian/Turonian	C4c - C5		SLWE
El Qsaibe El Qawaber	-348 333	-89 535	362	550	50.00	Cenomanian/Turonian	C4c - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
El Qsaibe Malek Aalik	-348 434	-89 785	310	350	30.00	Cenomanian/Turonian	C4c - C5		SLWE
El Sankari well	-304 529	29 961	160	245	121.00			In service	NLWE
el Wakef	-344 111	-53 954	200	280	22.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
El Wali well	-303 935	30 411	120	84	140.00			In service	NLWE
El Zwaytine	-259 780	20 801	174	500	68.40			In service	BWE
El-Kharbe	-313 024	2 767	720	350	28.00			In Service	BMLWE
Emile Hage	-335 163	-34 630	80	88	22.00			Out of service	BMLWE
En Nabi Osmane	-255 780	4 107	032	100	33.75	Cenomanian/Turonian	C4 - C5	In service	BWE
En Nabi Osmane New	-255 223	3 798	100	250	126.00			In service	BWE
En Najjariye Mazraat el skoun well	-352 681	-74 357	215	203	30.00		e1-e2	In Service	SLWE
En Naqoura rehabilitated well	-372 600	-114 053	246					Proposed	SLWE
En Naqoura well	-372 967	-113 205	142	285	49.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
En Nmairiye El masaheb well	-349 469	-79 648	257	350	42.15	Cenomanian/Turonian	C4 - C5	In Service	SLWE
En Nmairiye Ghabra well	-348 899	-78 997	364	450	54.00	Cenomanian/Turonian	C4 - C5		SLWE
En Nmairiye Kalae well	-347 386	-80 021	388	400	38.15	Cenomanian/Turonian	C4 - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Enfeh 1	-313 870	20 793	20	22	125.00				NLWE
Er Remasseh	-288 689	-12 427	1 266	500	18.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Es Saksakiye Marj well	-358 656	-78 152	134	130	22.51		e1-e2	In Service	SLWE
Es Saksakiye Taj el Din well	-358 098	-78 171	135	91	26.05		e1-e2	In Service	SLWE
Ez Zrariye Well 1	-357 477	-88 546	317	450	76.58	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ez Zrariye Well 2	-355 537	-88 159	310	350	54.80	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ez Zrariye Well 3	-355 206	-88 649	283	350	49.80	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Faara	-264 751	12 614	1 380	350				In service	BWE
Falougha	-314 596	-36 117	1 490			Lower Cretaceous	C1	In service	BMLWE
Fanar(Bonjus)	-330 734	-29 292	105	152	72.00	Jurassic	J4	Out of service	BMLWE
Fekha	-252 484	6 384	1 234	350	25.40	Cenomanian/Turonian	C4 - C5	In service	BWE
Ferzol 1st	-296 937	-29 969	1 110	105	19.80	Eocene	e2b	In service	BWE
Ferzol 2nd	-296 932	-29 963	1 110	70	19.80	Eocene	e2b	In service	BWE
Fiaa-El Kaleh 1 (Jradeh)	-314 015	20 512	16	22	500.00	Cenomanian/Turonian	C4 - C5		NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Fiaa-El Kaleh 2 (Jradeh)	-314 020	20 520	16	22	500.00	Cenomanian/Turonian	C4 - C5		NLWE
Fiaa-El Kaleh 3 (Jradeh)	-314 030	20 502	16	22	500.00	Cenomanian/Turonian	C4 - C5		NLWE
Fissane 1 / Mrah El Aarab	-256 265	34 496	990	300	55.00			In service	BWE
Fissane 2	-257 670	34 145	1 147	265				In service	BWE
Fnaideq well	-270 020	32 351		600	36.00			In service	NLWE
Forage Ain Delbe 2	-320 415	-35 966	521					Out of service	BMLWE
Forage Bhamdoun	-322 845	-39 113	1 160					Out of service	BMLWE
Fouar Antelias BS1	-328 532	-26 146	25	60	167.00	Jurassic	J4	In Service	BMLWE
Fouar Antelias BS2	-328 525	-26 149	25	21	104.00	Jurassic	J4	In Service	BMLWE
Fouar Antelias BS3	-328 528	-26 136	25	22	167.00	Jurassic	J4		BMLWE
Fouar Raja Assi	-328 503	-26 128	30		28.00			In Service	BMLWE
Galerie Semaan	-335 060	-32 138	35	50	150.00	Cenomanian	C4c	In service	BMLWE
Ghaboun	-329 618	-40 374	510	650	86.00	Jurassic	J4	Under construction	BMLWE
Ghandouriye-Froun El Hjeir well	-344 985	-97 000	228	265	30.00		e1-e2	In Service	SLWE
Gharifeh	-333 847	-55 921	650	300	30.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Ghassaniye El Jabene well	-352 711	-80 078	303	309	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ghassaniye El Seha well	-352 326	-79 984	324	309	24.35	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ghaws El Awlad	-337 030	-36 308	20					Out of service	BMLWE
Ghazie Well 1 (Dleibe)	-350 590	-69 914	151	400	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ghazie Well 2 (Dleibe)	-350 727	-69 976	145	400	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ghazie Well 3 (El Khililiye)	-351 096	-69 516	109	220	126.00		e1-e2	In Service	SLWE
Ghazie Well 4 (El Zahriye)	-351 762	-70 533	78	225	108.00		e1-e2	In Service	SLWE
Ghaziye El Dlaibe Well	-350 579	-69 911	152		72.00			In service	SLWE
Ghaziye El Dlaibe Well 2	-350 740	-69 989	137		75.02			In service	SLWE
Ghaziye El Khaliliye Well	-351 116	-69 473	102		130.00			Out of service	SLWE
Ghaziye Ez Zahriye Well	-351 852	-70 574	75		105.01			In service	SLWE
Ghazze	-308 551	-54 692	887	120	144.28	Eocene	e2b	In service	BWE
Ghidrâs	-320 001	-12 055	630					Out of service	BMLWE
Ghorfin 1	-321 204	300	270	330	14.50			In Service	BMLWE
Ghorfin 2	-321 163	378	265	334	14.50			In Service	BMLWE
Habbouch El Najda El Shaabiya	-340 539	-83 352	495	550	126.00	Cenomanian/Turonian	C4c - C5		SLWE
Habbouch El Shraife Well	-342 080	-81 218	467	500	45.00	Cenomanian/Turonian	C4c - C5		SLWE
Habbouch Hay El Sahel Well	-340 614	-82 126	486	500	40.00	Cenomanian/Turonian	C4c - C5		SLWE
Habchit	-281 516	33 228			15.00			In service	NLWE
Hadath 1	-335 241	-32 489	45					Out of service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Hadath 2	-335 255	-32 384	45	150				Out of service	BMLWE
Hadath new	-335 062	-32 136	36	317	36.00	Cenomanian	C4	Under construction	BMLWE
Hadath New (Wede Khattar)	-334 237	-32 995	105	210	35.00	Cenomanian	C4c	In service	BMLWE
Hadchite MOEW	-293 726	11 176	1 320					In service	NLWE
Hadchite new	-292 710	10 374	1 275	468	54.00	Jurassic	J4	In service	NLWE
Haddatha new well	-351 738	-108 436	726	610	18.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Haddatha old well	-350 645	-107 774	727	530		Cenomanian/Turonian	C4 - C5	Out of service	SLWE
Haddatha Well	-350 652	-107 764	716	602	25.00			Out of service	SLWE
Hadeth-el-Jebbé 1	-296 988	8 662	1 560	367	8.00			In service	NLWE
Hadeth-el-Jebbé 2	-296 083	6 775	1 690	500	42.00			Proposed	NLWE
Haitoule Well	-341 877	-69 219	236		54.00			In service	SLWE
Halba	-282 834	43 525		90		Pliocene	Pliocene basalt	Out of service	NLWE
Halba	-282 042	42 411						Proposed	NLWE
Halba	-282 042	42 411						Proposed	NLWE
Halba well 1	-282 371	42 819		500		Miocene	mcg	Under construction	NLWE
Halba well 2	-282 422	42 738		500		Miocene	mcg	Under construction	NLWE
Hallab well	-303 852	30 307	120	86	60.00			In service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Hallousiye Aared el Mghara well	-355 645	-92 509	257	360	25.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Hallousiye Midane well	-355 774	-92 490	282	378	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Haloua	-292 657	-60 685	1 429			Jurassic	J4 - J7	Out of service	BWE
Haloua A	-293 450	-60 904	1 422	475	43.20	Jurassic	J4 - J7	In service	BWE
Halta Well	-324 242	-93 605	586	480	45.00			In Service	SLWE
Ham	-272 352	-32 781	1 537	250	56.25	Jurassic	J4	In service	BWE
Hamat	-316 930	14 281	261	120	20.00	Cenomanian/Turonian	C4 - C5		NLWE
Hanaouay well 2	-360 911	-101 833	255	450	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Hanaouay-El Khashna well	-360 186	-102 415	297	500	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Hanine well	-351 472	-115 044	591	500	38.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Haouch El Harimeh	-302 815	-50 067	905	510	10.80	Eocene	e2b	In service	BWE
Haouch El Qinaabe Or Haouch Rachaya	-315 291	-75 383	789	550	20.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Haouch Saeid Ali 1	-245 200	31 285	560	52	7.50			In service	BWE
Haouch Saeid Ali 2	-246 439	29 419	590	200	25.00			Under construction	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Haouch Tell Safiye	-278 205	-15 487	1 024	100	7.50			In service	BWE
Harbata Baalbeck New	-265 760	4 998	1 075	120	86.40	Cenomanian/Turonian	C4 - C5	In service	BWE
Harbata Baalbeck Old	-266 413	4 950	1 109	120	86.40	Cenomanian/Turonian	C4 - C5	In service	BWE
Haret Baasir	-343 107	-53 232	365	375	16.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Haret Saida Well 1	-348 766	-64 898	92		79.99			Out of service	SLWE
Harfouch	-268 085	3 455	1 196	400	70.00			In service	BWE
Hariqa	-255 043	35 075	850	450	35.90			In service	BWE
Haris well	-352 334	-105 666	545	530	63.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Harissa	-322 856	-18 497	600	260	63.00			In Service	BMLWE
Harouf El Jabal Well	-344 764	-85 910	485	520	41.00	Cenomanian/Turonian	C4c - C5		SLWE
Harouf El Mhambar Well	-345 063	-84 708	439	500	55.00	Cenomanian/Turonian	C4c - C5		SLWE
Harouf El Sekran Well	-345 825	-84 843	347	440	43.00	Cenomanian/Turonian	C4c - C5		SLWE
Hasbaya	-316 902	-30 563	780					Out of service	BMLWE
Hasbaya Well	-323 534	-82 277	566					Decommissioned	SLWE
Hasroune 1 MOEW	-292 111	8 889	1 375	432	36.00	Jurassic	J4	In service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Hasroune 2	-293 162	8 785	1 375	550	31.00			Proposed	NLWE
Hassaniye	-343 275	-69 028	244					Out of service	SLWE
Hassrout 1	-335 175	-57 738	755	540	20.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Hassrout 2	-334 785	-57 899	815	540	20.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Hawouz WT well	-303 663	30 334	200	89	100.00			In service	NLWE
Hazmieh	-335 071	-31 932	30		55.00	Cenomanian	C4c	In service	BMLWE
Hazmieh Recharge Artificielle	-334 921	-32 043	35	80				Out of service	BMLWE
Hdadine well	-304 060	30 604	105	39	201.00			In service	NLWE
Helta	-309 996	8 660	602	690	36.00	Cenomanian	C4a	Under construction	NLWE
Hermel Upper 1	-255 969	27 136	1 118	450	61.25			In service	BWE
Hermel Upper 2	-255 009	27 655	865	450	61.25			In service	BWE
Hilan	-293 230	30 012	310	90	9.00				NLWE
Hiyata	-316 560	-13 950	945		46.00			In Service	BMLWE
Hizzerta 1	-304 231	-31 285	1 466	260	3.60	Cenomanian/Turonian	C4 - C5	In service	BWE
Hizzerta 2	-304 230	-31 284	1 466	260	3.60	Cenomanian/Turonian	C4 - C5	Out of service	BWE
Hlabata	-263 490	9 907	1 136	450	16.25	Cenomanian/Turonian	C4 - C5	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Hmairi Hammar Well	-353 626	-93 210	300	525	50.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Hortaala	-276 933	-28 093	1 206	260	79.20	Cenomanian/Turonian	C4 - C5		BWE
Hoshmosh	-289 493	-35 400	952	292	72.00	Eocene	e2b	In service	BWE
Hosrayel	-321 374	1 593	306	350	20.00			In Service	BMLWE
Houaich	-277 409	36 732	450		108.00			In service	NLWE
Houb 2	-299 986	4 360			43.20				NLWE
Houla well	-341 440	-103 168	420	650				Out of service	SLWE
Houmal	-332 183	-36 928	350	220	8.00	Lower Cretaceous	C1	In service	BMLWE
Houmal	-332 338	-37 656	370	435	63.00	Jurassic	J4	proposed	BMLWE
Houmine el Faouqa Ain El Sefle	-340 284	-78 424	380	300	100.00	Cenomanian/Turonian	C4c - C5		SLWE
Hoûmîne el Faouqa Well	-340 296	-78 420	377		70.20			In service	SLWE
Hoûmîne el Faouqa Well	-340 296	-78 420	377		70.20			In service	SLWE
Houmine Et Tahta Well	-345 756	-73 987	355		47.52			In service	SLWE
Houmine Et Tahta Well 2	-344 843	-74 243	404					In service	SLWE
Hoummale	-332 326	-37 335	350					In service	BMLWE
Hrâjel 1	-310 368	-15 926	1 195	375	72.00			In Service	BMLWE
Hrâjel 2	-310 570	-16 023	1 190	475	40.00			In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
laat 1	-273 614	-15 760	1 100	220	81.00	Eocene	e2b	In service	BWE
laat 2	-273 935	-14 221	1 077		54.00			In service	BWE
laat 2	-273 689	-15 663	1 065	180	0.25	Eocene	e2b	In service	BWE
Ighmid					42.00	Jurassic	J6	proposed	BMLWE
liha new well	-303 745	-72 710			25.20	Jurassic	J4 - J7	In service	BWE
Ijd Aabrine	-313 997	13 610	242	450	43.00	Cenomanian/Turonian	C4 - C5		NLWE
Ijd Aabrine 1	-314 183	13 420	250		16.67	Cenomanian/Turonian	C4 - C5		NLWE
Ijd Aabrine 2	-314 123	13 325	250		16.67	Cenomanian/Turonian	C4 - C5		NLWE
Ijdbara	-317 665	10 314			54.00				NLWE
Insar well 1	-356 132	-83 570	290	375	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Insar well 2	-353 751	-84 559	242	300	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Insar well 3	-353 775	-85 089	235	528	52.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Insar well 4	-353 220	-84 772	310	475	25.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Insar well 5	-351 792	-85 630	303	410	40.00	Cenomanian/Turonian	C4 - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Insariye Mghar New	-357 071	-80 946	176		40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Insariye-Aadloun Mghar Old	-356 781	-80 850	170	171	77.70	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Izal	-290 799	25 356	780	335	11.00	Cenomanian/Turonian	C4 - C5		NLWE
Jabal Mohsen well	-302 656	31 789		77				Out of service	NLWE
Jadra	-346 807	-56 725	110	130	24.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Jahlieh	-336 658	-52 791	580		14.00			In Service	BMLWE
Jalale Well	-331 233	-67 623	968		9.72			Out of service	SLWE
Jamhour	-331 825	-35 111	365	410	45.00	Cenomanian	C4a	In service	BMLWE
Jarjouaa Well	-337 374	-76 003	860	285	25.00	Cenomanian/Turonian	C4c - C5		SLWE
Jbaa Ain Bousouar well	-337 199	-74 354	1 058	320	25.00	Aptian	C2b		SLWE
Jbal el Botm Deir Selmi well	-360 033	-107 112	354	450	34.80	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Jbal el Botm Tair Harma well	-359 096	-107 934	532	560	32.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Jbeb El Homor	-269 990	20 512	1 890	> 200	31.25			In service	BWE
Jdeideh	-331 124	-28 987	55	160	108.00	Jurassic	J4	Out of service	BMLWE
Jdeidet Berkacha	-303 917	25 910	136	155	70.00	Miocene	m		NLWE
Jdeidet El Kaytaa	-288 421	33 523			10.80			In service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Jdita 1	-307 417	-36 509	1 041	101	360.00	Jurassic	J4 - J7	In service	BWE
Jdita 2	-307 390	-36 505	1 024	120	360.00	Jurassic	J4 - J7	In service	BWE
Jdita 3	-307 336	-36 484	1 027	100	360.00	Jurassic	J4 - J7	In service	BWE
Jeita F10	-324 236	-22 889	65	165					BMLWE
Jeita F9	-324 255	-22 885	65	155					BMLWE
Jeita J10	-324 226	-22 830	92	154	108.00				BMLWE
Jeita J9	-324 216	-22 834	92	153	126.00				BMLWE
Jennata well	-356 887	-94 748	258	447	35.00		e1-e2	In Service	SLWE
Jernaya Well	-341 714	-72 483	400		35.50			In service	SLWE
Jeser El Kadi 6					145.00			In service	BMLWE
Jibchit Ain el Dahab well	-344 743	-86 472	396	600	30.00	Cenomanian/Turonian	C4c - C5		SLWE
Jibchit El Kataa well	-344 528	-87 716	439	480	46.00	Cenomanian/Turonian	C4c - C5		SLWE
Jibchit El Wata well	-347 097	-85 501	281	325	38.00	Cenomanian/Turonian	C4c - C5		SLWE
Jibchit Jal el Aalame well	-345 486	-87 613	450	600	7.00	Cenomanian/Turonian	C4c - C5		SLWE
Jiita K1	-324 024	-22 921	70	150	324.00			In Service	BMLWE
Jiita K2	-324 040	-22 915	70	150	210.00			In Service	BMLWE
Jiita K3	-324 029	-22 923	70	150	140.00			In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Jinjlaya Well	-348 041	-72 487	343		37.01			In service	SLWE
Jinjlaya Well	-349 971	-72 090	340		120.02			In service	SLWE
Jinsnaya Well	-344 930	-67 796						In service	SLWE
Jisr El Bacha 2	-333 946	-31 561	25	115	72.00	Aptian	C2	In Service	BMLWE
Jisr el Qadi 5					54.00	Jurassic	J4	In service	BMLWE
Jiyeh 1	-345 498	-54 315	100	135	35.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Jouaiya El Sayyah well	-356 553	-100 302	322	610	15.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Jouaiya el Sheyle well	-354 089	-100 413	379	550	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Jouaiya Jabal El Zaatar well	-354 483	-101 371	378	550	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Joub Jannine New	-310 884	-58 353	928	100	185.00	Eocene	e2b	In service	BWE
Joub Jannine Old	-313 293	-58 403	888	320		Cenomanian/Turonian	C4 - C5	In service	BWE
Joun 1	-342 294	-62 731	350	350	15.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Joun 2	-342 542	-62 600	385	435	43.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Jouret Bedrâne	-317 199	-10 342	940	460				Out of service	BMLWE
Jouret Es Souq Well	-331 828	-69 176	1 052		15.01			In service	SLWE
Jradet Anfe	-313 870	20 793	20	22	125.00	Cenomanian/Turonian	C4 - C5		NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Jradet Las salinas	-313 870	20 793	20	22	8.00	Cenomanian/Turonian	C4 - C5		NLWE
Jrane	-316 980	8 275	348	458	30.00	Cenomanian/Turonian	C4 - C5		NLWE
Kachkouch F1	-324 649	-22 800	50	250	200.00	Jurassic	J4	In Service	BMLWE
Kachkouch F2	-324 642	-22 803	50	220	210.00	Jurassic	J4	In Service	BMLWE
Kachkouch F3	-324 666	-22 794	50	240	180.00	Jurassic	J4	In Service	BMLWE
Kachkouch F4	-324 674	-22 791	50	220	180.00	Jurassic	J4	In Service	BMLWE
Kachkouch F5	-324 640	-22 794	50	230	180.00	Jurassic	J4	In Service	BMLWE
Kachkouch F6	-324 683	-22 788	50	230	252.00	Jurassic	J4	In Service	BMLWE
Kachkouch F7	-324 685	-22 777	50	230	180.00	Jurassic	J4	In Service	BMLWE
Kachkouch F8	-324 693	-22 784	50	233		Jurassic	J4	Out of service	BMLWE
Kafra 1	-319 742	-47 923	1 110		145.00			In Service	BMLWE
Kafra 2	-319 710	-47 895	1 110		145.00			In Service	BMLWE
Kafra 3	-319 679	-47 865	1 110	100				In service	BMLWE
Kafra 4	-319 639	-47 828	1 110	100				In service	BMLWE
Kafra Khalet el Sayed well	-354 452	-107 782	633	500	41.30	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Kafra Ouadi el Nada well	-353 642	-106 994	532	650	50.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Kahaleh	-330 298	-35 756	340	650	36.00	Jurassic	J4		BMLWE
Kamed El Loz Mountain	-308 891	-60 039	1 012	303	86.00	Eocene	e2b	In service	BWE
Kamed El Loz Old	-310 006	-58 417	916	220	93.60	Eocene	e2b	In service	BWE
Kamed El Loz School	-308 455	-58 665	944	180	57.60	Eocene	e2b	In service	BWE
Kanaan	-334 926	-36 456	70		45.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Kaoukaba	-312 278	-69 478	1 073	440	16.56	Cenomanian/Turonian	C4 - C5	In service	BWE
Kaoutariet Es Siyad Well 1	-350 036	-81 045	338	370	28.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Kaoutariet Es Siyad Well 2	-349 116	-82 033	336	420	24.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Karkha Well	-344 044	-64 097	359		51.01			In service	SLWE
Karmid	-331 535	-29 190	45		72.00			Out of service	BMLWE
Kartoun	-335 731	-36 635	65	120	60.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Kassem Kassem	-293 749	35 126	83		20.83	Miocene	m		NLWE
Kawkaba new well	-314 014	-67 757	1 074		14.40	Eocene	e2b	In service	BWE
Kawkaba Well	-326 908	-84 398	591	180				Decommissioned	SLWE
Kefraiya New	-316 984	-54 112	1 063	265	36.00	Jurassic	J4 - J7	In service	BWE
Kefraiya Old	-316 978	-54 413	1 046	65	27.00	Jurassic	J4 - J7	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Kefraiya Well	-345 390	-64 369	140		62.21			In service	SLWE
Kehhaleh	-330 296	-35 743	350	505				Under construction	BMLWE
Ketermaya 1	-342 858	-58 669	365	400	30.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Ketermaya 2	-342 769	-58 922	360		43.00			Out of service	BMLWE
Ketermaya Nouveau	-342 807	-59 026	345		12.00			In Service	BMLWE
Keyfoun					72.00			Under construction	BMLWE
Kfar aaka	-304 988	18 345	307	375	10.00	Miocene	m		NLWE
Kfar Beit Well	-342 775	-71 815	385		24.01			In service	SLWE
Kfar chakna	-302 054	22 363	222	250					NLWE
Kfar Dabach	-288 438	-23 712	1 104					In service	BWE
Kfar Dounine well	-349 270	-101 260	570	510	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Kfar Falous Well	-340 193	-67 262			39.60			In service	SLWE
Kfar Fila Karm El Tin Well	-339 775	-73 371	520	600	50.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Fila Well	-339 765	-73 374						In service	SLWE
Kfar Hamam well-1	-323 488	-90 261	759	500	25.00			In Service	SLWE
Kfar Hamam Well-2	-323 614	-89 915	781					Decommissioned	SLWE
Kfar Hatta Well 1	-343 935	-70 837	344		46.01			In service	SLWE
Kfar Hatta Well 2	-343 867	-71 201	345		32.29			In service	SLWE
Kfar Jarra Well	-345 882	-66 201			49.97			In service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Kfar Jarra Well 1	-345 964	-66 082						Out of service	SLWE
Kfar Melki Well 1	-340 752	-71 349	447		60.34			In service	SLWE
Kfar Melki Well 2	-339 802	-71 692	447		60.34			In service	SLWE
Kfar Qouq	-302 202	-68 789	1 204	350	35.00	Jurassic	J4 - J7	In service	BWE
Kfar Roummene Martyrs Well 1	-337 567	-81 565	430	275	137.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Roummene Martyrs Well 2	-337 567	-81 565	430	275	108.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Roummene Sahl El Maydane	-337 545	-82 180	440	275	108.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Selouan 1	-314 504	-33 967	1 510	150	12.60	Lower Cretaceous	C1	In service	BMLWE
Kfar Selouan 2	-314 497	-33 981	1 510					In service	BMLWE
Kfar Selouan 3	-314 487	-33 994	1 510					In service	BMLWE
Kfar Selouan 4	-314 177	-34 016	1 480	100	12.60	Lower Cretaceous	C1	In service	BMLWE
Kfar Sir El Daoura	-349 424	-91 113	376	450	50.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Sir El Qabea	-348 382	-90 453	377	420	33.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Sir Marj Hayla	-347 841	-91 210	351	600	25.00	Cenomanian/Turonian	C4c - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Kfar Sir School Well	-348 967	-90 428	385	500	50.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Tibnit El Khardali Well	-336 224	-87 196	290	400	44.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Tibnit El Siyyar Well	-338 308	-87 510	547	620	10.00	Cenomanian/Turonian	C4c - C5		SLWE
Kfar Tibnit Mafrak Zaoutar Well	-338 708	-87 510	430	500	40.00		e1-e2		SLWE
Kfar toun	-256 168	43 013	861		50.00				NLWE
Kfar Zina 1	-300 734	23 059	190		12.00				NLWE
Kfar Zina 2	-300 696	23 031	189		12.00				NLWE
Kfar Zina 3	-300 565	22 908	187		12.00				NLWE
Kfaraamey	-329 263	-42 127	765	650	11.00	Jurassic	J4	proposed	BMLWE
Kfarchouba Well-1	-321 668	-92 794	1 088					Under construction	SLWE
Kfarchouba Well-2	-321 687	-92 823	1 081					Under construction	SLWE
KfarDenis	-305 748	-66 863	1 125	600	18.00	Jurassic	J4 - J7	In service	BWE
Kfarfou	-300 685	17 659	478	90	38.00				NLWE
Kfarhabo 1 (Yazbek)	-291 951	28 608	367	130	56.00	Cenomanian/Turonian	C4 - C5		NLWE
Kfarhabo 2 (El wadi)	-291 985	28 601	365	140	50.17	Cenomanian/Turonian	C4 - C5		NLWE
Kfarhabo 3 (NEW)	-292 304	27 673	356	230	90.00	Cenomanian/Turonian	C4 - C5	Under construction	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Kfarhata	-313 272	13 563	255	325	32.00				NLWE
Kfarhazir- Ain El Bakar	-307 936	18 648	270	337	27.00	Miocene	m		NLWE
Kfarhouna Well	-331 825	-72 544	1 003		45.00			In service	SLWE
Kfarhoura	-301 804	24 713	150	150	12.00				NLWE
Kfarkahel	-303 685	22 708	223		2.08				NLWE
Kfarkila Well	-334 597	-97 039	542	280	20.00			In Service	SLWE
Kfarmatta 1	-335 545	-46 362	800	210	12.00	Lower Cretaceous	C1	In service	BMLWE
Kfarmatta 2	-335 749	-45 917	792		12.00	Lower Cretaceous	C1	In service	BMLWE
Kfarmatta 2	-333 824	-46 832	415	434	8.00			Out of service	BMLWE
Kfarmatta 3	-333 747	-46 844	314	434	86.00	Jurassic	J4	Under construction	BMLWE
KfarMechki	-316 292	-70 111	946	296	45.00	Eocene	e2b	In service	BWE
Kfarnoun well	-266 023	50 718	342	284	34.20	Pliocene	Pliocene basalt		NLWE
Kfaroue Well	-346 901	-77 127	324	700	30.00	Cenomanian	C4a - C4c		SLWE
Kfaroue Well 1	-345 782	-77 291	192		32.00			In service	SLWE
Kfaroue Well 2	-346 910	-77 111	313		29.99			In service	SLWE
Kfarshima	-334 192	-36 830	215	650	108.00	Cenomanian	C4a		BMLWE
Kfaryachit	-299 589	21 143	250	300	46.80	Cenomanian/Turonian	C4c - C5	Under construction	NLWE
Kfarzabad	-291 581	-42 191		375	36.00	Cenomanian/Turonian	C4 - C5	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Kififane	-316 556	9 549	325	410	50.00	Cenomanian/Turonian	C4 - C5		NLWE
Khalwat Well	-317 749	-82 189	913	575	33.33			In Service	SLWE
Kharhal	-298 440	3 032			72.00				NLWE
Khartoum well	-351 822	-81 497	247	244	21.23	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Kherbet Rouha	-305 730	-63 878	1 142	280	70.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Kherbet Selem Well - Jebeneh	-347 224	-101 374	462	400	30.00			In Service	SLWE
Kherbet Selem Well -Ain	-346 902	-101 543	425	450	35.00			In Service	SLWE
Khiam municipality well	-328 955	-90 626	701	600				Out of service	SLWE
Khirbet Daoud	-269 156	45 148	566		36.00			In service	NLWE
Khirbet Qanafar New	-319 308	-57 060	1 135	160	43.20	Jurassic	J4 - J7	In service	BWE
Khirbet Qanafar Old	-318 851	-57 057	1 060	200	43.20	Jurassic	J4 - J7	In service	BWE
Khirbet Selm- Bir es Sanassel new well	-346 906	-101 580	440	565	40.00		e1-e2	In Service	SLWE
Khirbet Selm- Bir es Sanassel old well	-347 236	-101 358	475	420	30.00		e1-e2	In Service	SLWE
Khiyem prison well	-329 788	-91 794	725	470	40.00			In Service	SLWE
Khreybeh	-317 302	-35 798	965	60	7.00	Jurassic	J6	In service	BMLWE
Klaylet	-268 140	3 509	1 207	400	56.25	Cenomanian/Turonian	C4 - C5	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Kmatiye	-329 777	-37 971	595	295				In service	BMLWE
Knaiouer 1	-296 909	11 049	1	475	12.00			In service	NLWE
Knaiouer 2	-296 902	10 782	1	500	54.00			Proposed	NLWE
			435						
Knaisse Italian well	-362 579	-103 781	190	250	40.00		e1-e2	In Service	SLWE
Kneisseh	-274 193	-3 755	990					Decommissioned	BWE
Kneisseh	-286 553	50 394						Proposed	NLWE
Kneisseh 2	-275 241	-5 239	993	300	90.00			Needs to be equipped	BWE
Knisseh well	-303 305	31 171	140	84	40.00			Out of service	NLWE
Kobbe WT well	-303 105	31 162		89				Out of service	NLWE
Kortbawe 1	-335 168	-32 447	45					In service	BMLWE
Kortbawe 2	-335 036	-32 719	55	52	160.00	Cenomanian	C4c	In service	BMLWE
Kouaichra well	-269 923	48 583			18.00			In service	NLWE
Kour-El-Houa	-320 970	2 479	305	351	17.60			In Service	BMLWE
Kousba	-302 454	15 300	572		62.64			proposed	NLWE
Kroum el Loz well	-302 545	31 539		83				Out of service	NLWE
Laboue	-256 032	2 581	1037 m	350	225.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Lala New	-314 791	-61 777	1 176	420	79.20	Cenomanian/Turonian	C4 - C5	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Lala Old	-314 959	-60 408	1 000	420	129.60	Cenomanian/Turonian	C4 - C5	In service	BWE
Laqlouq	-303 467	-1 332	1 710	230	16.00			In Service	BMLWE
Lebbaya	-319 894	-73 933			43.20	Eocene	e2b	In service	BWE
Louaize well	-335 950	-76 088	850	600	30.00	Cenomanian	C4a		SLWE
Maachouq Well 1	-365 467	-96 427	27	350	14.00		e1-e2	In Service	SLWE
Maachouq Well 2	-365 852	-96 245	20		7.00		e1-e2	In Service	SLWE
Maad	-319 815	4 251	530	500	12.00			In Service	BMLWE
Maad (Issa)	-320 200	5 492	500	570	16.00			In Service	BMLWE
Maaraboun	-273 435	-34 564		125	70.00				BWE
Maarake well 1	-358 380	-95 923	242	350	76.00		e1-e2	In Service	SLWE
Maarake well 2	-357 285	-97 053	172	170	57.70		e1-e2	In Service	SLWE
Maaroub aber el Nasrani well	-354 847	-95 317	306	370	39.00		e1-e2	In Service	SLWE
Maaroub Jbal el Aadas well	-353 346	-95 594	361	410	42.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Maaroub Salah Iz el Din well	-353 177	-95 191	370	350	34.00		e1-e2	In Service	SLWE
Maaroufieh	-334 235	-39 029	320	235	75.00	Lower Cretaceous	C1	In service	BMLWE
Maasser El Chouf	-322 169	-54 088	1 265		60.00			In Service	BMLWE
Machghara	-325 057	-68 707	1 078	90	22.50	Eocene	e2b	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Machghara new well	-325 479	-68 681	1 192	200	72.00	Jurassic	J4 - J7	Needs to be equipped	BWE
Madefen	-329 432	-36 223	570					In service	BMLWE
Madiq new well 1	-318 165	-7 575	160	80	602.00			In Service	BMLWE
Madiq new well 2	-318 162	-7 583	162	80	540.00			In Service	BMLWE
Madiq new well 3	-318 147	-7 566	160	80	681.00			In Service	BMLWE
Madiq new well 4	-318 163	-7 555	157	80	637.00			In Service	BMLWE
Madiq new well 5	-318 172	-7 549	160	80	390.00			In Service	BMLWE
Madiq old	-318 179	-7 555	155	40	450.00			In Service	BMLWE
Maghdouche Well 1	-348 272	-70 123	234		47.52			In service	SLWE
Maghdouche Well 2	-348 651	-69 745	201		40.00			In service	SLWE
maghdouche well 3	-347 741	-70 184						Under construction	SLWE
Mahrouna well	-354 705	-102 083	380	520	30.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Maidoun	-326 643	-75 181	980	200	38.00	Jurassic	J4 - J7	In service	BWE
Maifadoun El Mshaa Well	-341 888	-89 514	421	625	40.00		e1-e2		SLWE
Maifadoun El Nakawir Well	-342 365	-87 222	481	600	36.00		e1-e2		SLWE
Maifadoun El Rejem Well	-342 676	-88 223	462	600	34.00		e1-e2		SLWE
Mairouba	-310 884	-15 729	1 205	400	60.00			Out of service	BMLWE
Mais Al Jabal Well	-340 050	-108 776	636	550	33.00			In Service	SLWE
Majdaloun 1	-278 460	-19 911	1 057	100	56.25			In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Majdaloun 2	-278 471	-19 957	1 056	100	56.25	Neogene/Quaternary	n/Q	In service	BWE
Majdalouna	-343 462	-60 530	345		32.00			In Service	BMLWE
Majdel	-309 198	10 919			50.40				NLWE
Majdel Anjar	-299 923	-50 268	995	400	59.76	Cenomanian/Turonian	C4 - C5	In service	BWE
Majdel Anjar new	-301 615	-49 058	890		97.20	Cenomanian/Turonian	C4 - C5	In service	BWE
Majdel Baana	-321 237	-39 194		300	10.00	Lower Cretaceous	C1	Under construction	BMLWE
Majdel Balhisse New	-315 434	-69 425	970	388	36.00	Eocene	e2b	In service	BWE
Majdel Balhisse Old	-315 547	-69 074	984	180		Eocene	e2b	Out of service	BWE
Majdel Selem Well -Wadi Maghra	-342 752	-102 196	485	600	25.00			In Service	SLWE
Majdel Selem Well-Wadi Al Hujeir	-341 656	-103 713	421	305	85.00			In Service	SLWE
Majdel Selm Ouadi el Mghara well	-342 683	-101 913	458	580	27.00		e1-e2	In Service	SLWE
Majdel Selm Slouki well	-341 657	-103 715	426	304	85.00		e1-e2	In Service	SLWE
Majdel Zoun Establishment well	-365 918	-109 283	388	380	30.30	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Majdel Zoun Municipality well	-366 328	-109 553	407	530	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Majdlaya	-300 350	30 073	151	450	72.00		e1-e2	In service	NLWE
Mallouleh well	-302 293	32 590	75	21	120.00			In service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Manar well	-304 413	29 289	212	236	200.00			In service	NLWE
Manara New	-300 494	-54 631	1 268	410	36.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Manara Old	-302 410	-55 637	1 139	420	28.44	Cenomanian/Turonian	C4 - C5	In service	BWE
Mansoura	-253 580	27 542	699	550	54.00			Under construction	BWE
Mansoura	-311 024	-52 158	883	350	28.44	Cenomanian/Turonian	C4 - C5	In service	BWE
Mansourieh	-326 286	-41 118	1 070					In service	BMLWE
Maqne 1	-271 414	-9 099	1 073						BWE
Maqne 2	-270 627	-7 388	1 038	260	1.60			In service	BWE
Mar Antonios	-330 855	-28 272	30	190	90.00	Jurassic	J4	Out of service	BMLWE
Mar Elias Well	-348 833	-65 200	150					In service	SLWE
Mar Takla	-332 841	-32 747	185	210	75.00			In service	BMLWE
Marj el khawkh well 3	-330 090	-87 833	611	175	150.00			In Service	SLWE
Marj elkhawkh well 1	-330 112	-87 816	612	200	200.00			In Service	SLWE
Marj elkhawkh well 2	-330 096	-87 820	611	150	55.00			In Service	SLWE
Marj EIZhour Well	-316 901	-74 799	891	420	20.00			In Service	SLWE
Marj es Samah	-311 707	-71 497	955	400	41.50	Jurassic	J4 - J7	Needs to be equipped	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Marj Qornayel	-315 992	-32 967	1 320					In service	BMLWE
Markabta	-292 181	32 923	171	236	20.83	Miocene	m		NLWE
Marouahine well	-360 723	-114 340	663	610	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Maroun Al Rass Well	-345 254	-115 835	893	400	29.00			In Service	SLWE
Mashta Hamoud	-258 792	51 263	362	130	18.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
Mashta Hassan	-259 223	50 607	348	150	14.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
Mayfouq	-310 552	3 506	880	400	21.60			Out of service	BMLWE
Maytam well	-302 892	31 433	142	83	160.00			In service	NLWE
Mazboud 1	-340 186	-59 459	435	500	20.00	Cenomanian/Turonian	C4 - C5	Out of service	BMLWE
Mazboud 2 (Ain Mazboud)	-339 875	-59 288	470					Out of service	BMLWE
Mazboud Nouveau	-340 185	-59 465	435	350		Cenomanian/Turonian	C4 - C5	Under construction	BMLWE
Mazraat assaf	-302 605	10 256			15.00				NLWE
Mazraat Beit Salibi	-292 683	-20 705	1 382	630	15.60	Cenomanian/Turonian	C4 - C5	In service	BWE
Mazraat Daher 1	-337 630	-60 318	565	400	18.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Mazraat Daher 2	-336 937	-60 868	625					In Service	BMLWE
Mazraat el Michrif Marj Abboud well	-356 035	-101 806	340	470	36.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Mazraat El Michrif Tabroun Well	-355 445	-103 379	405	420	25.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Mazraat Es Siyed	-303 298	-1 347	1 171	365	130.00			Proposed	BMLWE
Mazraat Et Tout	-288 138	-13 275	1 211	500	10.80	Cenomanian/Turonian	C4 - C5	In service	BWE
Mazraat Sinai Darb el Qamar well	-352 754	-83 385	184	350	100.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Mazraat Sinai El Seha well	-352 603	-83 878	273	420	40.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Mazraat Siyed	-304 442	-6 663	1 150		20.00			In Service	BMLWE
Mazraat Soujoud	-257 538	28 122	1 086	450	43.75			In service	BWE
Mazraat Tobbaya Well 1	-344 406	-72 971	414					Out of service	SLWE
Mazraat Tobbaya Well 2	-344 624	-72 703	436					Out of service	SLWE
Mazraat Tobbaya Well 3	-345 168	-72 570	418					In service	SLWE
Mazraet El Chouf	-330 946	-55 406	900		25.00			In Service	BMLWE
Mazraet Et Teffah	-296 366	16 777	986	140	12.00				NLWE
Mazraet-Beni-Saab 1	-301 176	10 196	979	80	4.00			In service	NLWE
Mazraet-Beni-Saab 2	-300 226	10 355	1 010	450	75.00			Proposed	NLWE
Mazraet-Beni-Saab 3	-300 304	10 401	1 010					Out of service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Mdoukha	-305 320	-61 842	1 067	300	63.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Mecherfe	-324 194	-43 111	700		80.00	Lower Cretaceous	C1	In service	BMLWE
Mechmech	-273 324	34 135	1 089	115	18.00	Jurassic	J4	In service	NLWE
Mechmech 1	-272 578	32 774	1 090		50.00	Jurassic	J4	In service	NLWE
Mechmech2	-272 934	33 952						Proposed	NLWE
Mechref 1	-341 911	-47 369	95	132	97.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Mechref 1	-342 342	-48 105	85	1 455	87.00				BMLWE
Mechref 2	-341 874	-47 450	105	156	97.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Mechref 2	-342 080	-48 207	115	12	96.00			In Service	BMLWE
Mechref 3	-341 910	-47 642	182	97	97.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Mechref 3	-341 805	-48 177	175	70	175.00			In service	BMLWE
Mechref 4	-341 844	-47 690	181	97	97.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Mechref 4	-341 503	-48 299	275	90	275.00			In service	BMLWE
Mechref 5	-341 892	-47 751	170	97	97.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Mechref 5	-341 285	-48 427	240		240.00				BMLWE
Mechref 6	-341 942	-47 613	135	190	97.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Mechref 6	-341 257	-48 000	215	267	70.00				BMLWE
Mechref 7	-342 323	-47 958	70					Out of service	BMLWE
Mechref 8	-342 329	-47 969	70					Out of service	BMLWE
Mechref 9	-342 332	-47 955	70					Out of service	BMLWE
Mechref Municipal Damour	-341 750	-48 135	145					In service	BMLWE
Mejdelyoun Wells No.1	-347 718	-64 779	150		35.50			In service	SLWE
Mejdelyoun Wells No.2	-347 718	-64 779	150		59.51			In service	SLWE
Mejdelyoun Wells No.3	-347 718	-64 779	150		146.02			In service	SLWE
Menjez	-266 080	50 007						Proposed	NLWE
Merdasheh	-333 907	-35 943	90					In service	BMLWE
Mereb	-329 332	-36 052	600					In service	BMLWE
Meriata El Zway 2	-294 407	29 454			7.00				NLWE
Meriata Senaallah	-295 604	27 773			12.00				NLWE
Merri Well-1	-327 142	-92 286	393	236	25.00			In Service	SLWE
Merri Well-2	-326 776	-92 901	372	128	7.00			In Service	SLWE
Meryata 1 (El Blat)	-295 809	29 981	366	100	21.50				NLWE
Meryata 2 (El Terek)	-295 414	29 054	198	150	12.00				NLWE
Meryata 3 (EL Zway)	-294 399	29 503	220	150	7.20				NLWE
Mghairieh 1	-343 080	-59 904	345	370	36.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Mghairieh 2	-342 071	-59 807	350	400		Cenomanian/Turonian	C4 - C5	In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Mhaidthe	-309 439	-66 334	1 060	400	30.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Midan Well 1	-331 442	-68 917	1 057					Out of service	SLWE
Midan Well 2	-331 309	-69 124	1 067		90.00			In service	SLWE
Midane	-253 269	35 549	805	350	25.30			In service	BWE
Miniyara	-283 631	40 838	204	600	72.00	Miocene	m2	Under construction	NLWE
Miye ou Miye Well	-348 062	-67 514	208		33.34			In service	SLWE
Miziara	-294 505	20 056	984						NLWE
Mjeidil Well	-344 412	-69 653	270		21.53			In service	SLWE
Mlikh Well	-333 276	-74 940	875		37.51			In service	SLWE
Mokhada 1	-326 288	-22 397	20	150	187.00				BMLWE
Mokhada 2	-326 251	-22 419	20	166					BMLWE
Mokhtara	-327 050	-54 881	830					In Service	BMLWE
Moqraq New	-259 033	-415	1 040	330	126.00			In service	BWE
Moqraq New	-258 197	922	1 072	350	40.50	Cenomanian/Turonian	C4 - C5	In service	BWE
Moqraq Old	-259 114	325	1 037	154	40.50	Cenomanian/Turonian	C4 - C5	In service	BWE
Mosnaa El Zohra	-290 447	-16 461	1 300	375	18.75	Cenomanian/Turonian	C4 - C5	Out of service	BWE
Mouhjarin well	-303 316	31 445	65						NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Mounse	-253 536	47 969	475	470	25.00	Jurassic	J4	In service	NLWE
Mradiyé	-316 952	-8 840	690	80	540.00			Out of service	BMLWE
Mrah chdid	-318 147	8 441			40.00				NLWE
Mrah El Sraj	-289 908	28 561	485		36.00	Cenomanian	C4		NLWE
Mrah el ziyat	-317 722	7 848	385		43.20				NLWE
Mrayjat	-309 084	-38 313	1 250	271	4.00	Lower Cretaceous	C1	In service	BWE
Mrayjat proposed well	-309 409	-38 796	1 175		29.00	Jurassic	J4 - J7	Proposed	BWE
Mreijat	-322 411	-44 647			18.00			proposed	BMLWE
Mreste Chawi 1	-323 616	-57 577	1 360		108.00			In Service	BMLWE
Mreste Chawi 2	-324 177	-57 168	1 205		58.00			In Service	BMLWE
Mtoll	-307 446	26 255			8.30				NLWE
Mtolleh 1	-335 357	-59 293	750	540	22.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Mtolleh 2	-335 035	-59 134	770	550	17.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Mugher-el-Ahwel	-301 705	14 850	708	600	28.00			Proposed	NLWE
Municipality Dibbine well	-330 704	-86 575	656	110	25.00			In Service	SLWE
Naame 1	-341 927	-44 679	60	80	100.00			In service	BMLWE
Naame 2	-341 369	-44 392	110	135	100.00			In service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Naame 3	-341 844	-44 872	90	105	40.00			In service	BMLWE
Nabaa El Tasse Well 1	-336 229	-76 822	689		34.92			In service	SLWE
Nabaa El Tasse Well 2	-336 256	-76 895	689		29.88			In service	SLWE
Nabaa El Tasse Well 3	-336 280	-76 961	689		34.92			In service	SLWE
Nabaa El Tasse Well 4	-336 296	-77 094	689		29.88			In service	SLWE
Nabaa El Tasse Well 5	-336 296	-77 094	689		54.00			In service	SLWE
Nabatiye El Faouqa Dar El Moalimin Well	-340 278	-86 094	418	492	47.00		e1-e2		SLWE
Nabatiye El Faouqa Farah Well	-339 983	-87 914	450	500	43.00		e1-e2		SLWE
Nabatiye El Faouqa Madin Well	-340 052	-86 773	432	650	54.00		e1-e2		SLWE
Nabatiye El Tahta El Najda El Shaabiye Well	-340 539	-83 352	495	550	108.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabatiye El Tahta Fakhr El Din Well #1	-341 996	-83 663	384	412	35.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabatiye El Tahta Fakhr El Din Well #2	-342 013	-83 643	384	460	35.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabatiye El Tahta Fakhr El Din Well #3	-342 520	-83 388	370	465	70.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabatiye El Tahta Fakhr El Din Well #4	-342 338	-83 449	384	450	75.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabatiye El Tahta Fakhr El Din Well #5	-342 804	-82 731	367	450	70.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabatiye El Tahta Fakhr El Din Well #6	-342 595	-83 033	379	449	75.00	Cenomanian/Turonian	C4c - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Nabatiye El Tahta Fakhr El Din Well #7	-341 405	-83 941	409	460	70.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabatiye El Tahta Fakhr El Din Well #8	-341 031	-84 033	421	450	70.00	Cenomanian/Turonian	C4c - C5		SLWE
Nabha	-268 915	2 027	104	450	56.25	Cenomanian/Turonian	C4 - C5	In service	BWE
Nabha	-269 339	2 049	107	300	67.50			In service	BWE
Nabi Ayla	-295 966	-30 135	127	140		Eocene	e2b	In service	BWE
Nabi Chit 12	-281 659	-32 973	281	450	115.20	Cenomanian/Turonian	C4 - C5	In service	BWE
Nabi Chit 13	-280 432	-31 832	225	351	148.32	Cenomanian/Turonian	C4 - C5	In service	BWE
Nabi Chit 14	-281 327	-32 683	244	350	115.20	Cenomanian/Turonian	C4 - C5	In service	BWE
Nabi Chit Old	-280 706	-31 877	244	350	72.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Nabi Safa (El Haouch)	-316 789	-74 819	873			Eocene	e2b	Out of service	BWE
Naby Youche' (New)	-294 583	33 106	250	250	72.00	Miocene	m	Under construction	NLWE
Naby Youche' (Old)	-294 164	33 902	119	150	50.00	Miocene	m		NLWE
Naccach (Haut)	-328 529	-25 677	85	180	97.00	Jurassic	J4	In Service	BMLWE
Naccach Aayach	-328 952	-25 381	35					Out of service	BMLWE
Nacouzi	-332 106	-30 195	90	180	100.00	Lower Cretaceous	C1	Out of service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Naffakhiye well	-350 586	-96 675	414	570	22.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Naher El Kaleb 1	-327 542	-21 914	10	77	165.60	Miocene	m2a	In Service	BMLWE
Naher El Kaleb 1 Bis	-327 590	-21 929	10	77	234.00			In Service	BMLWE
Naher El Kaleb 2	-327 607	-22 108	10	77	165.60				BMLWE
Naher el kaleb BH1	-326 030	-22 551	45	155	72.00				BMLWE
Naher el kaleb BH2	-326 014	-22 561	45	150	101.00				BMLWE
Nahr El Maot BM1	-329 426	-28 530	100	450		Jurassic	J4	Out of service	BMLWE
Nahr El Maot BM3	-328 514	-28 212	170	404		Jurassic	J4	Out of service	BMLWE
Nahr El Maot BM4	-328 167	-28 206	190	450		Jurassic	J4	In Service	BMLWE
Nahr El Mawt	-330 403	-28 400	40	135	36.00	Jurassic	J4	In Service	BMLWE
Nakhle 1	-306 194	23 048	321		18.00				NLWE
Nakhle 2	-306 194	23 048	325	325	18.00	Miocene	m		NLWE
nassirieh bwe (Nassrieh well 1)	-285 417	-32 933			28.80	Eocene	e2b	In service	BWE
Nassreh (Nassrieh well 2)	-285 797	-33 573	991	325	54.00	Eocene	e2b	In service	BWE
Nayla Moawad well	-306 034	27 832						Out of service	NLWE
Near Antounieh well	-334 122	-34 678	210	700	108.00	Cenomanian	C4a	Proposed	BMLWE
Near Baabda Tallit Rayess well	-333 487	-35 056	219	550	108.00	Cenomanian	C4a	Proposed	BMLWE
Near Betchay wells	-333 116	-35 391	250	600	108.00	Cenomanian	C4a	Proposed	BMLWE
Near Damour-Mechref	-342 100	-47 353	88	250	108.00	Cenomanian	C4c	Proposed	BMLWE
Near Damour-Mechref	-342 095	-47 494	90	650	108.00	Cenomanian	C4a	Proposed	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Near Daychounieh A	-330 643	-33 766	100	450	108.00	Jurassic	J4	Proposed	BMLWE
Near Galerie Semaan well	-334 779	-32 161	48	800	108.00	Cenomanian	C4a	Proposed	BMLWE
Near Hazmieh well	-334 907	-31 897	35	800	108.00	Cenomanian	C4a	Proposed	BMLWE
Near Kortbawe 2 well	-334 886	-32 710	65	800	108.00	Cenomanian	C4a	Proposed	BMLWE
Near Wede Khattar well	-334 279	-32 846	120	800	108.00	Cenomanian	C4a	Proposed	BMLWE
Near Yarze well	-333 152	-34 442	300	600	108.00	Cenomanian	C4a	Proposed	BMLWE
Niha	-294 916	-28 676	1 143	210	36.00	Eocene	e2b	In service	BWE
Niha	-326 399	-63 016	1 145		35.00			In Service	BMLWE
Niha (New)	-326 270	-62 150	1 090					In Service	BMLWE
Ouadi Baanqoudain Well	-344 259	-67 207	225		29.02			In service	SLWE
Ouadi el Jamous	-288 359	39 007	110	700	72.00		P1 - P2	Under construction	NLWE
Ouadi En Naira	-260 763	15 944	1 231	430	72.20			In service	BWE
Ouadi Et Tourkmane	-261 241	22 820	1 460	450	43.75			In service	BWE
Ouadi Faara / Mrah-El-Aaqbet	-264 914	12 663	1 380	375	28.75			In service	BWE
Ouadi Jilo PS1	-359 076	-97 902	128		180.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS1 F1	-358 485	-98 886	124	300	162.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ouadi Jilo PS1 F2	-358 491	-98 890	120	300	126.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS1 F3	-357 510	-99 080	140	300	108.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS1 F4	-356 983	-99 080	151	300	234.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS1 F5	-358 005	-98 832	143	300	216.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS2 (Yanouh P.S.)	-358 951	-97 978	105			Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS2 Well 1	-359 872	-96 762	82	300	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS2 Well 2	-359 130	-97 865	98	250	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS2 Well 3	-359 400	-97 421	97	250	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS2 Well 4	-359 732	-96 908	73	250	262.80	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS2 Well 5	-359 175	-97 775	113	300	288.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ouadi Jilo PS2 Well 6	-359 120	-97 864	105	250		Cenomanian/Turonian	C4 - C5	Out of service	SLWE
Ouata el Jaouz 1	-314 343	-15 287	1 360	650	36.00			In Service	BMLWE
Ouata el Jaouz 2	-314 343	-15 275	1 360	675	44.00			In Service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Oum Et Tout well	-363 209	-113 214	447	400	14.20	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ousaily	-335 144	-36 396	65	110	140.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Pont tahouni	-328 654	-26 182	20					Under construction	BMLWE
PUIT No.1	-279 565	8 866	2 097					Needs to be equipped	BWE
PUIT No.2	-279 470	8 920	2 097					Needs to be equipped	BWE
Qaa El Rim	-303 160	-29 887	1 241	100	3.60	Cenomanian/Turonian	C4 - C5	Out of service	BWE
Qaaqaiet Ej Jisr El Souwane 1	-345 097	-89 657	454	600	31.00		e1-e2		SLWE
Qaaqaiet Ej Jisr El Souwane 2	-345 097	-89 636	454	600	31.00		e1-e2		SLWE
Qaaqaiet Ej Jisr Khelet El Ghazale	-346 824	-89 459	334	565	62.00		e1-e2		SLWE
Qaaqaiet Es Snaoubar 1 Old	-353 671	-78 510	216	250	75.65	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Qaaqaiet Es Snaoubar 2 New	-352 379	-79 311	289	350	48.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Qaaqaiet Es Snaoubar Tabna	-353 847	-77 910	212		60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Qab Elias Solar	-309 044	-40 088		200	72.00	Jurassic	J4 - J7	In service	BWE
Qabb Elias	-309 115	-41 879	878	130	63.72	Jurassic	J4 - J7	In service	BWE
Qabb Elias new well 1	-308 777	-41 338			108.00	Jurassic	J4 - J7	In service	BWE
Qabb Elias new well 2	-309 952	-43 074			126.00	Jurassic	J4 - J7	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Qabrikha Well	-344 085	-99 338	463	460	40.00			In Service	SLWE
Qalaa	-316 795	-34 890	970	180	4.00	Lower Cretaceous	C1	In service	BMLWE
Qalaouiye well	-348 313	-98 118	395	450	33.00		e1-e2	In Service	SLWE
Qamez	-307 584	-10 950	1 450	120	14.40			In Service	BMLWE
Qaouzah well	-356 010	-113 465	650	600	34.30	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Qaraoun 1st	-317 763	-63 813	975	200	28.44	Cenomanian/Turonian	C4 - C5	In service	BWE
Qaraoun Mountain	-317 939	-65 523	1 054	375	45.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Qaraoun Old	-317 663	-63 802	972	204	133.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Qarha	-271 590	27	1 176		20.00			Needs to be equipped	BWE
Qartaba	-304 481	-6 645	1 145	280	94.50			In Service	BMLWE
Qartaba 3	-303 958	-6 521	480	480	150.00			Under construction	BMLWE
Qartaba Janneh	-305 343	-7 682	996	395	56.25			Out of service	BMLWE
Qartaba2	-304 304	-6 538	500	500	150.00			Under construction	BMLWE
Qatlabé	-262 685	40 744	924		43.20			In service	NLWE
Qatlabé	-262 940	42 258	696		14.40			Out of service	NLWE
Qatlabé public well	-263 160	41 714	753	220	27.00	Cenomanian	C4	Out of service	NLWE
Qatrani Well	-329 917	-79 558	888		33.01			In service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Qattine Aazar 1	-310 253	-29 548	1 205					In Service	BMLWE
Qattine Aazar 2	-310 239	-29 540	1 205					In Service	BMLWE
Qattine Aazar 3	-310 249	-29 533	1 215					In Service	BMLWE
Qebbeyh	-314 932	-37 415	950	500	25.00	Jurassic	J6	In service	BMLWE
Qeld El Sabeh	-290 588	-13 288	1 410	500	16.25	Cenomanian/Turonian	C4 - C5	In service	BWE
Qenia	-255 492	46 059			21.00			In service	NLWE
Qennarit Well 1	-349 588	-70 927	233		38.02			In service	SLWE
Qennarit Well 2	-349 524	-70 877	233		32.51			In service	SLWE
Qmatiyeh 1	-329 804	-37 899	585	225	7.20	Aptian	C2a2 - C2b1	In service	BMLWE
Qmatiyeh 2	-329 793	-37 946	600	225	14.40	Aptian	C2a2 - C2b1	In service	BMLWE
Qobbe	-336 495	-38 042	195		5.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Qobbeh	-336 500	-38 392	175	305	12.00			In service	BMLWE
Qornayel	-318 288	-32 820	850	700	54.00	Jurassic	J4	Under construction	BMLWE
Qornayel 1	-316 135	-33 229	1 325	100	12.50	Lower Cretaceous	C1	In service	BMLWE
Qornayel 2	-314 820	-33 442	1 400	100	12.50	Lower Cretaceous	C1	In service	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Qornayel 3	-314 747	-33 437	1 397	100	12.50	Lower Cretaceous	C1	In service	BMLWE
Qornayel 4	-314 944	-33 283	1 404	100	12.50	Jurassic	J6	In service	BMLWE
Qornayel 5	-314 930	-33 142	1 385	100	12.50	Jurassic	J6	In service	BMLWE
Qoubayat	-261 940	44 728	587	250	27.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
Qoubayat 1/3 (1)	-262 298	45 163	556	125	16.60	Cenomanian/Turonian	C4 - C5	In service	NLWE
Qoubayat 2/3 (2)	-262 050	45 085	560		27.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
Qoubayat El Halouf	-262 121	44 859	570	250		Cenomanian/Turonian	C4 - C5	Out of service	NLWE
Qsaibe	-323 898	-31 675	555					Out of service	BMLWE
Qsarnaba New Well	-292 443	-27 246	1 169	400	40.50	Neogene/Quaternary	n/Q	In service	BWE
Qsarnaba Old Well	-292 446	-26 751	1 231	150	40.50	Neogene/Quaternary	n/Q	In service	BWE
Rabieh 1	-327 767	-25 909	180	170	72.00	Jurassic	J4	In Service	BMLWE
Rabieh 2	-327 773	-25 909	180	170		Jurassic	J4	Out of service	BMLWE
Rachaf Ouali El Oyoum well	-354 568	-111 097	490	400	45.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Rachaya Al Wady 1	-306 580	-72 748	1 237	350	63.72	Jurassic	J4 - J7	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Rachaya Al Wady 2	-306 504	-72 596	1 238	400	63.72	Jurassic	J4 - J7	In service	BWE
Rachaya Al Wady 3	-306 526	-74 968	1 225	480	44.28	Jurassic	J4 - J7	In service	BWE
Rachaya El Foukhar Well-1	-325 843	-88 217	650	400	21.00			Out of service	SLWE
Rachaya el Foukhar Well-2	-326 305	-89 328	531					Under construction	SLWE
Rachiine (Bir El Kadi)	-295 757	25 917	139	180					NLWE
Rafid (ER)	-311 555	-63 570	1 271	550	15.84	Eocene	e2b	In service	BWE
Rahbe	-275 346	37 645	637	200	100.00	Jurassic	J4	In service	NLWE
Ram (Existing)	-274 856	1 796	1 276					In service	BWE
Ramiya Al Salhani well 1	-359 205	-113 368	552			Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ramiya Al Salhani well 2	-359 335	-112 819	538			Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ramiya Al Salhani well 3	-359 442	-112 486	529			Cenomanian/Turonian	C4 - C5	Under construction	SLWE
Ramiya El Marj well	-358 771	-113 968	602	360	36.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ramiya Marj El Mazraa well	-360 013	-114 065	642			Cenomanian/Turonian	C4 - C5	In Service	SLWE
Ras Baalbeck	-250 774	9 817	1 032	90	135.00	Cenomanian/Turonian	C4 - C5	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Ras Baalbeck_Municipality	-251 140	9 510	1 075	142	70.00				BWE
Ras Maska	-305 012	26 444	150	185	180.00	Miocene	m		NLWE
Ras Nhash	-315 323	14 750	261		45.00			in service	NLWE
Raskifa	-301 252	17 573	400	120	38.00			In service	NLWE
Rasm Al Hadath	-260 437	-2 563	1 187	350	53.19	Cenomanian/Turonian	C4 - C5	In service	BWE
Rawda	-332 141	-29 803	55					Out of service	BMLWE
Rayess	-335 732	-36 430	55		100.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Rechdebbine	-302 437	14 843	605	575	33.00			proposed	NLWE
Rejmeh	-327 799	-40 077		450	11.00	Jurassic	J4	proposed	BMLWE
Remhala	-332 625	-44 293	670	150	50.00	Aptian	C2a2 - C2b1	In service	BMLWE
Remhala	-331 846	-45 130	330					In service	BMLWE
Remhala-muni								Out of service	BMLWE
Rihane Well	-332 363	-78 091	1 000		12.60			In service	SLWE
Rihaniye	-291 205	36 752	47	412	144.00	Miocene	mcg	Under construction	NLWE
Rimat Well	-337 725	-68 095	480		24.84			Out of service	SLWE
Riyak 2nd	-289 539	-33 801	945	312	31.00	Neogene/Quaternary	n/Q	Out of service	BWE
Riyak Old	-289 552	-33 806	950	324	31.00	Neogene/Quaternary	n/Q	Out of service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Rmadiye well	-361 129	-104 126	295	370	42.50	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Rmah El Nahriye	-264 730	50 625			21.60			In service	NLWE
Rmayleh Nouveau	-345 914	-59 469		350	14.00	Cenomanian/Turonian	C4 - C5		BMLWE
Rmaysh well 1	-353 702	-116 084	547	600	22.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Rmaysh well 2	-352 960	-119 004	587	480	15.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Rmaysh well 3	-353 255	-115 869	558	600	24.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Rmeile 1	-347 684	-59 308	40					In Service	BMLWE
Rmeile 2	-346 871	-59 744	170	180	30.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Roum Well	-334 698	-66 302	861		120.60			Out of service	SLWE
Roumieh new well	-329 365	-28 441		405	43.20	Jurassic	J4	Under construction	BMLWE
Roumine Well	-344 628	-75 922	336		43.99			In service	SLWE
Roumine Well 2	-342 989	-75 949	405		50.00			In service	SLWE
Rwaysse	-335 192	-41 678	440					In service	BMLWE
Rweyset El Ballout	-323 082	-35 471	444	504	45.00	Jurassic	J4	In service	BMLWE
S0 (Ain Dara)	-318 233	-41 960	1 085	150	125.00	Jurassic	J6	Proposed	BMLWE
S1 (Azzounieh)	-318 624	-42 178	1 068	150	63.00	Jurassic	J6	Proposed	BMLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
S3 (Safa)	-320 007	-44 541	946	400	125.00	Jurassic	J4	Proposed	BMLWE
Saab 1	-336 672	-37 891	80		45.00			In service	BMLWE
Saab 2	-336 646	-37 878	90	95	55.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Saadnayel	-302 785	-36 196	988	150		Neogene/Quaternary	n/Q	Out of service	BWE
Saadoun 1 well	-304 039	30 441	125	82	52.00			In service	NLWE
Saadoun 2 well	-304 022	30 453		80				Out of service	NLWE
Saadoun 3 well	-304 006	30 465		276				Out of service	NLWE
Saaide	-285 608	-14 354	1 102	550				In service	BWE
Sabah Well	-333 005	-64 540	1 018		95.22			In service	SLWE
Saddiqine El Masjed	-358 240	-104 708	395	600	18.30	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Saddiqine Station Well 1	-358 688	-104 552	384	500	42.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Saddiqine Station Well 2 (Hafour)	-358 403	-104 460	390	450	54.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Safa	-319 440	-44 251	977		375.00	Jurassic	J4	In service	BMLWE
Saghbine 1	-320 851	-60 066	1 112	250	90.00	Jurassic	J4 - J7	In service	BWE
Saghbine 2	-321 979	-61 185	1 240	150	108.00	Jurassic	J4 - J7	In service	BWE
Sahle	-257 596	48 050			18.00			In service	NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Saidoun Wells No.1	-346 929	-65 146	191		108.00			In service	SLWE
Saidoun Wells No.2	-346 929	-65 146	191		36.00			In service	SLWE
Salhiye Well	-345 865	-64 896	269		64.01			In service	SLWE
Salib El Ahmar 1	-337 169	-36 401	20					Out of service	BMLWE
Salib El Ahmar 2	-337 171	-36 345	20					Out of service	BMLWE
Salim Khairallah	-336 092	-38 071	190	320	30.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Saloumeh	-333 929	-29 310	10	100	180.00			Out of service	BMLWE
Saltaneh BS4	-328 652	-26 186	20	114	180.00				BMLWE
Sanine 1	-305 903	-24 743	1 700					In Service	BMLWE
Sanine 2	-305 973	-24 598	1 685					In Service	BMLWE
Saouiri 1	-301 368	-52 895			42.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Saouiri 2	-301 352	-52 899	1 018	465	36.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Saouiri 3	-299 723	-52 349	1 130		90.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Saqi Rechmaya	-309 018	1 003	1 140					Out of service	BMLWE
Sarafand El Hasiniye well	-357 815	-76 518	121	250	9.25		e1-e2	In Service	SLWE
Sarafand El Wadi well	-356 892	-77 026	110	190	30.00		e1-e2	In Service	SLWE
Sarafand Mosque well	-358 193	-76 449	102	200	23.75		e1-e2	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Sarafand Nabaah	-357 211	-75 817	102	251	40.00		e1-e2	In Service	SLWE
Sarafund Sathiye	-357 697	-76 163	150	215	18.00		e1-e2	In Service	SLWE
Sarba Well	-341 352	-75 129	589					In service	SLWE
Sarhmoul	-334 829	-41 109	500	352	14.00	Lower Cretaceous	C1	In service	BMLWE
Saysouk1	-284 085	36 642			18.00			In service	NLWE
Saysouk2	-283 921	36 657			18.00			In service	NLWE
Sbouba	-264 690	6 201	1 054	400	67.50	Cenomanian/Turonian	C4 - C5	In service	BWE
Sebhel	-297 749	17 505	640	50	36.00				NLWE
Sejoud Well	-334 935	-78 053	900					In service	SLWE
Selefteniye 1 well	-303 356	30 963	130	81	80.00			In service	NLWE
Selefteniye 2 well	-303 385	30 895	120	160				Out of service	NLWE
Seraain El Fawqa	-281 936	-30 929	1 072					In service	BWE
Serail Wells No.1	-350 144	-65 154	22					Out of service	SLWE
Serail Wells No.2	-350 212	-65 224	21		270.00			In service	SLWE
Serail Wells No.3	-350 262	-65 284	19		146.02			In service	SLWE
Serail Wells No.4	-350 299	-65 340	21		317.02			In service	SLWE
Serail Wells No.5	-350 346	-65 404	20		208.01			In service	SLWE
Serail Wells No.6	-350 380	-65 246	20					Out of service	SLWE
Sereal 1	-297 486	15 673	1 088	60	12.00				NLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Serine El Tahta New Well	-284 041	-31 859	1 043	270	99.00	Eocene	e2b	In service	BWE
Serine El Tahta Old Well	-283 040	-31 452	1 072	250	72.90	Eocene	e2b	In service	BWE
Sfaray Well	-338 457	-65 325	608					Out of service	SLWE
Sfaynet el Qaitaa 1	-286 703	32 856						In service	NLWE
Sfire	-281 323	25 306		505	42.00			Under construction	NLWE
Shoum Well 1	-330 448	-68 839	1 143		90.00			In service	SLWE
Shoum Well 2	-330 296	-68 867	1 151		25.20			In service	SLWE
Sibline	-345 063	-57 479	275	280	40.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Sibline Nouveau	-344 859	-57 870	325	375	35.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Silaa El Dahiri well	-350 612	-98 408	440	500	25.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Silaa-Chehabiye well	-350 948	-99 169	367	35	20.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Sindianet Zeidane	-266 363	45 693			12.50			Under construction	NLWE
Sir El Gharbiye Ain Yaloush Well	-352 415	-90 099	200	250	34.00	Cenomanian/Turonian	C4c - C5		SLWE
Sir El Gharbiye El Mokhtar Well	-351 243	-90 708	358	450	15.00	Cenomanian/Turonian	C4c - C5		SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Sir El Gharbiye El Qalaa Well	-350 544	-90 278	365	480	18.00	Cenomanian/Turonian	C4c - C5		SLWE
Sirop Well	-349 106	-67 197	179		79.99			In service	SLWE
Sirop Well 2	-349 735	-66 800	97		100.01			In service	SLWE
Stouki Well 1	-341 877	-105 482	450	480	60.00			In Service	SLWE
Slouki Well 2	-341 855	-105 101	445	420	40.00			In Service	SLWE
Stouki Well 3	-341 662	-106 787	486	500	37.00			In Service	SLWE
Snaoubar well	-329 659	-87 118	617	250	75.00			In Service	SLWE
Sohmor Playground	-320 404	-69 632	907	154	35.00	Eocene	e2b	In service	BWE
Sohmor School	-321 544	-70 027	855	256	35.00	Eocene	e2b	In service	BWE
Sohmor Valley	-321 661	-70 293	826	470	10.08	Eocene	e2b	In service	BWE
Souwana Well	-346 401	-100 916	539	450	7.00			In Service	SLWE
Srairi Well	-327 950	-78 605	923					In service	SLWE
Srifa well	-349 336	-95 316	430		32.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Srifa-Niha well 1	-350 365	-96 359	395	380	25.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Srifa-Niha well 2	-348 344	-96 112	345	505	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Srifa-Niha well 3	-349 979	-96 018	414	508	30.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Sultan Yacoub El Tahta (Loussia 1)	-306 490	-56 115	906	170	22.50	Eocene	e2b	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Sultan Yacoub El Tahta (Loussia 2)	-306 874	-55 975	911	105	250.00	Eocene	e2b	In service	BWE
Sultan Yacoub El Tahta (Loussia 3)	-306 855	-55 958	911	160	100.00	Eocene	e2b	In service	BWE
Taazaniye	-326 394	-40 689	1 050	480	21.60	Lower Cretaceous	C1	Under construction	BMLWE
Tair Debbe well 1 (Imad Moughniye)	-360 343	-95 666	201	220	50.00		e1-e2	In Service	SLWE
Tair Debbe well 2 (el Jabana)	-360 817	-95 906	202	230	25.00		e1-e2	In Service	SLWE
Tair felsay Dahr el Ain well	-354 485	-92 942	285	400	33.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Tair Felsay el Aaqabe well	-353 890	-92 798	290	405	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Tair Harfa El Hamra well	-367 859	-111 845	394	530	23.80	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Tair Harfa El Rejmin well	-365 829	-111 637	471	650	30.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Tal Aabbas El Gharbi 1	-281 884	46 981	51					In service	NLWE
Tal Abbas	-282 432	46 380	62					In service	NLWE
Tal abbas El Gharbi	-282 336	46 424	62					In service	NLWE
Tal Homeira	-281 696	51 751						Proposed	NLWE
Tal Zanoub	-313 901	-53 526	912	250	75.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Talia New	-281 293	-25 369	1 042	350	86.40			In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Talia Old	-281 280	-25 361	1 044	80	33.75			In service	BWE
Tallouse Well	-341 371	-100 901	523	570	39.00				SLWE
Tamish	-326 851	-23 050	140	170	54.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Tanbourit Well	-346 851	-69 608	331		26.53			In service	SLWE
Tannoura	-310 828	-75 219	921	475	19.50	Jurassic	J4 - J7	In service	BWE
Taraya 1	-291 074	-19 076	1 262	380	67.50	Cenomanian/Turonian	C4 - C5	In service	BWE
Taraya 2	-291 070	-20 078	1 248	630	61.88	Cenomanian/Turonian	C4 - C5	In service	BWE
Tartej 1	-306 364	3 209	1 135	650		Cenomanian	C4	Out of service	BMLWE
Tartej 2	-306 407	2 899	1 175	650		Jurassic	J4	Out of service	BMLWE
Taybeh New Well	-276 478	-22 905	1 169	450	36.00				BWE
Taybeh Old	-276 667	-23 164	1 165	317	57.60			In service	BWE
Teffahta well 1	-351 682	-78 109	360	550	85.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Teffahta well 2	-351 665	-78 137	360	550	116.10	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Teffahta well 3	-351 667	-78 147	360	550	128.05	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Teffahta well 4	-351 684	-78 144	360	550	115.01	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Teffahta well 5	-351 663	-78 171	360	550	87.50	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Teffahta well 6	-351 644	-78 186	360	550	74.51	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Teffahta well 7	-351 638	-78 166	360	550	93.01	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Teffahta well 8	-351 607	-78 025	360	380	30.00	Cenomanian/Turonian	C4 - C5	Out of service	SLWE
Tell Hmaira well	-281 700	51 757	25	150	108.00			In service	NLWE
Temine El Faouqa 1	-293 390	-27 565	1 125	175	39.40			In service	BWE
Temine El Faouqa 2	-293 114	-27 915	1 108	250	28.75			In service	BWE
Terbol	-294 290	31 920	560	450	15.00	Miocene	m		NLWE
Terbol 1	-292 667	-39 235	895	96	45.00	Eocene	e2b	In service	BWE
Terbol 2	-292 597	-39 278	927	208	150.00	Eocene	e2b	In service	BWE
Terbol new well	-292 967	-39 579				Eocene	e2b	In service	BWE
Tfail	-257 629	-35 758	1 689	500	113.40	Cenomanian/Turonian	C4 - C5	In service	BWE
Tibnine well	-350 111	-105 874	637	650	20.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Tikrit	-273 993	38 657			72.00			In service	NLWE
Tiri Well	-349 928	-110 733	702	620	20.00			In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Tleil	-275 762	47 925						Proposed	NLWE
Touline Well-AI Koddam	-346 064	-98 800	464	468	40.00			In Service	SLWE
Toura el Mantra well	-357 777	-94 145	252	360	60.00		e1-e2	In Service	SLWE
Toura el Wadi well	-358 777	-94 141	105	160	31.00		e1-e2	In Service	SLWE
Tourza 1	-299 454	13 870	708					In service	NLWE
Tourza 2	-298 716	13 783	708	250	33.00			Proposed	NLWE
Villat Saida Well	-349 979	-66 323	55		180.00			In service	SLWE
Wadi Al khansa Well	-325 065	-94 397	461	470	15.00			In Service	SLWE
Wadi Chahrour 1	-331 440	-36 531	240	190	50.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Wadi Chahrour 2	-333 247	-36 623	165					Out of service	BMLWE
Wata el Sahle	-257 519	46 679	770	350	29.00	Cenomanian/Turonian	C4 - C5	In service	NLWE
Wata Houb 1	-299 112	3 819	1 400	135	82.00	Jurassic	J4		NLWE
Werdaniyeh 1(New)	-344 133	-58 883	370		36.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Werdaniyeh 2 (Old)	-344 437	-58 552	305	330	20.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Yammouneh	-288 181	-3 684	1 364	50	28.75			Out of service	BWE
Yammouneh Dar Al Ouassaa	-284 643	-6 707	1 338					In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Yanta	-298 239	-60 863	1 466	150	13.50	Jurassic	J4 - J7	In service	BWE
Yarine well	-365 522	-114 584	405	430	23.30	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Yaroun Wel	-348 619	-115 934	681	620	25.00			In Service	SLWE
Yarze	-333 349	-34 371	290	320	40.00	Cenomanian	C4c	In service	BMLWE
Yater Al Ghareb well	-356 563	-110 028	730	600	35.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Yater Tair Harma well	-357 673	-108 713	600	550	30.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Yater well	-356 075	-109 386	696	490	45.20	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Yohmor	-322 405	-73 738	945	400	43.20	Eocene	e2b	In service	BWE
Yohmor 1st	-323 170	-73 857	892	350	37.80	Eocene	e2b	In service	BWE
Yohmor El Nahr Well	-340 879	-93 056	150	550	29.00		e1-e2		SLWE
Younine	-264 824	-10 164	1 291	200	1.62	Cenomanian/Turonian	C4 - C5	In service	BWE
Zaarouriyeh 1	-337 289	-60 138	540	260	10.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Zaarouriyeh 2	-336 984	-59 299	630	435	30.00	Cenomanian/Turonian	C4 - C5	In Service	BMLWE
Zaatrieh	-331 514	-29 774	60	160	54.00	Lower Cretaceous	C1	In Service	BMLWE
Zabboud	-261 227	8 450	878	120	72.90	Cenomanian/Turonian	C4 - C5	In service	BWE
Zahle - Moustadira	-299 449	-36 013	915	200	126.00	Neogene/Quaternary	n/Q	In service	BWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Zahle - Wadi Al-Arayish 1	-301 684	-32 334	1 070	340	126.00	Cenomanian/Turonian	C4 - C5	In service	BWE
Zahle - Wadi Al-Arayish 2	-302 059	-32 024	1 100	200		Cenomanian/Turonian	C4 - C5	Out of service	BWE
Zahle Karak	-298 916	-34 389	944	115	15.84	Neogene/Quaternary	n/Q	Out of service	BWE
Zahle Lyceé 1	-300 564	-36 504	900	125	69.84	Neogene/Quaternary	n/Q	In service	BWE
Zahle Lyceé 2	-300 662	-36 491	900	125	72.00	Neogene/Quaternary	n/Q	In service	BWE
Zahle Maalaqa 1	-298 887	-35 335	913	200	64.80	Neogene/Quaternary	n/Q	In service	BWE
Zahle Maalaqa 2	-298 831	-35 276	913	125	90.00	Neogene/Quaternary	n/Q	In service	BWE
Zahle Maalaqa 3	-298 941	-35 381	913	200	72.00	Neogene/Quaternary	n/Q	In service	BWE
Zahle Yoyo	-300 044	-36 196	900	125	50.40	Neogene/Quaternary	n/Q	In service	BWE
Zakka	-335 264	-38 385	345	410	25.00	Cenomanian/Turonian	C4c - C5	In service	BMLWE
Zakka Nouveau	-335 215	-38 615	275	375				Under construction	BMLWE
Zakrit	-325 409	-23 641	225					In Service	BMLWE
Zakrit Mjarir	-325 700	-23 291	100					Out of service	BMLWE
Zalloutiye well	-364 263	-113 627	425	350	60.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Zaoutar El Charqiye El Hara el Faouqa well	-341 476	-91 181	490	600	30.00		e1-e2		SLWE
Zaoutar El Gharbiye Hay El Jiran	-343 688	-91 300	451	600	49.00		e1-e2		SLWE
Zebqine well 1	-361 947	-107 674	398	552	13.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE



List of wells in alphabetic order

Well name	Coordinates			Depth (m)	Yield (m ³ /h)	Geologie		Status	Under the jurisdiction of (water est.)
	X	Y	Z			Aquifer	Formation		
Zebqine well 2	-360 427	-108 301	460	520	18.00	Cenomanian/Turonian	C4 - C5	In Service	SLWE
Zefta Hay el Mawachi	-348 978	-77 103	341	480	36.85	Cenomanian/Turonian	C4 - C5		SLWE
Zefta Hay Malaab el Fajr	-348 461	-78 276	338	500	27.25	Cenomanian/Turonian	C4 - C5		SLWE
Zeita Well	-348 210	-71 315	310		59.00			In service	SLWE
Zekbi	-252 604	35 230	770	450	35.90			Under construction	BWE
Zekbi - Sahlet El May	-252 657	35 199	770	330	21.56			In service	BWE
Zellaya	-323 798	-76 554	776	410	28.80	Eocene	e2b	In service	BWE
Zhaime	-332 871	-32 481	65					Out of service	BMLWE
Zoghzoghi	-332 260	-29 425	25	99	90.00	Lower Cretaceous	C1	Out of service	BMLWE
Zouk Mosbeh	-325 572	-21 235	180	400	75.00			Out of service	BMLWE
Zouq el Habalsa	-285 461	39 232			50.40			In service	NLWE



APPENDIX IV C 3. LIST OF DAMS

List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Aassi Dam Phase II (BWE)	X -251766.33 Y 23631.11 Z 655 m	36°24'44.75" E 34°22'56.65" N	37	15	65	Proposed Ready for Construction	Irrigation Hydropower	- Construction of Assi Phase 2 Water and Irrigation Dam (15 MCM) is included in the Capital Investment Programme. - Tender documents available. EIA requires update
Aazbieh Lake (SLWE)	X -328911.38 Y -67063.65 Z 1135 m	35°36'29.49" E 33°32'38.06" N	0.6	0.6	37	Proposed Investigation stage	Potable	
Aazounieh Dam (BMLWE)	X -319105.31 Y -42273.27 Z 1106 m		4.1	5	53	Proposed Ready for Construction	Potable	- Construction of Water Supply dam (4-5 MCM) and associated water treatment plant, transmission lines and reservoirs including expropriations and supervision costs are included in the Capital Investment Programme. - Tender Documents available; ready for construction
Adline Noura Tahta (NLWE)	X -271271.37 Y 52435.54 Z 170 m		35	50	90	Proposed Investigation stage	Irrigation	- The study was stopped and will be studied again soon. - Construction of dam (35-50MCM) for Nour el Tahta and surrounding villages is included in the Capital Investment Programme. - Design is required
Ain Baal Dam (SLWE)	X -361131.84 Y -99916.44 Z 120 m		0.5	0.5	20	Proposed Investigation stage	Irrigation	



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Aita El Chaab Dam (SLWE)	X -353023.72 Y -114052.22 Z 550 m		1.8	1.8	20	Proposed Investigation stage	Potable Irrigation	
Ansar Dam (SLWE)	X -353411.41 Y -83341.43 Z 200 m		1.5	1.5	20	Proposed Investigation stage	Potable Irrigation	
Assi Dam - Phase I (BWE)	X -254785.8 Y 20476.18 Z 655 m	36°22'49.94"E 34°21'11.65"N		63	10	Under Construction	Irrigation	- During its construction, the dam was bombed in the war in 2006 and remained proposed since then. - Completion of execution works for Assi Phase 1 Water and Irrigation Dam (63 MCM), and supervision works is included in the Capital Investment Programme. - Design required for the plant and transmission pipe
Atolbe Lake (NLWE)	X -263129.18 Y 42230.3 Z 630 m	36°16'59.65"E 34°32'49.92"N	0.7	0.7	22	Proposed Investigation stage	Potable	- Construction of Water Supply hill lake (0.70 MCM) to supply Qbayat is included in the Capital Investment Programme. - At preliminary design stage
Balaa Dam (NLWE)	X -301978.65 Y 2095.74 Z 1520 m	35°52'27.28"E 34°10'30.12"N	1.2	2.2	35	Under Construction	Potable	- The dams needs around 3 years to be in service - The Construction of Water Treatment plant, transmission lines, and reservoirs for Balla dam is included in the Capital Investment Programme. - Dam is under construction. Tender documents for the plant and transmission pipe available - Additional funds to complete Balaa Water Supply dam (1.2- 2.2 MCM) are included in the Capital Investment Programme.



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Balatat El Jamajim Dam (SLWE)	X -359764.88 Y -85144.33 Z 50 m		2.5	2.5	20	Proposed Investigation stage	Irrigation	
Ballout Lake (BMLWE)	X -311801.04 Y -26241.61 Z 1460 m	35°46'40.39" E 33°55'0.68"N	0.5	0.5	15	Good	Potable Irrigation	
Bared Dam (NLWE)	X -290608.83 Y 34106.65 Z 180 m		37	90	88	Proposed Ready for Construction	Potable	- Construction of Water Supply dam (37-90) MCM) and associated water treatment plant and transmission network, including expropriation and supervision works is included in the Capital Investment Programme (Tender Documents available; ready for construction; EIA requires update) - Construction of Water transmission lines and reservoirs from El Bared Dams to the localities served is included in the Capital Investment Programme (Design required)
Barhacha Lake (BWE)	X -298865.5 Y -30544.87 Z 1324 m		0.55	0.55	24	Proposed Ready for Construction	Potable	- Construction of Water Supply Hill lake (0.55 MCM) is included in the Capital Investment Programme. - Tender Documents available; ready for construction. EIA requires update
Barich Dam (SLWE)	X -355225.09 Y -98481.7 Z 210 m		1.25	1.25	20	Proposed Investigation stage	Potable Irrigation	
Bisri Dam (BMLWE)	X -334530.46 Y -62095.21 Z 465 m		125	125	74	Under Construction	Potable irrigation Hydropower	- Remaining Expropriations for Bisri Dam are included in the Capital Investment Programme. - Additional funds of 15MUSD are required to complete the expropriations.



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Boqaata Dam (BMLWE)	X -313563.27 Y -21172.32 Z 1011.5 m	35°45'25.31" E 33°57'43.21" N	6	12	71.5	Under Construction	Potable	- The dam needs around 2 years to be in service. - Water treatment plant and water supply system for Beqaata Dam are included in the Capital Investment Programme. - Dam is under construction. Design required for the plant and transmission pipe
Brissa Dam (NLWE)	X -279729.9 Y 23620.72 Z 1972 m	36° 6'30.61"E 34°22'30.63" N	0.8	0.8	35	Needs repair	Irrigation	- Needs repair and can be in service in 2 years. - Consultancy services for a solution and implementation of the required works to solve the problems of the constructed Brissa dam (Irrigation 0.8MCM) are included in the Capital Investment Programme.
Chabrouh Dam (BMLWE)	X -306180.98 Y -14440.02 Z 1618 m	35°50'4.19" E 34°01'29.40" N	9	11	65	Good/2007	Potable Irrigation	- Chabrouh Dam System Networks required: 60km for Kfardebian, 28km for Faraya, and new networks for other villages are included in the Capital Investment program. - Remaining Expropriations for Chabrouh Dam (Expropriations of 4,000,000 m ² for Chabrouh Dam) are included in the Capital Investment program.
Chohour Dam (SLWE)	X -354615.34 Y -92218.63 Z m		0.56	0.56	20	Proposed Investigation stage	Potable	
Damour Dam (BMLWE)	X -339210.13 Y -49226.98 Z 150 m		42	106	100	proposed Feasibility Study stage	Potable Irrigation	- Construction of Water and Irrigation DAM (42-106 MCM) for Beirut and Damour region is included in the Capital Investment Programme. - Feasibility study done
Dar Boochtar Dam (NLWE)	X -309077.38 Y 12101.72 Z 300 m		7	7	45	Proposed Investigation stage	Potable	- Construction of Water and Irrigation Dam (7 MCM) for Koura and Batroun is included in the Capital Investment Programme. - At preliminary design stage



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Hadath El Jebbeh (NLWE)	X -295172.77 Y 7087.69 Z 1738 m	35°56'46.78" E 34°13'19.03" N	0.37	0.37	15	Proposed Ready for Construction	Potable	
Iaal Dam (NLWE)	X -297901.35 Y 21986.96 Z 261 m	35°54'41.79" E 34°21'19.50" N	12	18	60	Proposed Detailed Design phase	Potable Irrigation	- Construction of Water and Irrigation Dam (12-18 MCM) for Caza of Zgharta villages is included in the Capital Investment Programme.
Ibl Es Saki Dam (SLWE)	X -326930.79 Y -87931.65 Z 535 m	35°38'13.71" E 33°21'23.47" N	50	50	80	Proposed Ready for Construction	Potable Irrigation	- Construction of Irrigation and Water supply dam (50 MCM) on the Hasbani river next to Ibl es Saqi (the main use will be for Irrigation with 30% for water supply) is included in the Capital Investment Programme. - Tender documents available. Technical validation is required. - EIA requires update
Janneh Dam (BMLWE)	X -306015.1 Y -8276.14 Z 847 m		38	95	-60+100	Under Construction	Potable irrigation Hydropower	- The dams needs around 2 years to be in service. - Expansion of the Hydropower plant associated to Janneh DAM (current plan 50MW) to produce additional 100MW (totaling 150MW) is included in the Capital Investment program. - Transmission line from Janneh Dam to Greater Beirut is included in the Capital Investment program. - Dam is under construction. Design required for the plant and the transmission line.



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Jbaa Lake (SLWE)	X -337653.95 Y -72208.31 Z 510 m		0.26	0.26	30	Proposed Investigation stage	Potable Irrigation	
Jinsnaya Dam (SLWE)	X -345593.87 Y -66792.5 Z 188 m		0.95	0.95	38	Proposed Investigation stage	Potable	
Kammoua Lake (NLWE)	X -268371.47 Y 36042.65 Z 1447 m	36°13'41.08" E 34°29'24.36" N	1.2	1.2		Proposed Investigation stage	Irrigation	
Kfarhouna Lake (SLWE)	X -332299.95 Y -73174.99 Z m		1.2	1.2		Proposed Investigation stage	Irrigation	
Kfarsir Dam (SLWE)	X -345583.94 Y -92666.61 Z 160 m		15	15	50	Proposed Preliminary design stage	Potable Irrigation	- Detail Design will be done by Litani River Authority - Construction of Irrigation and Water supply dam (12 MCM) on the Litani river next to Kfar Sir village (the main use will be for Irrigation with 25% for water supply) is included in the Capital Investment Programme.
Kfarwa Lake (SLWE)	X -347224.53 Y -76802.73 Z 180 m		0.55	0.55	20	Proposed Investigation stage	Potable	
Khardaly Dam (SLWE)	X -335769.66 Y -89616.56 Z 310 m		120	120	77	Proposed Preliminary design stage	Potable Irrigation	- Detail Design will be done by Litani River Authority. - Construction of Irrigation and Water supply dam (120 MCM) on Litani river (Khardali segment) including downstream works (the main use will be for Irrigation with 15-20% for water supply) is included in the Capital Investment programme.



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Khiam Dam (SLWE)	X -332532.84 Y -91125.22 Z 520 m	35°34'41.48" E 33°19'33.67" N	0.85	0.85	10	Proposed Investigation stage	Irrigation	
Kouachra Lake Rehab. (NLWE)	X -270151.33 Y 48529.15 Z 380 m	36°12'17.20" E 34°36'7.75"N	0.4	0.4	11	Good	Irrigation	The dam is not being used currently. With the construction of a treatment plant, it can be used for potable water.
Kounine Dam (SLWE)	X -346578.89 Y -111006.07 Z 690 m	35°26'6.47"E 33° 8'32.91"N	0.75	0.75	20	Proposed Investigation stage	Potable Irrigation	
Lebaa Lake (SLWE)	X -342794.54 Y -65055.51 Z 275 m		0.8	0.8	25	Proposed Investigation stage	Potable	
Maaser El Chouf Dam (BMLWE)	X -323779.68 Y -52756.42 Z 1131.5 m	35°39'22.33" E 33°40'20.78" N 33°40'20.78" N	2.2	2.2	51.5	Proposed Ready for Construction	Potable	- Construction of Water Supply hill lake (2.2 MCM) and associated water treatment plant, transmission lines and reservoirs including expropriations and supervision costs are included in the Capital Investment Programme. - Tender Documents available; ready for construction. EIA requires update
Massa Dam (BWE)	X -285304.92 Y -33785.18 Z 1030 m	36° 4'0.14"E 33°51'23.01" N	8	8	35	Proposed Preliminary design stage	Potable Irrigation	Included in the Capital Investment Programme.



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Mseilha Dam (NLWE)	X -318248.47 Y 13785.58 Z 75.5 m	35°41'36.99" E 34°16'31.87" N	6	12	35	Under Construction	Potable Irrigation	- The dams needs around 1.5 years to be in service. - The Construction of Water Treatment plant, transmission lines, and reservoirs for Mseilha DAM is included in the Capital Investment Programme. - Tender documents available - Additional funds to complete Mseilha Water Supply and Irrigation dam (6-12 MCM) are included in the Capital Investment Programme.
Nabaa el Tasse - JarJou (SLWE)	X -336862.78 Y -77767.7 Z 650 m		0.5	0.5	20	Proposed Investigation stage	Potable	
Ouadi Chich-El Arz (NLWE)	X -286355.25 Y 7542.11 Z 1901 m	36° 2'30.56"E 34°13'42.60" N	0.2	0.2	40	Proposed-DD	Irrigation	
Ouadi Sbat Dam (BWE)	X -276384.76 Y -27662.98 Z 1208 m		1.5	1.5	40	Proposed Ready for Construction	Irrigation	
Qaraaoun Dam (SLWE)	X -321051.55 Y -64589.15 Z 861 m	35°41'30.70" E 33°34'6.97" N	220	300	62	Good/1962	Potable irrigation Hydropower	
Qarkaf Dam (NLWE)	X -287154.98 Y 37320.85 Z 208 m		20	25	68	Proposed Ready for Construction	Irrigation	- Expropriations issues - Construction of Irrigation DAM (20-25 MCM) for Akkar coastal region is included in the Capital Investment Programme.
Qaysamani Lake (BMLWE)	X -313364.06 Y -37335.64 Z 1503 m		1	1	15	Good	Potable	



List of Dams in alphabetic order

Dam	Location		Characteristics			Status	Use	Remarks
	(Deir el Zor)	(WGS 84) Long Lat	Static Storage (M m ³)	Dynamic Storage (M m ³ /year)	Dam Height (m)			
Rachaya-Ain Arab Lake (BWE)	X -305472.42 Y -63812.99 Z 1090 m	35°51'33.38" E 33°34'48.69" N	2	2		Proposed Investigation stage	Potable	
Rahwe Lake (NLWE)	X -292598.12 Y 3341.84 Z 2137 m		2.2	3.5	20	Proposed Ready for Construction	Potable Irrigation	- 20 m dam height, providing additional static storage capacity of 2 MCM for the irrigation of 200 ha is included in the Capital Investment Programme. - Design completed. New EIA required
Ratiba Lake (BMLWE)	X -296810.51 Y -2850.4 Z m	35°55'55.04" E 34° 7'55.01"N	0.12	0.12		Proposed Detailed Design stage	Potable Irrigation	
Salaa Lake (SLWE)	X -319152.66 Y -79994.11 Z 697 m	35°43'4.13"E 33°25'49.39" N	2.5	2.5		Proposed Investigation stage	Potable	
Yammouneh Lake (BWE)	X -287977.4 Y -4489.98 Z 1369 m	36°1'41.55"E 34°7'10.70"N	1.45	1.45	7	Good	Irrigation	Nature reserve
Younine Dam (BWE)	X -265749 Y -10819.2 Z 1253 m	36°16'15.55" E 34° 4'6.50"N	5.8	5.8	43	Proposed Ready for Construction	Potable Irrigation	Included in the Capital Investment Programme.



APPENDIX IV C 4. LIST OF WWTP

List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Aain Jarfa	SLWE	Hasbaiya	-322 453	-85 300	Unknown		Existing			
Aakar El Attiqa 1	NLWE	Akkar	-267 574	40 694	Trickling Filter	3 411	Proposed	Master Plan	26	11 815 712
Aakar El Attiqa 2	NLWE	Akkar	-267 388	42 301	Trickling Filter	4 264	Proposed	Master Plan	31	13 463 353
Aaouadi	NLWE	Akkar	-254 649	52 155	Activated Sludge	8 878	Proposed	Master Plan	40	19 150 741
Aaouinat	NLWE	Akkar	-261 283	51 198	Wetland	406	Proposed	Master Plan	7	1 918 806
Aarida	NLWE	Akkar	-290 864	52 138	Trickling Filter	512	Proposed	Master Plan	4	3 721 803
Abdine	NLWE	Bcharre	-301 091	13 681	Wetland	7 680	Proposed	Master Plan Financing available		
Ablah	BWE	Zahle	-293 616	-33 637	Trickling filter	2 000	Existing			
Abou-Mizane	BMLWE	El Metn	-316 873	-23 176	Unknown	1 018	Proposed	Master Plan	23	6 998 380
Achqout	BMLWE	Kasrouane	-318 817	-18 379	Unknown	4 477	Proposed	Master Plan	71	20 712 813
Aghmid	BMLWE	Aley	-322 263	-44 177	Unknown	2 253	Proposed	Feasibility Study	26	10 238 920
Ain Tanta	NLWE	Akkar	-272 964	46 422	Trickling Filter	2 858	Proposed	Master Plan	23	10 747 705
Ainata	BWE	Baalbeck	-283 330	2 167	Activated Sludge	618	Proposed	Master Plan	7	1 645 000



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Ainbal	BMLWE	Chouf	-332 847	-55 111	MBBR	4 200	Existing			
Akkar El Atika 1	NLWE	Akkar	-267 471	41 000	Unknown		Existing			
Akroum	NLWE	Akkar	-253 071	44 740	Trickling Filter	1 015	Proposed	Master Plan	4	5 070 513
Al Ghadir	BMLWE	Baabda	-339 511	-36 675	Preliminary Treatment	306 430	Existing			
Al Qaa	BWE	Baalbeck	-246 328	20 425	Activated Sludge	4 917	Proposed	Master Plan	145	23 475 000
Ammatour	BMLWE	Chouf	-329 050	-56 685	Hybrid (Trickling Filter & Activated Sludge)	900	Existing			
Arbet Koshaya	NLWE	Zgharta	-295 401	12 983	Trickling filter	672	Proposed	Master Plan	5	4 413 008
Arsale	BWE	Baalbeck	-249 346	4 251	Trickling filter	9 121	Proposed	Detailed Design	61	11 135 000
Aslout	NLWE	Zgharta	-293 750	18 615	Trickling filter	593	Proposed	Master Plan	5	4 184 446
Azour	SLWE	Jezzine	-335 324	-64 519	Reed bed	2 185	Proposed	Feasibility Study	3	1 401 603
Azqey	NLWE	Miniyeh Denniyeh	-289 356	31 081	Wetland	83	Proposed	Master Plan	0	408 908
Baadarane	BMLWE	Chouf	-327 118	-57 258	Activated Sludge	250	Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Baazoune	NLWE	Bcharre	-291 539	9 554	RBC (Rotating biological contractors)	1 128	Proposed	Master Plan Financing available		
Bafliye	SLWE	Sour	-352 537	-97 007	Unknown	2 300	Proposed	Master Plan	31	11 061 667
Bakhaoun	NLWE	Miniyeh Dennyeh	-287 277	28 083	Activated sludge	15 680	Proposed	Detailed design Financing available	65	
Bane	NLWE	Bcharre	-294 496	13 227	Wetland	504	Proposed	Master Plan Financing available		
Barouk	BMLWE	Chouf	-322 552	-49 569	Activated Sludge with UV disinfection	1 200	Existing			
Bater	BMLWE	Chouf	-328 377	-60 561	Hybrid (Trickling Filter & Activated Sludge)	1 800	Existing			
Bcharre	NLWE	Bcharre	-288 600	9 700	Activated Sludge with nutrients removal	3 456	Under Construction			
Bcharre Reed bed	NLWE	Bcharre	-290 575	10 374	Reed Bed		Existing			
Bcheaali	NLWE	Batroun	-306 950	5 652	Activated Sludge	491	Under Construction			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Bchernata	NLWE	Miniyeh Dennyeh	-291 523	20 478	Wetland	132	Proposed	Master Plan	2	789 250
Bchtfine	BMLWE	Aley	-333 732	-47 623	Unknown	10 200	Proposed	Feasibility Study	50	26 010 005
Behouaita	NLWE	Miniyeh Dennyeh	-292 771	20 060	Wetland	116	Proposed	Master Plan	1	570 209
Beino	NLWE	Akkar	-272 688	41 872	Unknown	120	Existing			
Beit Lahia	BWE	Rachiaya	-313 637	-74 552	Unknown	2 843	Proposed	Feasibility Study	77	18 640 621
Beit Mounzer	NLWE	Bcharre	-298 645	11 573	Wetland	432	Proposed	Master Plan Financing available		
Beit Zoud	NLWE	Miniyeh Dennyeh	-290 119	27 599	Wetland	199	Proposed	Master Plan	1	677 896
Berhalione	NLWE	Bcharre	-301 716	11 652	Wetland	720	Proposed	Master Plan Financing available		
Bhannine	SLWE	Jezzine	-330 200	-63 365	Unknown	3 920	Proposed	Detailed design ongoing	69	18 886 412
Billa	NLWE	Bcharre	-300 270	12 252	Wetland	312	Proposed	Master Plan Financing available		
Bint Jubail	SLWE	Bint Jubail	-349 364	-115 671	Activated Sludge	6 396	Proposed	Detailed design Pledge to be financed		
Bisri	SLWE	Jezzine	-335 199	-63 168	Reed bed	1 480	Proposed	Feasibility Study	23	5 111 129



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Bkifa	BMLWE	Chouf	-338 386	-60 534	Reed bed	700	Proposed	Master Plan	57	10 958 823
Blaouza1	NLWE	Bcharre	-294 460	11 229	Reed bed	672	Proposed	Master Plan Financing available		
Blaouza2	NLWE	Bcharre	-295 018	11 909	Reed bed	312	Proposed	Master Plan Financing available		
Borj En-Naqoura	SLWE	Sour	-374 651	-112 324	Reed bed	1 500	Proposed			
Bou Zride	BMLWE	Aley	-331 354	-44 407	Reed bed	9 152	Proposed	Feasibility Study	141	37 630 648
Boudai	BWE	Baalbeck	-281 066	-9 927	Reed bed	4 220	Proposed	Master Plan	115	22 525 000
Bouhairat Toula	NLWE	Zgharta	-292 969	18 601	Reed bed	317	Proposed	Master Plan	2	1 006 611
Bqaa Kafra	NLWE	Bcharre	-289 941	8 314	Reed bed	1 680	Proposed	Master Plan Financing available		
Bqarezla	NLWE	Akkar	-284 915	38 640	Reed bed	100	Existing			
Bqerqasha	NLWE	Bcharre	-290 618	9 311	Reed bed	1 272	Proposed	Master Plan Financing available		
Braiqeaa	SLWE	Nabatiye	-352 258	-87 823	Reed bed	962	Proposed	Master Plan	100	34 200 035
Breissat	NLWE	Bcharre	-295 881	9 266	Reed bed	240	Proposed	Master Plan Financing available		
Btaaboura	NLWE	Koura	-311 980	13 899	Reed bed	191	Proposed	Master Plan	1	725 343



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Bteddine El-Lekche	SLWE	Jezzine	-333 658	-63 694	Reed bed		Existing			
Btoumaz 1	NLWE	Miniyeh Denniyeh	-286 571	28 858	Reed bed	3 413	Proposed	Master Plan	13	9 943 405
Btoumaz 2	NLWE	Miniyeh Denniyeh	-286 286	30 092	Reed bed	545	Proposed	Master Plan	0	3 323 053
Burj Hammoud	BMLWE	El Metn	-333 470	-27 168	Reed bed	325 000	Proposed	preliminary treatment under construction. Extension under design	207	171 965 997
Chaat	BWE	Baalbeck	-263 616	1 827	Reed bed	11 893	Proposed	Master Plan	135	35 225 000
Chabriha	SLWE	Sour	-365 341	-92 941	Reed bed	55 000	Existing			
Chabtine	NLWE	Batroun	-314 537	7 629	Reed bed	1 040	Proposed	Detailed design Financing available		
Chane	NLWE	Akkar	-279 692	36 441	Reed bed	1 083	Proposed	Master Plan	1	4 734 574
Chaqra	SLWE	Bint Jubail	-341 839	-104 527	Reed bed	1 300	Proposed	Master Plan		
Charbila	NLWE	Akkar	-275 875	46 707	Reed bed	237	Existing			
Charqiye	SLWE	Nabatiye	-345 511	-81 242	Reed bed	20 400	Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Chebaa	SLWE	Hasbaya	-316 550	-89 176	Reed bed		Existing			
Chebaa	SLWE	Hasbaya	-317 646	-89 892	Reed bed		Proposed	Detailed design Financing available		
Cheikh Zennad	NLWE	Akkar	-290 185	49 886	Reed bed	1 361	Proposed	Master Plan	2	5 488 037
Chekka	NLWE	Batroun	-314 252	20 717	Reed bed	1 742	Existing			
Chekka	NLWE	Koura	-314 311	20 690	Reed bed	2 200	Existing			
Chikhlar	NLWE	Akkar	-264 306	50 562	Reed bed	203	Proposed	Master Plan	3	1 057 127
Chir Hmairine	NLWE	Akkar	-280 859	51 825	Reed bed	5 850	Proposed	Master Plan	29	14 673 261
Chlifa	BWE	Baalbeck	-279 713	-8 945	Reed bed	1 281	Proposed	Master Plan	50	8 250 000
Chourit	BMLWE	Chouf	-326 176	-45 164	Reed bed	13 000	Proposed	Master Plan	164	45 889 306
Dabbabiye 1	NLWE	Akkar	-268 766	51 052	Reed bed	220	Proposed	Master Plan	1	792 217
Dabbabiye 2	NLWE	Akkar	-270 012	51 279	Reed bed	220	Proposed	Master Plan	2	979 678
Dahr Abi Yaghi	NLWE	Batroun	-315 652	4 448	Reed bed	150	Proposed	Master Plan	10	2 491 000
Dahr Er Ramli	SLWE	Jezzine	-332 918	-64 974	Reed bed		Existing			
Danbo 1	NLWE	Akkar	-282 583	37 066	Reed bed	5 509	Proposed	Master Plan	35	16 273 048
Daoura	NLWE	Akkar	-269 552	42 596	Reed bed	1 000	Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Darine	NLWE	Akkar	-279 258	48 849	Reed bed	435	Proposed	Master Plan	1	1 104 777
Deir baba	BMLWE	Chouf	-337 354	-49 428	Reed bed	2 464	Proposed	Detailed Design	68	16 114 349
Deir El Ahmar	BWE	Baalbeck	-277 178	-5 584	Reed bed	600 to 6 870	Existing			
Deir El-Aachayer	BWE	Rachiaya	-290 321	-66 393	Reed bed	203	Proposed	Feasibility Study	6	2 064 146
Deir Mimas	SLWE	Marjaayoun	-335 668	-93 383	Reed bed		Existing			
Dimane	NLWE	Bcharre	-294 697	9 995	Reed bed	768	Proposed	Master Plan Financing available		
East Zahle (BTD)	BWE	Zahle	-295 488	-42 277	Reed bed		Proposed	Detailed design Financing available	25	
Ehden 1	NLWE	Zgharta	-293 001	14 183	Reed bed		Existing			
Ehden 2	NLWE	Zgharta	-295 565	16 676	Reed bed		Existing			
Ejdaabrine	NLWE	Koura	-314 384	13 462	Reed bed	1 323	Proposed	Master Plan	14	7 125 012
El Aabde	NLWE	Akkar	-289 862	42 250	Reed bed	39 010	Under Construction			
El Aichye	SLWE	Jezzine	-334 680	-81 944	Reed bed		Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
El Barde	NLWE	Akkar	-265 634	47 958	Reed bed	102	Proposed	Master Plan	2	667 025
El boustane	BWE	Hermel	-261 580	37 094	Reed bed	849	Proposed	Master Plan	25	3 975 000
El Fourzol	BWE	Zahle	-295 496	-34 223	Reed bed	1 000	Existing			
El Halaliyeh	BMLWE	Baabda	-324 168	-34 913	Reed bed	17 400	Proposed	Detailed design ongoing	57	29 401 389
El Khiam	SLWE	Marjaayoun	-330 992	-93 394	Reed bed	16 000	Under Construction			
El Majdal	NLWE	Akkar	-268 803	44 469	Reed bed	1 151	Proposed	Master Plan	4	5 365 733
El Mdaouich	BWE	Hermel	-267 347	25 595	Reed bed	858	Proposed	Master Plan	20	3 300 000
El Rihane	SLWE	Jezzine	-334 906	-78 268	Reed bed	1 550	Existing			
El-Abadiyeh	BMLWE	Baabda	-328 173	-34 120	Reed bed		Proposed	Detailed design ongoing	55	19 407 277
El-fouara	BMLWE	Chouf	-325 857	-48 430	Reed bed	2 353	Proposed	Feasibility Study	36	11 420 796
El-Ghabbatieh-Old	SLWE	Jezzine	-330 640	-63 025	Reed bed		Existing			
El-Jdeide	BMLWE	Chouf	-328 503	-54 005	Reed bed	4 928	Existing			
El-Khreibe	BMLWE	Chouf	-326 167	-55 535	Reed bed	450	Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
El-Kneisse	BMLWE	Baabda	-322 737	-30 402	Reed bed	13 900	Proposed	Detailed design ongoing	80	29 332 654
El-Moukhtara	BMLWE	Chouf	-328 385	-54 490	Reed bed	450	Existing			
Es Souan	BMLWE	El Metn	-319 871	-23 699	Reed bed	5 681	Proposed	Master Plan	57	20 676 360
Fardis Hasbaiya	SLWE	Hasbaiya	-324 057	-86 380	Reed bed		Existing			
Fatre	BMLWE	Jubail	-319 231	-7 407	Reed bed	1 550	Proposed	Feasibility Study	56	12 656 097
Ferhet	BMLWE	Jubail	-314 186	-5 822	Reed bed	2 185	Proposed	Feasibility Study	88	17 935 034
Fraidis	NLWE	Akkar	-267 897	50 180	Reed bed	306	Proposed	Master Plan	4	1 357 647
Froun	SLWE	Bint jubail	-345 326	-93 535	Reed bed	10 000	Proposed	Master Plan		
Ghalboun	BMLWE	Jubail	-318 622	2 563	Reed bed	1 875	Proposed	Feasibility Study	80	19 426 489
Gharife	BMLWE	Chouf	-333 875	-56 646	Reed bed	1 125	Existing			
Ghazir/Adma	BMLWE	Kasrouane	-323 595	-15 067	Reed bed	48 000	Proposed	Under tendering	540	
Habchit	NLWE	Akkar	-281 313	33 786	Reed bed	584	Proposed	Master Plan	11	4 949 824
Hadath Al Joubbeh	NLWE	Bcharre	-296 266	10 193	Reed bed	1 728	Proposed	Master Plan Financing available		
Hadchite	NLWE	Bcharre	-292 748	10 441	Reed bed	2 208	Proposed	Master Plan Financing available		



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Hallousye	SLWE	Sour	-355 515	-91 408	Reed bed	1 816	Proposed	Master Plan	29	9 745 472
Haouch El Qinnabe	BWE	Rachiaya	-313 753	-74 366	Reed bed	4 824	Proposed	Feasibility Study	139	15 940 709
Haoura 1	NLWE	Miniyeh Dennyeh	-281 927	28 926	Reed bed	1 474	Proposed	Master Plan	4	5 957 619
Haoura 2	NLWE	Miniyeh Dennyeh	-283 832	28 359	Reed bed	414	Proposed	Master Plan	1	1 020 371
Haqel	BMLWE	Jubail	-313 532	2 117	Reed bed	111	Proposed	Feasibility study Required	8	1 952 277
Hasbaiya	SLWE	Hasbaiya	-326 262	-85 762	Reed bed	2 021	Proposed	Detailed design Pledge to be financed	90	
Hasbaiya El-Matn	BMLWE	El Metn	-313 970	-30 994	Reed bed	1 567	Proposed	Master Plan	51	12 309 540
Hasroune1	NLWE	Bcharre	-291 814	9 485	Reed bed	2 592	Proposed	Master Plan Financing available		
Hasroune2	NLWE	Bcharre	-293 325	9 542	Reed bed	384	Proposed	Master Plan Financing available		
Haytoura	SLWE	Jezzine	-334 455	-69 003	Reed bed		Existing			
Hdeine	BMLWE	Jubail	-302 158	-7 328	Reed bed		Proposed	Feasibility study Required	48	11 519 659
Hebbariye	SLWE	Hasbaiya	-321 333	-87 042	Reed bed		Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Hekr ed Dahri	NLWE	Akkar	-286 955	52 558	Reed bed	981	Proposed	Master Plan	2	4 697 861
Helouet Rachaiya	BWE	Rachaiya	-290 755	-61 077	Reed bed	27	Proposed	Feasibility Study	4	784 184
Hermel	BWE	Hermel	-247 981	30 117	Reed bed	2 500	Under Construction			
Hmaira	NLWE	Akkar	-285 189	36 658	Reed bed	100	Existing			
Hnaider	NLWE	Akkar	-249 025	48 735	Reed bed	402	Existing			
Hnaider	NLWE	Akkar	-248 346	48 708	Reed bed	1 316	Proposed	Master Plan	14	7 091 424
Houaich 1	NLWE	Akkar	-279 099	37 452	Reed bed	660	Proposed	Master Plan	7	4 675 840
Houaich 2	NLWE	Akkar	-281 146	38 303	Reed bed	396	Proposed	Master Plan	2	1 149 590
Hrajel	BMLWE	Kasrouane	-311 733	-15 935	Reed bed	5 148	Proposed	Under Construction soon	64	2 717 064
Hrar	NLWE	Akkar	-278 898	32 642	Reed bed	1 432	Proposed	Master Plan	23	8 603 855
laat	BWE	Baalbeck	-277 284	-12 693	Reed bed	12 500 to 20 300	Existing			
Izal	NLWE	Miniyeh Denniyeh	-293 783	24 470	Reed bed	1 258	Proposed	Master Plan	6	5 862 509
Jabal El-Botm	SLWE	Sour	-360 829	-105 655	Reed bed	1 500	Proposed	Master Plan	18	7 348 285



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Jairoun	NLWE	Miniyeh Dennyeh	-279 787	30 336	Reed bed	248	Proposed	Master Plan	1	820 616
Jbayl	BMLWE	Jubail	-323 562	-2 098	Reed bed	10 000	Existing			
Jebah	BMLWE	Chouf	-326 867	-59 283	Reed bed	300	Existing			
Jebrayel	NLWE	Akkar	-278 774	39 615	Reed bed	120	Existing			
Jebrayel	NLWE	Akkar	-278 774	39 615	Reed bed	17 275	Proposed	Master Plan	135	35 167 980
Jenta	BWE	Baalbeck	-282 230	-34 230	Reed bed	512	Proposed	Master Plan	9	1 815 000
Jijim	SLWE	Sour	-368 870	-112 633	Reed bed	4 500	Proposed	Master Plan	26	14 251 456
Joub Janine	BWE	West Bekaa	-312 854	-57 252	Reed bed	10 000	Existing			
Jrabta	NLWE	Batroun	-319 482	6 564	Reed bed	300	Proposed	Master Plan	21	4 595 100
Kafra Bant Jbayl	SLWE	Bint Jubail	-353 766	-105 661	Reed bed	3 621	Proposed	Master Plan	44	15 317 930
Kaftoune	NLWE	Koura	-310 558	12 885	Reed bed	3 266	Proposed	Master Plan	73	18 409 447
Karha	NLWE	Akkar	-247 747	50 777	Reed bed	677	Proposed	Master Plan	4	4 185 827
Karm El Moher	NLWE	Miniyeh Dennyeh	-291 502	23 024	Reed bed	360	Proposed	Master Plan	5	1 599 566
Kartada	BMLWE	Baabda	-326 409	-31 396	Reed bed	7 000	Proposed	Detailed design ongoing	24	13 906 832



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Kfar Chouba	SLWE	Hasbaiya	-322 604	-91 834	Reed bed		Proposed	Detailed design Financing available		
Kfar Halda	NLWE	Batroun	-306 760	9 126	Reed bed	3 525	Under Construction			
Kfar Hamam	SLWE	Hasbaiya	-323 100	-89 597	Reed bed		Existing			
Kfar hay	NLWE	Batroun	-315 131	10 275	Reed bed	2 146	Proposed	Detailed design Financing available		
Kfar Mashoun	BMLWE	Jubail	-319 701	372	Reed bed	985	Proposed	Feasibility Study	36	9 271 624
Kfar Noun	NLWE	Akkar	-266 176	50 677	Reed bed	406	Proposed	Master Plan	4	1 515 264
Kfar Qouq	BWE	Rachiaya	-304 775	-69 626	Reed bed	1 243	Proposed	Feasibility Study	53	11 790 943
kfar sir	SLWE	Nabatiye	-349 605	-91 963	Reed bed		Existing			
Kfar Toun 1	NLWE	Akkar	-255 896	44 002	Reed bed	965	Proposed	Master Plan	12	6 099 510
Kfar Toun 2	NLWE	Akkar	-256 530	42 518	Reed bed	965	Proposed	Master Plan	10	5 840 499
Kfarkatra	BMLWE	Chouf	-330 186	-48 057	Reed bed	210	Existing			
Kfarsghab	NLWE	Zgharta	-293 855	13 544	Reed bed	587	Proposed	Master Plan	4	3 935 336
Kharbet Jbayl	BMLWE	Jubail	-313 399	3 118	Reed bed	1 480	Proposed	Feasibility Study	61	14 809 271
Khouchara	BMLWE	EI Metn	-315 100	-24 000	Reed bed	8 432	Under Construction			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
knaisse 1	NLWE	Akkar	-248 471	48 211	Reed bed	532	Existing			
knaisse 2	NLWE	Akkar	-248 521	48 225	Reed bed	532	Existing			
Knaisse Massaaoudiye	NLWE	Akkar	-287 301	50 704	Reed bed	1 394	Proposed	Master Plan	7	6 199 669
Kouakh	BWE	Hermel	-253 285	32 786	Reed bed	770	Existing			
Lassa	BMLWE	Jubail	-304 259	-8 003	Reed bed		Proposed	Feasibility study Required	41	9 437 182
Maaraboun	BWE	Baalbeck	-274 709	-35 411	Reed bed	895	Proposed	Master Plan	12	2 620 000
Maasser el-Chouf	BMLWE	Chouf	-324 067	-53 318	Reed bed	450	Existing			
Machghara	BWE	West Bekaa	-321 162	-67 051	Reed bed	5 000	Existing			
Machta Hammoud	NLWE	Akkar	-265 514	45 557	Reed bed	2 400	Existing			
Madfoun	NLWE	Batroun	-322 576	6 660	Reed bed	1 823	Proposed	Preliminary Design Financing available		
Majdala	NLWE	Akkar	-286 146	37 349	Reed bed	120	Existing			
Majdel Anjar/ El Marj	BWE	Zahle	-306 231	-45 521	Reed bed	45 000	Under construction			
Majdel Balhis	BWE	Rachiaya	-317 980	-69 884	Reed bed	482	Proposed	Feasibility Study	26	5 817 183



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Makhada	BMLWE	Kasrouane	-327 275	-22 331	Reed bed	42 000	Proposed	Detailed Design ongoing Financing available	354	
Mansouri Sour	SLWE	Sour	-368 795	-105 732	Reed bed	3 500	Proposed	Master Plan	47	15 539 496
Mazraat Assaf	NLWE	Bcharre	-301 695	10 345	Reed bed	240	Proposed	Master Plan Financing available		
Mazraat Balde	NLWE	Akkar	-275 859	44 068	Reed bed		Existing			
Mazraat Bani Saab	NLWE	Bcharre	-300 906	10 350	Reed bed	312	Proposed	Master Plan Financing available		
Mazraat el Mahtaqa	BMLWE	Chouf	-340 434	-62 883	Reed bed	118	Proposed	Master Plan	9	2 083 644
Mazraat En Nahriye 1	NLWE	Akkar	-262 131	47 764	Reed bed	626	Proposed	Master Plan	12	5 279 116
Mazraat En Nahriye 2	NLWE	Akkar	-264 204	48 552	Reed bed	372	Proposed	Master Plan	8	2 016 367
Mazraet El-Chouf	BMLWE	Chouf	-329 505	-56 921	Reed bed	2 182	Proposed	Detailed design ongoing	27	8 171 780
Mchikha	BMLWE	El Metn	-315 791	-29 673	Reed bed	1 812	Proposed	Detailed design	59	13 642 314
Meimes	SLWE	Hasbaiya	-319 852	-81 776	Reed bed		Existing			
Memneaa	NLWE	Akkar	-272 872	37 627	Reed bed	575	Proposed	Master Plan	13	5 277 543



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Menjez	NLWE	Akkar	-266 900	49 756	Reed bed	192	Proposed	Master Plan	5	1 753 510
Meri	SLWE	Hasbaiya	-326 472	-91 770	Reed bed		Existing			
Michmich	NLWE	Akkar	-274 831	32 782	Reed bed	8 043	Under Construction			
Moghr El Aoual	NLWE	Bcharre	-301 339	14 849	Reed bed	432	Proposed	Master Plan Financing available		
Mouanse	NLWE	Akkar	-253 445	47 947	Reed bed	406	Proposed	Master Plan	4	1 515 264
Mrah et Khaoukh	NLWE	Akkar	-255 012	45 704	Reed bed	1 157	Proposed	Master Plan	9	6 067 526
Mrah Yassine	BWE	Hermel	-255 675	19 266	Reed bed	275	Proposed	Master Plan	70	9 650 000
Mriste	BMLWE	Chouf	-325 474	-58 814	Reed bed	225	Existing			
Nabaa EL Safa	BMLWE	Chouf	-320 109	-44 619	Reed bed	3 000	Existing			
Noura el Tahta	NLWE	Akkar	-271 893	50 989	Reed bed	579	Proposed	Master Plan	5	4 117 018
Ouadi Houjair	SLWE	Bint Jubail	-346 717	-89 990	Reed bed	26 093	Proposed	Detailed design ongoing	623	122 308 862
Ouyoun Orghoch	BWE	Baalbeck	-278 140	10 206	Reed bed	74	Proposed	Master Plan	6	1 010 000
Qabaait	NLWE	Akkar	-281 696	31 344	Reed bed	1 350	Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Qarn	NLWE	Miniyeh Dennyeh	-278 720	31 021	Reed bed	248	Proposed	Master Plan	0	394 357
Qartaba	BMLWE	Jubail	-304 172	-7 179	Reed bed	1 800	Under Construction			
Qatlabe	NLWE	Akkar	-262 953	42 506	Reed bed	338	Proposed	Master Plan	6	1 632 813
Qattine	NLWE	Miniyeh Dennyeh	-287 056	26 300	Reed bed	8 988	Proposed	Master Plan	24	16 871 143
Qaytoule	SLWE	Jezzine	-334 519	-67 949	Reed bed	985	Existing			
Qbaiyat	NLWE	Akkar	-265 514	45 557	Reed bed	1 350	Existing			
Qemmamine	NLWE	Miniyeh Dennyeh	-276 507	28 620	Reed bed	215	Proposed	Master Plan	2	909 742
Qnat	NLWE	Bcharre	-300 243	10 607	Reed bed	624	Proposed	Master Plan Financing available		
Qnayouer	NLWE	Bcharre	-296 995	12 095	Reed bed	384	Proposed	Master Plan Financing available		
Qochloq	NLWE	Akkar	-275 287	50 242	Reed bed	575	Proposed	Master Plan	2	3 654 789
Qorqraiya	BMLWE	Jubail	-308 231	-8 614	Reed bed	49	Proposed	Feasibility study Required	13	2 277 428
Qraiya	NLWE	Akkar	-275 267	35 454	Reed bed	508	Proposed	Master Plan	3	3 652 349
Rahbe	NLWE	Akkar	-276 336	38 700	Reed bed	300	Existing			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Rahbe	NLWE	Akkar	-277 395	36 746	Reed bed	1 653	Proposed	Master Plan	18	8 289 693
Ram	NLWE	Batroun	-309 514	3 690	Reed bed	100	Proposed	Master Plan	3	1 277 300
Ras Baalbek	BWE	Baalbeck	-256 283	12 257	Reed bed	17 296	Proposed	Master Plan	207	56 945 000
Ras Nabi Younes	BMLWE	Chouf	-347 924	-55 320	Reed bed	38 000	Existing			
Rimhala	BMLWE	Aley	-332 263	-45 125	Reed bed		Existing			
Roum	SLWE	Jezzine	-337 182	-65 220	Reed bed	635	Proposed	Feasibility Study	10	1 459 025
Saghbine	BWE	West Bekaa	-321 102	-62 480	Reed bed	560	Existing			
Sahel Hermel	BWE	Hermel	-247 981	30 117	Reed bed	592	Proposed	Detailed design phase 2	111	33 485 000
Sahle	NLWE	Akkar	-257 510	48 296	Reed bed	534	Proposed	Master Plan	11	4 864 233
Sainiq	SLWE	Saida	-351 796	-67 172	Reed bed	1 443	Existing			
Salaiyeb	SLWE	Hasbaiya	-328 749	-96 756	Reed bed		Existing			
Salhani	SLWE	Bint Jubail	-359 103	-111 276	Reed bed	11 000	Proposed	Master Plan	218	51 127 711
Sanaya	SLWE	Jezzine	-336 220	-69 465	Reed bed		Existing			
Sarafand	SLWE	Saida	-354 641	-72 018	Reed bed		Under Construction			



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Selaata	NLWE	Batroun	-320 546	15 493	Reed bed		Existing			
Semmaqiye	NLWE	Akkar	-288 085	53 257	Reed bed	970	Proposed	Master Plan	4	4 897 015
Sfaray	SLWE	Jezzine	-339 971	-65 705	Reed bed	402	Proposed	Feasibility Study	14	4 444 373
Sindianet Zeidane	NLWE	Akkar	-266 477	45 374	Trickling Filter	5 847	Proposed	Master Plan	35	15 552 136
Sir El-Gharbiye	SLWE	Nabatiye	-352 288	-91 189	Unknown		Proposed	Master Plan	22	5 766 169
Sirjbal	BMLWE	Chouf	-337 852	-51 237	Biofilters	10 780	Proposed	Detailed design Financing available	193	7 056 701
Sohmor	BWE	West Bekaa	-322 422	-71 190	Activated Sludge	2 000	Proposed	Detailed Design ongoing	5	7 694 783
Srar	NLWE	Akkar	-277 137	49 974	Wetland	34	Proposed	Master Plan	1	333 497
Srayri	BWE	West Bekaa	-326 128	-79 531	Activated sludge	2 000	Proposed	Detailed Design ongoing	88	18 887 404
Tall Bire	NLWE	Akkar	-283 478	50 791	Trickling Filter	1 185	Proposed	Master Plan	0	4 874 081
Tamnine	BWE	Baalbeck	-292 057	-32 291	Activated Sludge	50 000	Proposed	Phase 1 Under construction Phase 2 studied and financed	335	84 225 000



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Tarane	NLWE	Miniyeh Dennyeh	-287 181	27 555	Trickling Filter	993	Proposed	Master Plan	1	4 502 170
Tartij	BMLWE	Jubail	-307 419	3 692	Unknown	402	Proposed	Feasibility study Required	14	3 854 948
Terbol	NLWE	Miniyeh Dennyeh	-294 592	32 344	Wetland	72	Proposed	Master Plan	1	409 352
Tfeil	BWE	Baalbeck	-256 833	-35 211	Activated Sludge	268	Proposed	Master Plan	5	975 000
Tibnine	SLWE	Bint Jubail	-348 931	-104 534	Activated Sludge	4 312	Existing			
Tourza	NLWE	Bcharre	-299 564	14 357	Wetland	840	Proposed	Master Plan Financing available		
Tripoli	NLWE	Tripoli	-303 770	33 214	Activated sludge	256 000	Existing			
Wadi Djezzine	SLWE	Jezzine	-331 063	-65 813	Aeration tanks		Existing			
Yamoune	BWE	Baalbeck	-287 189	-4 228	Activated Sludge	700	Existing			
Yanta	BWE	Rachiaya	-295 525	-60 995	Unknown		Existing			
Yohmor En-Nabatiyeh	SLWE	Nabatiye	-338 681	-92 254	Wetland	5 212	Existing			
Zabbougha	BMLWE	Kasrouane	-316 137	-21 635	MBR	2 000	Proposed	Networks designed WWTP not designed	45	12 428 410



List of WWTP in alphabetic order

WWTP Name	Water Est.	Caza	X	Y	Technology	Capacity (m ³ /d)	Status	Status of available studies	Needed sewer (Km)	Estimated cost (USD)
Zahle	BWE	Zahle	-299 806	-40 143	Activated sludge with nutrients removal	40 000	Existing			
Zaoutar Ech-Charqiye	SLWE	Nabatiye	-342 692	-90 652	Wetland	6 039	Existing			
Zhilta	SLWE	Jezzine	-334 863	-70 542	Reed Bed	74	Proposed	Feasibility Study	3	930 150
Zibdine Jbayl	BMLWE	Jubail	-318 715	-5 878	Activated Sludge	635	Proposed	Feasibility Study	29	6 928 193
Zouq El Mqachrine	NLWE	Akkar	-286 736	40 112	Unknown		Existing			

APPENDIX IV C 5. WATER BALANCES

Subsequent tables give the water balance of every distribution zone in Lebanon, sorted as follows :

NLWE	Page
DISTRICT OF QOBAYATE.....	IV C 125
DISTRICT OF HALBA.....	IV C 137
SAHEL AKKAR AREA.....	IV C 146
DISTRICT OF BATROUN.....	IV C 150
DISTRICT OF ED DANNIYEH.....	IV C 156
DISTRICT OF MINIEH.....	IV C 164
DISTRICT OF TRIPOLI.....	IV C 168
DISTRICT OF BCHARRE.....	IV C 170
DISTRICT OF KOURA.....	IV C 179
DISTRICT OF ZGHARTA.....	IV C 185
BWE	
DISTRICT OF BAALBECK.....	IV C 197
DISTRICT OF HERMEL.....	IV C 216
DISTRICT OF WEST BEKAA- RACHAYA.....	IV C 225
DISTRICT OF ZAHLE.....	IV C 235
SLWE	
DISTRICT OF ZAHRANI.....	IV C 244
DISTRICT OF SAIDA.....	IV C 248
DISTRICT OF JEZZINE.....	IV C 269
DISTRICT OF BINT JBEIL.....	IV C 279
DISTRICT OF HASBAYA.....	IV C 284
DISTRICT OF NABATIYE.....	IV C 290
DISTRICT OF SOUR.....	IV C 295
BMLWE	
DISTRICT OF BEIRUT.....	IV C 304
DISTRICT OF JBEIL.....	IV C 307
DISTRICT OF METN.....	IV C 315
DISTRICT OF BAABDA-ALEY.....	IV C 320
DISTRICT OF CHOUF.....	IV C 336
DISTRICT OF KESEROUANE.....	IV C 346



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 0				
Population				
Dayret Nahr El-Kabir	6 467	6 971	7 514	8 099
Aamayer	27 735	29 895	32 224	34 733
Qarha Aakkar	2 156	2 324	2 505	2 700
Hnaider	2 156	2 324	2 505	2 700
Kneisset Hnaider	2 573	2 773	2 989	3 222
Total Population	41 087	44 287	47 736	51 454
Water demand (m³/d)	8 217	8 857	9 547	10 291
Existing Water Sources				
Nabaa El Safa Spring (m ³ /d)	11 232	11 232	11 232	11 232
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	11 232	11 232	11 232	11 232
Water balance	3 015	2 375	1 685	941

Distribution system 1

Population				
Mouanse	1 259	1 357	1 463	1 577
Total Population	1 259	1 357	1 463	1 577
Water demand (m³/d)	252	271	293	315
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Mouase Well (m ³ /d)	605	605	605	605
Total (m³/d)	605	605	605	605
Water balance	353	334	312	290



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 2

Population				
Sahle	1 700	1 832	1 975	2 129
Bsatine	665	717	773	833
Wata Sahle	2 416	2 605	2 807	3 026
Mrah el Khokh	1 203	1 297	1 398	1 506
Qenia	3 590	3 870	4 171	4 496
Total Population	9 574	10 320	11 124	11 990
Water demand (m³/d)	1 915	2 064	2 225	2 398

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Bsatine, Qenia, Wata El Sahle and Sahle Wells (m ³ /d)	2 632	2 632	2 632	2 632
Total (m³/d)	2 632	2 632	2 632	2 632

Water balance	717	568	407	234
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Distribution system 3

Population				
Mazareaa Jabal Akroum	8 191	8 829	9 516	10 258
Total Population	8 191	8 829	9 516	10 258
Water demand (m³/d)	1 638	1 766	1 903	2 052

Existing Water Sources

Es Sabaa Spring (m ³ /d)	1 200	1 200	1 200	1 200
Akroum F1 and Kfartoun Wells (m ³ /d)	2 150	2 150	2 150	2 150
Total (m³/d)	3 350	3 350	3 350	3 350

Water balance	1 712	1 584	1 447	1 298
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DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 4				
Population				
Aandqet	3 773	4 066	4 383	4 725
Total Population	3 773	4 066	4 383	4 725
Water demand (m³/d)	755	813	877	945
Existing Water Sources				
El Qabou Spring (m ³ /d)	NA	NA	NA	NA
Gharbi and El Charqi Springs (m ³ /d)	136	136	136	136
Andaket Well (m ³ /d)	864	864	864	864
Total (m³/d)	1 000	1 000	1 000	1 000
Water balance	245	187	123	55

Distribution system 5

Population				
Qatlabeh	1 401	1 510	1 628	1 755
Total Population	1 401	1 510	1 628	1 755
Water demand (m³/d)	280	302	326	351
Existing Water Sources				
Hamade Spring (m ³ /d)	3 456	3 456	3 456	3 456
Qatlabe 1 Well (m ³ /d)	1 037	1 037	1 037	1 037
Total (m³/d)	4 493	4 493	4 493	4 493
Water balance	4 213	4 191	4 167	4 142



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 6 and 7				
Population				
Aaouaainat Aakkar	2 695	2 905	3 131	3 375
Khalsa	427	460	496	535
Khirbet Er Remmane	-	-	-	-
Mazraat En-Nahriyé	647	697	751	810
Bardé	431	465	501	540
Qbaiyat Aakkar	9 701	10 457	11 271	12 149
Total Population	13 900	14 984	16 150	17 408
Water demand (m³/d)	2 780	2 997	3 230	3 482
Existing Water Sources				
Nabaa el Joz Spring (m³/d)	1 996	1 996	1 996	1 996
Qoubayat 1/3 Well (m3/d)	-	400	400	400
Qoubayat 2/3 Well (m3/d)	-	648	648	648
Qoubayat Well (m3/d)	648	648	648	648
Total (m³/d)	2 644	3 692	3 692	3 692
Water balance	- 136	695	462	210
Present deficit will be covered by ongoing construction of new wells				

Distribution system 8

Population				
Aaidamoun	4 104	4 423	4 768	5 139
Total Population	4 104	4 423	4 768	5 139
Water demand (m³/d)	821	885	954	1 028
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Aidamoun Well (m3/d)	432	432	432	432
Qoubayat Wells (m³/d)	-	500	462	210
Total (m³/d)	432	932	894	642
Water balance	- 389	47	- 60	- 386
Proposed 1 new well - See Volume V-A project NL-W. H.7				



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 9				
Population				
Chadra	6 467	6 971	7 514	8 099
Total Population	6 467	6 971	7 514	8 099
Water demand (m³/d)	1 293	1 394	1 503	1 620
Existing Water Sources				
Spring (m ³ /d)	-	-	-	-
Chadra 1 (Al saha) Well (m ³ /d)	480	480	480	480
Chadra 2 Well (m ³ /d)	384	384	384	384
Mashta Hassan Well (m ³ /d)	336	336	336	336
Total (m³/d)	1 200	1 200	1 200	1 200
Water balance	- 93	- 194	- 303	- 420
Proposed 1 new well - See Volume V-A project NL-W. H.8				

Distribution system 10

Population				
Machta Hammoud	12 719	13 710	14 777	15 928
Total Population	12 719	13 710	14 777	15 928
Water demand (m³/d)	2 544	2 742	2 955	3 186
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Machta Hammoud Well (m ³ /d)	432	432	432	432
Total (m³/d)	432	432	432	432
Water balance	- 2 112	- 2 310	- 2 523	- 2 754
Proposed 3 new wells - See Volume V-A project NL-W. H.9				



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 11				
Population				
Sindianet Zeidane	5 713	6 158	6 637	7 154
Total Population	5 713	6 158	6 637	7 154
Water demand (m³/d)	1 143	1 232	1 327	1 431
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Sindyanet Zeidane Well (m ³ /d)	300	300	300	300
Qoubayat Wells (m ³ /d)	-	195	-	-
Total (m³/d)	300	495	300	300
Water balance	- 843	- 737	- 1 027	- 1 131
Proposed 2 new wells - See Volume V-A project NL-W. H.10				

Distribution system 13

Population				
Fraydes Aakkar	647	697	751	810
Baghdadi	2 156	2 324	2 505	2 700
Qsair Aakkar	329	354	382	412
Aamriyet Aakkar	1 299	1 400	1 509	1 627
Total Population	4 430	4 775	5 147	5 548
Water demand (m³/d)	886	955	1 029	1 110
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Qoubayat Wells (m ³ /d)	550	-	-	-
Total (m³/d)	550	-	-	-
Water balance	- 336	- 955	- 1 029	- 1 110
Proposed 1 new well - See Volume V-A project NL-W. H.11				



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 14				
Population				
Cheikhlar	989	1 067	1 150	1 239
Rmah	808	871	939	1 012
Total Population	1 798	1 938	2 089	2 252
Water demand (m³/d)	360	388	418	450
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Rmah El Nahriyeh Well (m ³ /d)	518	518	518	518
Total (m³/d)	518	518	518	518
Water balance	158	130	100	68

Distribution system 15

Population				
Mounjez	862	929	1 002	1 080
Total Population	862	929	1 002	1 080
Water demand (m³/d)	172	186	200	216
Existing Water Sources				
Jaalouk Spring (m ³ /d)	432	432	432	432
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	432	432	432	432
Water balance	260	246	232	216

Distribution system 16

Population				
Kfar Noun	485	523	564	607
Total Population	485	523	564	607
Water demand (m³/d)	97	105	113	121
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Kfar Noun Well (m ³ /d)	820	820	820	820
Total (m³/d)	820	820	820	820
Water balance	723	715	707	699



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 17				
Population				
Kouachra	4 850	5 228	5 635	6 074
Total Population	4 850	5 228	5 635	6 074
Water demand (m³/d)	970	1 046	1 127	1 215
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Kouaichra Well (m ³ /d)	432	432	432	432
Total (m³/d)	432	432	432	432
Water balance	- 538	- 614	- 695	- 783
Proposed 1 new well - See Volume V-A project NL-W. H.14				

Distribution system 18

Population				
Dibbabiyyé	1 730	1 865	2 010	2 167
Noura Et-Tahta	1 844	1 988	2 143	2 310
Total Population	3 574	3 853	4 153	4 476
Water demand (m³/d)	715	771	831	895
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Qobayat Wells (m ³ /d)	450	-	-	-
Total (m³/d)	450	-	-	-
Water balance	- 265	- 771	- 831	- 895
Proposed 1 new well - See Volume V-A project NL-W. H.15				



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 19				
Population				
Qachlaq	763	823	887	956
Aamaret El-Baykat	2 502	2 697	2 907	3 133
Ouadi El-Haour	634	683	736	794
Total Population	3 899	4 202	4 530	4 882
Water demand (m³/d)	780	840	906	976
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Aamaret El Baykat municipality well (m ³ /d)	130	130	130	130
Aamaret El baykat new Well (m ³ /d)	691	691	691	691
Total (m³/d)	821	821	821	821
Water balance	41	- 19	- 85	- 155
Proposed 1 new well - See Volume V-A project NL-W. H.16				

Distribution system 20

Population				
Mzeihmé	70	76	81	88
Haytla	1 104	1 190	1 282	1 382
Tleil	2 345	2 528	2 725	2 937
Saidnaya	515	555	599	645
Total Population	4 035	4 349	4 687	5 053
Water demand (m³/d)	807	870	937	1 011
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Qobayat Wells (m ³ /d)	250	-	-	-
Total (m³/d)	250	-	-	-
Water balance	- 557	- 870	- 937	- 1 011
Proposed 1 new well - See Volume V-A project NL-W. H.17				



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 21				
Population				
Janine	223	240	259	279
Srar	822	886	956	1 030
Total Population	1 046	1 127	1 215	1 309
Water demand (m³/d)	209	225	243	262
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Qobayat Wells (m ³ /d)	100	-	-	-
Total (m³/d)	100	-	-	-
Water balance	- 109	- 225	- 243	- 262
Proposed 1 new well - See Volume V-A project NL-W. H.18				

Distribution system 22

Population				
Msalla	129	139	150	162
Aain Ez-Zeit	2 749	2 963	3 193	3 442
Kafr	-	-	-	-
Charbila	793	855	922	993
Aain Tinta	1 876	2 022	2 179	2 349
Rihaniyet Aakkar	2 048	2 207	2 379	2 565
Douair Aadouiyé	1 327	1 430	1 542	1 662
Hmaiss Aakkar	-	-	-	-
Total Population	8 922	9 617	10 365	11 173
Water demand (m³/d)	1 784	1 923	2 073	2 235
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Qobayat Wells (m ³ /d)	300	-	-	-
Total (m³/d)	300	-	-	-
Water balance	- 1 484	- 1 923	- 2 073	- 2 235
Proposed 3 new wells - See Volume V-A project NL-W. H.19				



DISTRICT OF QOBAYATE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 23, 24 and 12				
Population				
Khirbet Daoud Aakkar	2 537	2 735	2 948	3 178
Sfinet Ed-Draib	770	830	894	964
Bsatine Aakkar	442	476	513	553
Daghlé	1 078	1 162	1 252	1 350
Khirbet Char	2 384	2 570	2 770	2 986
Majdel Akkar	3 665	3 950	4 258	4 590
Berbara Aakkar	539	581	626	675
Deir Jannine	647	697	751	810
Knissé	33	36	39	42
Balde WaMazraatBaldé	5 049	5 442	5 866	6 323
Hedd	853	919	991	1 068
Souaïssset Aakkar	3 019	3 254	3 508	3 781
Kfar Harra	566	610	657	709
Biret Aakkar	16 168	17 428	18 785	20 248
Total Population	37 750	40 690	43 859	47 275
Water demand (m³/d)	7 550	8 138	8 772	9 455
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Qobayat Wells (m3/d)	150	-	-	-
Khirbet Daoud well (m3/d)	864	864	864	864
El Bire Well (m3/d)	864	864	864	864
Total (m³/d)	1 878	1 728	1 728	1 728
Water balance	- 5 672	- 6 410	- 7 044	- 7 727
Proposed 8 new wells - See Volume V-A project NL-W. H.20				



DISTRICT OF HALBA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 1				
Population				
Aakkar El-Aatiqa	27 158	29 274	31 554	34 011
Total Population	27 158	29 274	31 554	34 011
Water demand (m³/d)	5 432	5 855	6 311	6 802
Existing Water Sources				
El Jawz Spring - used only in winter(m ³ /d)	-	-	-	-
Ain Taya Well (m ³ /d)	2 592	2 592	2 592	2 592
Total (m³/d)	2 592	2 592	2 592	2 592
Water balance	- 2 840	- 3 263	- 3 719	- 4 210
Proposed 4 new wells - See Volume V-A project NL-W. B.1				

Distribution system 2

Population				
Daouret Aakkar	11 857	12 780	13 776	14 848
Shakdouf Akkar	2 264	2 440	2 630	2 835
Total Population	14 120	15 220	16 405	17 683
Water demand (m³/d)	2 824	3 044	3 281	3 537
Existing Water Sources				
Chakdouf Well (m ³ /d)	2 400	2 400	2 400	2 400
Jawzat Al abadina Spring - used only in winter(m ³ /d)	-	-	-	-
Chouh2 Spring - used only in winter(m ³ /d)	-	-	-	-
Chouh1 Spring - used only in winter(m ³ /d)	-	-	-	-
Total (m³/d)	2 400	2 400	2 400	2 400
Water balance	- 424	- 644	- 881	- 1 137
Proposed 1 new well - See Volume V-A project NL-W. B.2				



DISTRICT OF HALBA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 3				
Population				
Beino	916	988	1 064	1 147
Aaiyat	4 312	4 647	5 009	5 399
Aayoun Aakkar	4 271	4 603	4 962	5 348
Qboula	755	813	877	945
Borj Aakkar	2 652	2 858	3 081	3 321
Tallet Chattaha	701	755	814	877
Tikrit	15 090	16 266	17 533	18 898
Aain Yaaqoub	1 832	1 975	2 129	2 295
Chaqdouf	539	581	626	675
Bezrina	4 689	5 054	5 448	5 872
Menneaa	753	812	875	944
Tshea	593	639	689	742
Total Population	37 102	39 991	43 106	46 463
Water demand (m³/d)	7 420	7 998	8 621	9 293
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Bazbina Well (only for Bazbina) (m³/d)	938	1 011	1 090	1 174
Aayoun Wells (m³/d)	-	5 150	5 150	5 150
Ain yaacoub2 Well (m³/d)	1 200	1 200	1 200	1 200
Tikrit well (m³/d)	1 728	1 728	1 728	1 728
Total (m³/d)	3 866	9 089	9 168	9 252
Water balance	- 3 555	1 090	546	- 40
Proposed 1 new well - See Volume V-A project NL-W. B.3				

Distribution system 4

Population				
Rahbé	8 623	9 295	10 019	10 799
Total Population	8 623	9 295	10 019	10 799
Water demand (m³/d)	1 725	1 859	2 004	2 160
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Rahbe Well (m³/d)	2 400	2 400	2 400	2 400
Total (m³/d)	2 400	2 400	2 400	2 400
Water balance	675	541	396	240



DISTRICT OF HALBA

sheet 3 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 5 and 6A				
Population				
Beit Mellat	1 890	2 037	2 195	2 366
Hayzouq	3 773	4 066	4 383	4 725
Machha	8 763	9 446	10 181	10 974
Dahr Laissine	1 067	1 150	1 240	1 336
Idbil	3 548	3 825	4 123	4 444
Jebrayel	1 617	1 743	1 878	2 025
Ilat	2 156	2 324	2 505	2 700
Total Population	22 813	24 590	26 505	28 570
Water demand (m³/d)	4 563	4 918	5 301	5 714
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Aayoun Wells (m ³ /d)	4 525	-	-	-
Total (m³/d)	4 525	-	-	-
Water balance	- 38	- 4 918	- 5 301	- 5 714
Proposed 6 new wells - See Volume V-A project NL-W. B.5				

Distribution system 7A

Population				
Jdidet Ej-Joumeh	4 042	4 357	4 696	5 062
Minyara	10 779	11 618	12 523	13 499
Cheikh Taba	5 174	5 577	6 011	6 479
Zouarib	1 617	1 743	1 878	2 025
Karm Aasfour	1 940	2 091	2 254	2 430
Qantarat Aakkar	1 526	1 645	1 773	1 911
Total Population	25 078	27 031	29 137	31 406
Water demand (m³/d)	5 016	5 406	5 827	6 281
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Minyara Well (m ³ /d)	-	1 728	1 728	1 728
Cheikh Taba Well (m ³ /d)	2 592	2 592	2 592	2 592
Ayoun Wells (m ³ /d)	2 425	-	-	-
Total (m³/d)	5 017	4 320	4 320	4 320
Water balance	1	- 1 086	- 1 507	- 1 961
Proposed 2 new wells - See Volume V-A project NL-W. B.6				



DISTRICT OF HALBA

sheet 4 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 7B

Population				
Hakour	808	871	939	1 012
Zouq El Hosniyé	5 297	5 709	6 154	6 633
Mazraat Beit Ghattas	-	-	-	-
Bqerzla	2 524	2 721	2 933	3 161
Mar Touma	3 773	4 066	4 383	4 725
Zouq El-Mogachrine	2 156	2 324	2 505	2 700
Zouq El-Hbalsa	1 127	1 215	1 310	1 412
Zouq El-Hadara	1 281	1 380	1 488	1 604
Majdala	3 773	4 066	4 383	4 725
Total Population	20 738	22 354	24 095	25 971
Water demand (m³/d)	4 148	4 471	4 819	5 194

Existing Water Sources

Springs (m³/d)	-	-	-	-
Ayoun Wells (m³/d)	4 125	-	-	-
Zouk El Hbalsa Wells (m³/d)	-	1 210	1 210	1 210
Total (m³/d)	4 125	1 210	1 210	1 210

Water balance	- 23	- 3 261	- 3 609	- 3 984
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Proposed 4 new wells - See Volume V-A project NL-W. B.7

Distribution system 8

Population				
Hmairé Aakkar	970	1 046	1 127	1 215
Qloud El-Baqié	352	380	410	441
Sayssouq	964	1 039	1 120	1 207
Total Population	2 286	2 464	2 656	2 863
Water demand (m³/d)	457	493	531	573

Existing Water Sources

Springs (m³/d)	-	-	-	-
Saysouk Wells (m³/d)	864	864	864	864
Total (m³/d)	864	864	864	864

Water balance	407	371	333	291
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DISTRICT OF HALBA

sheet 5 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 9				
Population				
Berqayel	27 545	29 691	32 003	34 496
Bzal	3 880	4 183	4 508	4 859
Sfaynet El-Qaitaa	3 277	3 532	3 807	4 104
Total Population	34 702	37 405	40 319	43 459
Water demand (m³/d)	6 940	7 481	8 064	8 692
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Bzal Wells (m ³ /d)	4 320	4 320	4 320	4 320
Total (m³/d)	4 320	4 320	4 320	4 320
Water balance	- 2 620	- 3 161	- 3 744	- 4 372
Proposed 5 new wells - See Volume V-A project NL-W. B.8				

Distribution system 10

Population				
Bebnine	44 193	47 635	51 345	55 344
Total Population	44 193	47 635	51 345	55 344
Water demand (m³/d)	8 839	9 527	10 269	11 069
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Rihaniye Well (m ³ /d)	3 024	3 024	3 024	3 024
Bebnine new Well (m ³ /d)	1 728	1 728	1 728	1 728
Bebnine Well (m ³ /d)	2 160	2 160	2 160	2 160
Total (m³/d)	6 912	6 912	6 912	6 912
Water balance	- 1 927	- 2 615	- 3 357	- 4 157
Proposed 4 new wells - See Volume V-A project NL-W. B.9				



DISTRICT OF HALBA

sheet 6 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 11				
Population				
Ouadi ej Jamous	8 623	9 295	10 019	10 799
Total Population	8 623	9 295	10 019	10 799
Water demand (m³/d)	1 725	1 859	2 004	2 160
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Ayoun Wells (m ³ /d)	1 725	-	-	-
Ouadi El jamous Wells (m ³ /d)	-	1 728	1 728	1 728
Total (m³/d)	1 725	1 728	1 728	1 728
Water balance	-	- 131	- 276	- 432
Proposed 1 new well - See Volume V-A project NL-W. B.10				

Distribution system 12

Population				
Qardaf	5 389	5 809	6 262	6 749
Beit El-Haouch	287	309	333	359
Jdeidet El-Qaitaa	8 375	9 027	9 731	10 488
Aayoun El-Ghizlane	1 015	1 094	1 180	1 272
Total Population	15 067	16 240	17 505	18 868
Water demand (m³/d)	3 013	3 248	3 501	3 774
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Ayoun Wells (m ³ /d)	2 750	-	-	-
Jdaidet El Qaitaa Well (m ³ /d)	260	260	260	260
Total (m³/d)	3 010	260	260	260
Water balance	- 3	- 2 988	- 3 241	- 3 514
Proposed 4 new wells - See Volume V-A project NL-W. B.11				



DISTRICT OF HALBA

sheet 7 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 14A				
Population				
Houaich	3 449	3 718	4 007	4 320
Chane	3 449	3 718	4 007	4 320
Khreibet Aakkar	868	935	1 008	1 087
Total Population	7 766	8 371	9 023	9 726
Water demand (m³/d)	1 553	1 674	1 805	1 945
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Hrar Regional Reservoir (m ³ /d)	500	-	-	-
Houaich Well (m ³ /d)	-	2 592	2 592	2 592
Total (m³/d)	500	2 592	2 592	2 592
Water balance	- 1 053	918	787	647
Proposed 1 new well - See Volume V-A project NL-W. B.12				

Distribution system 14B				
Population				
Qornet Aakkar	6 467	6 971	7 514	8 099
Michmich Aakkar	21 558	23 237	25 046	26 997
Qraiyat	1 832	1 975	2 129	2 295
Beit Younes	2 695	2 905	3 131	3 375
Beit Ayoub	2 103	2 267	2 443	2 634
Sadaqa	199	215	232	250
Total Population	34 854	37 569	40 495	43 649
Water demand (m³/d)	6 971	7 514	8 099	8 730
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Hrar Regional Reservoir (m ³ /d)	500	-	-	-
Michmich 1 Well (m ³ /d)	1 200	1 200	1 200	1 200
Michmich 2 Well (m ³ /d)	432	432	432	432
Total (m³/d)	2 132	1 632	1 632	1 632
Water balance	- 4 839	- 5 882	- 6 467	- 7 098
Proposed 7 new wells - See Volume V-A project NL-W. B.13				



DISTRICT OF HALBA

sheet 8 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 14C

Population				
Dinbou	23 530	25 363	27 338	29 467
Habchit	1 860	2 005	2 162	2 330
Hrar	5 066	5 461	5 886	6 344
Qabaait	6 467	6 971	7 514	8 099
Total Population	36 924	39 800	42 900	46 241
Water demand (m³/d)	7 385	7 960	8 580	9 248

Existing Water Sources

Keftine Spring (m ³ /d)	3 024	3 024	3 024	3 024
Naassah Spring (m ³ /d)	1 160	2 160	2 160	2 160
Mbarkiye Well (m ³ /d)	672	672	672	672
Habchit Wells (m ³ /d)	360	360	360	360
Total (m³/d)	5 216	6 216	6 216	6 216

Water balance	- 2 169	- 1 744	- 2 364	- 3 032
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Proposed 3 new wells - See Volume V-A project NL-W. B.14

Distribution system 14D

Population				
Fnaydeq	37 726	40 664	43 831	47 245
Total Population	37 726	40 664	43 831	47 245
Water demand (m³/d)	7 545	8 133	8 766	9 449

Existing Water Sources

El Houe Spring (m ³ /d)	1 100	1 100	1 100	1 100
Fnaydeq Well (m ³ /d)	864	864	864	864
Total (m³/d)	1 964	1 964	1 964	1 964

Water balance	- 5 581	- 6 169	- 6 802	- 7 485
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Proposed 7 new wells - See Volume V-A project NL-W. B.15



SAHEL AKKAR AREA

sheet 1 of 3

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 1-A

Population				
Al-Abboudié				
Al-Kharnoubé				
Cheir Homeirine				
Jouret Srar	6 855	7 389	7 964	8 585
Barcha				
Deirine				
Total Population	6 855	7 389	7 964	8 585
Water demand (m³/d)	1 371	1 478	1 593	1 717

Existing Water Sources

Springs (m3/d)	-	-	-	-
Chir Hmairine Well (m3/16h)	2 304	2 304	2 304	2 304
Total (m³/d)	2 304	2 304	2 304	2 304

Water balance	933	826	711	587
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Distribution system 1-B

Population				
Saadine				
Tall Aabbas Ech-Charqi				
Ghazaylé				
Tall Aabbas El-Gharbi				
Haouchab	9 000	9 701	10 457	11 271
Koueikhat				
Khreibet Ej-Jindi				
Deirine				
Hokr Etti				
Total Population	9 000	9 701	10 457	11 271
Water demand (m³/d)	1 800	1 940	2 091	2 254

Existing Water Sources

Springs (m3/d)	-	-	-	-
Deirine Wells (m3/16h)	1 800	1 940	2 091	2 254
Total (m³/d)	1 800	1 940	2 091	2 254

Water balance	-	-	-	-
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SAHEL AKKAR AREA

sheet 2 of 3

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 1-C				
Population				
Sammouniyé				
Halba				
Cheikh Mohammad				
Kroum El-Aarab				
Cheikh Taba Es-Sahl				
Nfissé				
Total Population	31 752	34 225	36 890	39 764
Water demand (m³/d)	6 350	6 845	7 378	7 953
Existing Water Sources				
Springs (m3/d)	-	-	-	-
Halba Wells (m3/16h)	5 112	4 972	4 821	4 657
Deirine Wells (m3/16h)	6 912	6 912	6 912	6 912
Total (m³/d)	12 024	11 884	11 733	11 569
Water balance	5 674	5 039	4 355	3 616

Distribution system 2

Population				
Qaabrine				
Mqaiteaa				
Rmoul				
Kfar Melki Aakkar				
Aarqa				
Tall Sebaal	18 180	19 596	21 122	22 767
Qoubber Chamra				
Semmaqli				
Marlaya Melhem				
Aamaret Aakkar				
Deir Dalloum				
Total Population	18 180	19 596	21 122	22 767
Water demand (m³/d)	3 636	3 919	4 224	4 553
Existing Water Sources				
Springs (m3/d)	-	-	-	-
Arka Wells (m3/16h)	1 037	1 037	1 037	1 037
Other Proposed Ressources (m3/16h)	3 516	3 516	3 516	3 516
Total (m³/d)	4 553	4 553	4 553	4 553
Water balance	917	634	329	-



SAHEL AKKAR AREA

sheet 3 of 3

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 3				
Population				
Aridet Cheikh Zennad				
Sammaqiye				
Hokr Ed-Dahri				
Cheikh Zennad				
Kneisset Aakkar	8 228	8 869	9 559	10 304
Mighraq Aakkar				
Tall Meaayan Tall Kiri				
Qleiaat Aakkar				
Hayssa				
Total Population	8 228	8 869	9 559	10 304
Water demand (m³/d)	1 646	1 774	1 912	2 061
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Tal Aabbas Well (m³/16h)	1 382	1 382	1 382	1 382
Other Proposed Ressources (m³/16h)	679	679	679	679
Total (m³/d)	2 061	2 061	2 061	2 061
Water balance	415	287	149	-

Distribution system 4

Population				
Tall Biré				
Tall Hmayra	4 209	4 537	4 891	5 271
Massaaoudiyé				
Total Population	4 209	4 537	4 891	5 271
Water demand (m³/d)	842	907	978	1 054
Existing Water Sources				
Spring (m³/d)	-	-	-	-
Tall Hmaira Well (m³/d)	1 728	1 728	1 728	1 728
Total (m³/d)	1 728	1 728	1 728	1 728
Water balance	886	821	750	674



DISTRICT OF BATROUN

sheet 1 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 1				
Population				
Chatine	125	135	146	157
Tannourine Foka	4 357	4 696	5 062	5 456
Total Population	4 482	4 831	5 208	5 613
Water demand (m³/d)	896	966	1 042	1 123
Existing Water Sources				
Kharhale well	1 728	1 728	1 728	1 728
El rahwe spring	1 500	1 500	1 500	1 500
Total (m³/d)	3 228	3 228	3 228	3 228
Water balance	2 332	2 262	2 186	2 105



DISTRICT OF BATROUN

sheet 2 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 2				
Population				
Deria	779	840	905	975
Abdilli	810	873	941	1 014
Douma	3 112	3 354	3 616	3 897
Bchaalé	1 744	1 879	2 026	2 183
Tannourine el Tahta	374	403	434	468
Deir Mar Youssef Jrabta	188	202	218	235
Toula	436	470	507	546
El-Alaly	561	605	652	703
Sghar et Wata Sfarta	63	68	73	79
Jrabta	137	147	159	171
Racha	374	403	434	468
Douk	311	336	362	390
Wata Houb	188	202	218	235
Hadtoune	717	772	832	897
Mehemrech	1 556	1 677	1 808	1 949
Al-Boukaïfa et Dahr Abi Yaghi	156	168	181	195
Mar Mama	199	215	231	249
Masreh	175	189	203	219
Ram	499	538	579	624
Total Population	12 379	13 341	14 379	15 497
Water demand (m³/d)	2 476	2 668	2 876	3 099
Existing Water Sources				
Dahr Abou Yaghi (Bkayaa)	600	600	600	600
Dayr Mar Youssef Jrabta	799	799	799	799
Derya	1 296	1 296	1 296	1 296
Houb 2	1 037	1 037	1 037	1 037
Wata Houb 1	1 968	1 968	1 968	1 968
Dalle and Ghouaouit spring	6 120	6 120	6 120	6 120
Total (m³/d)	11 820	11 820	11 820	11 820
Water balance	9 344	9 152	8 944	8 721



DISTRICT OF BATROUN

sheet 3 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 3				
Population				
Hamat	3 423	3 690	3 977	4 287
Ras Nahache	934	1 007	1 086	1 170
Koubba	1 431	1 543	1 663	1 792
Wejh-el-Hajar	188	202	218	235
Total Population	5 976	6 442	6 944	7 484
Water demand (m³/d)	1 195	1 288	1 389	1 497
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Hamat	480	480	480	480
Ras nhach	1 296	1 296	1 296	1 296
From koura (Ejdaebrine well)	432	432	432	432
Total (m³/d)	2 208	2 208	2 208	2 208
Water balance	1 013	920	819	711

Distribution system 4

Population				
Beit Ksab	125	135	146	157
Hardine	622	671	723	779
Kfour El-Arabi	872	940	1 013	1 092
Niha	747	805	868	936
Total Population	2 366	2 551	2 750	2 964
Water demand (m³/d)	473	510	550	593
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Bani saab	300	300	300	300
Mazraat assaf	345	345	345	345
Total (m³/d)	645	645	645	645
Water balance	172	135	95	52



DISTRICT OF BATROUN

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 5				
Population				
Abrine	3 423	3 690	3 977	4 287
Basbina	311	336	362	390
Batroune	24 893	26 832	28 922	31 174
Bejdarfel	1 463	1 577	1 700	1 832
Boksmaya	1 369	1 476	1 590	1 714
Chouma	-	-	-	-
Deir Kfifane	125	135	146	157
Ejdabra	1 245	1 342	1 447	1 560
Jebila	311	336	362	390
Jrane	996	1 073	1 157	1 247
Karnaoun	76	82	88	95
Kfar Hay	374	403	434	468
Kfar Heloss	37	40	43	47
Kfifane	934	1 007	1 086	1 170
Mrah-El-Ziet	281	303	326	352
Rachana	311	336	362	390
Rachkida	499	538	579	624
Salaata	672	724	781	841
Smar Jbeil	810	873	941	1 014
Tehoum	685	738	795	857
Eddé	1 090	1 175	1 266	1 365
Kfar Obeida	3 361	3 622	3 904	4 208
Mrah Chdid	436	470	507	546
Helta	561	605	652	703
Sourate	374	403	434	468
Kfar Chleiman	76	82	88	95
Dar Bella	1 189	1 282	1 382	1 489
Beit Chlale	685	738	795	857
Kfar Halda	2 117	2 282	2 459	2 651
Dael	249	268	289	312
Bechtoudar-Aoura	622	671	723	779
Assia	1 090	1 175	1 266	1 365
El-Ftahat	188	202	218	235
Zane	188	202	218	235
Chabtine	1 494	1 610	1 736	1 871
Deir Mar Youhanna Douma	188	202	218	235
Nahla	162	175	189	203
Mrah el Hage	238	256	276	297

DISTRICT OF BATROUN

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Artiz	125	135	146	157
Harbouna	63	68	73	79
Kfar Hatna	374	403	434	468
Kour	1 369	1 476	1 590	1 714
Total Population	55 054	59 343	63 961	68 941
Water demand (m³/d)	11 011	11 869	12 792	13 788

Existing Water Sources

Aabdilli	1 128	1 128	1 128	1 128
Aabrine 1	691	691	691	691
Assia	806	806	806	806
Bijdarfel	1 632	1 632	1 632	1 632
Chabtine	492	492	492	492
Edde	864	864	864	864
Helta	864	864	864	864
Ijdbara	1 296	1 296	1 296	1 296
Jrane	720	720	720	720
Kfifane	1 200	1 200	1 200	1 200
Mrah chdid	960	960	960	960
Mrah el ziyat	1 037	1 037	1 037	1 037
Dalle and Ghouaouit spring	6 120	6 120	6 120	6 120
Total (m³/d)	17 810	17 810	17 810	17 810

Water balance	6 800	5 942	5 018	4 022
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Distribution system 6

Population				
Chekka	11 735	12 649	13 634	14 696
Al-Hery	1 586	1 710	1 843	1 986
Total Population	13 321	14 358	15 477	16 682
Water demand (m³/d)	2 664	2 872	3 095	3 336

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Chekka BH1	5 184	5 184	5 184	5 184
Chekka BH2	5 184	5 184	5 184	5 184
Chekka BH3	2 100	2 100	2 100	2 100
Total (m³/d)	12 468	12 468	12 468	12 468

Water balance	9 804	9 596	9 373	9 132
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DISTRICT OF ED DANNIYEH

sheet 1 of 7

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 1

Population				
Sir	12 794	13 791	14 865	16 022
Total Population	12 794	13 791	14 865	16 022
Water demand (m³/d)	2 559	2 758	2 973	3 204

Existing Water Sources

Nabaa El Ksaim Spring (m ³ /d)	3 205	3 205	3 205	3 205
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	3 205	3 205	3 205	3 205

Water balance	646	447	232	1
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Distribution system 2

Population				
Al-Sfiré	5 445	5 869	6 326	6 819
Assoun	7 779	8 385	9 038	9 742
Bkaa Safrine	11 409	12 298	13 256	14 288
Bkarsouna	4 408	4 751	5 121	5 520
Mrah-El-Sfiré	829	894	964	1 039
Total Population	29 871	32 197	34 705	37 408
Water demand (m³/d)	5 974	6 439	6 941	7 482

Existing Water Sources

Nabaa El Sekkar Spring (m ³ /d)	4 746	4 746	4 746	4 746
Sfire Well (m ³ /d)	1 008	1 008	1 008	1 008
Beqaa Safrine Well (m ³ /d)	864	864	864	864
Aasoun Well (m ³ /d)	864	864	864	864
Total (m³/d)	7 482	7 482	7 482	7 482

Water balance	1 507	1 042	541	-
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DISTRICT OF ED DANNIYEH

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 3				
Population				
Azka	5 145	5 546	5 978	6 443
Btermaz	2 593	2 795	3 013	3 247
Kfar Chlane	4 305	4 640	5 001	5 391
Kfar Habou	4 658	5 021	5 412	5 833
El Watye-Harf El Siyad	518	559	602	649
Mrah-el-Sreige	2 383	2 569	2 769	2 984
Qraine	259	279	301	324
Tarane	3 111	3 353	3 615	3 896
Total Population	22 972	24 762	26 691	28 768
Water demand (m³/d)	4 594	4 952	5 338	5 754
Existing Water Sources				
Nabaa El Zahlan Spring (m ³ /d)	500	500	500	500
Mrah el Sraj (m ³ /d)	864	864	864	864
Kfarhabo wells (m ³ /d)	4 708	4 708	4 708	4 708
Total (m³/d)	6 072	6 072	6 072	6 072
Water balance	1 478	1 120	734	318

Distribution system 4 & 5

Population				
Bakhouné	8 297	8 943	9 640	10 391
Haql el Aazimé	2 645	2 851	3 073	3 312
Kattiné	2 334	2 516	2 712	2 923
Kharnoub	363	391	422	455
Total Population	13 639	14 702	15 847	17 081
Water demand (m³/d)	2 728	2 940	3 169	3 416
Existing Water Sources				
Nabaa El Sir (m ³ /d)	3 300	3 300	3 300	3 300
El Bire Spring (m ³ /d)	360	360	360	360
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	3 660	3 660	3 660	3 660
Water balance	932	720	491	244

DISTRICT OF ED DANNIYEH

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 6				
Population				
Izal	7 779	8 385	9 038	9 742
Mazraat Ketrane	778	839	904	975
Total Population	8 557	9 224	9 942	10 717
Water demand (m³/d)	1 711	1 845	1 988	2 143
Existing Water Sources				
Nabaa El Sir (m ³ /d)	1 500	1 500	1 500	1 500
El Bire Spring (m ³ /d)	264	264	264	264
Wells (m ³ /d)	384	384	384	384
Total (m³/d)	2 148	2 148	2 148	2 148
Water balance	437	303	160	5

Distribution system 7

Population				
Mazraet-El-Kreine	-	-	-	-
Mrabine	1 297	1 397	1 506	1 624
Qemmamine	1 037	1 118	1 205	1 299
Total Population	2 334	2 516	2 712	2 923
Water demand (m³/d)	467	503	542	585
Existing Water Sources				
Ain abdeen Spring (m ³ /d)	3 000	3 000	3 000	3 000
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	3 000	3 000	3 000	3 000
Water balance	2 533	2 497	2 458	2 415



DISTRICT OF ED DANNIYEH

sheet 4 of 7

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 8				
Population				
Aassaymout	47	50	54	59
Debaael	1 297	1 397	1 506	1 624
Jaroun	1 349	1 454	1 567	1 689
Qarhaiya	1 660	1 789	1 928	2 078
Total Population	4 351	4 690	5 056	5 449
Water demand (m³/d)	870	938	1 011	1 090
Existing Water Sources				
Ras el Ain Spring (m³/d)	870	938	1 011	1 090
Wells (m³/d)	-	-	-	-
Total (m³/d)	870	938	1 011	1 090
Water balance	-	-	-	-

Distribution system 9

Population				
Ain-El-Tiné	2 075	2 236	2 411	2 598
Beit-El-Faks	3 111	3 353	3 615	3 896
El-Hazmieh	778	839	904	975
Karseita	2 852	3 074	3 314	3 572
Nemrine et Bakoura	2 593	2 795	3 013	3 247
Total Population	11 409	12 298	13 256	14 288
Water demand (m³/d)	2 282	2 460	2 651	2 858
Existing Water Sources				
El Aarous Spring (m3/d)	750	750	750	750
El Danoubah Spring (m3/d)	NA	NA	NA	NA
Ain Boulos Spring (m3/d)	1 123	1 123	1 123	1 123
Fraidis Spring (m3/d)	1 080	1 080	1 080	1 080
Wells (m³/d)	-	-	-	-
Total (m³/d)	2 953	2 953	2 953	2 953
Water balance	671	493	302	95



DISTRICT OF ED DANNIYEH

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 10				
Population				
Beit Haouik	1 037	1 118	1 205	1 299
Hawara	311	335	361	390
Kfar Bibnine	1 192	1 285	1 385	1 493
Total Population	2 541	2 739	2 952	3 182
Water demand (m³/d)	508	548	590	636
Existing Water Sources				
Ebrissa Spring (m³/d)	636	636	636	636
Wells (m³/d)	-	-	-	-
Total (m³/d)	636	636	636	636
Water balance	128	89	46	-

Distribution system 12

Population				
Kahf-El-Malloul	650	701	755	814
Total Population	650	701	755	814
Water demand (m³/d)	130	140	151	163
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Ain Kahf El Maaloul (m³/d)	40	40	40	40
Total (m³/d)	40	40	40	40
Water balance	- 90	- 100	- 111	- 123
Proposed 1 new well - See Volume V-A project NL-W. E.9				

Distribution system 13

Population				
Zaghrtegrine	758	817	881	949
Total Population	758	817	881	949
Water demand (m³/d)	152	163	176	190
Existing Water Sources				
Ain Zghartegrine (m³/d)	40	40	40	40
Wells (m³/d)	-	-	-	-
Total (m³/d)	40	40	40	40
Water balance	- 112	- 123	- 136	- 150
Proposed 1 new well - See Volume V-A project NL-W. E.10				



DISTRICT OF ED DANNIYEH

sheet 6 of 7

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 14				
Population				
Behweité	518	559	602	649
Total Population	518	559	602	649
Water demand (m³/d)	104	112	120	130
Existing Water Sources				
El Fouar (El Sawaki) Spring (m³/d)	120	120	120	120
Ain El Hsein (m³/d)	26	26	26	26
Total (m³/d)	146	146	146	146
Water balance	42	34	26	16

Distribution system 15

Population				
Btehline	1 037	1 118	1 205	1 299
Omar	867	935	1 007	1 086
Total Population	1 904	2 053	2 212	2 385
Water demand (m³/d)	381	411	442	477
Existing Water Sources				
Ain El Kbir Spring (m³/d)	130	130	130	130
Aaimar Well (m³/d)	252	252	252	252
El Fouwar (Karm El Mahr) Spring (m³/d)	100	100	100	100
El Safsaf Spring (m³/d)	NA	NA	NA	NA
El Shawq Spring (m³/d)	300	300	300	300
Total (m³/d)	782	782	782	782
Water balance	401	371	340	305



DISTRICT OF ED DANNIYEH

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 16				
Population				
Deir Nebouh	8 124	8 757	9 439	10 174
Total Population	8 124	8 757	9 439	10 174
Water demand (m³/d)	1 625	1 751	1 888	2 035
Existing Water Sources				
El Mzairah Spring (m ³ /d)	NA	NA	NA	NA
Deir Nbouh Well (m ³ /d)	252	252	252	252
El Bira Spring (m ³ /d)	NA	NA	NA	NA
Total (m³/d)	252	252	252	252
Water balance	- 1 373	- 1 499	- 1 636	- 1 783
Proposed 2 new wells - See Volume V-A project NL-W. E.13				

Distribution system 17

Population				
Beit Zaoud	650	701	755	814
Total Population	650	701	755	814
Water demand (m³/d)	130	140	151	163
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Bechtayel Well (m ³ /d)	1 008	1 008	1 008	1 008
Total (m³/d)	1 008	1 008	1 008	1 008
Water balance	878	868	857	845



DISTRICT OF MINIEH

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 1a				
Population				
Al-Minieh	108 317	116 753	125 846	135 648
Total Population	108 317	116 753	125 846	135 648
Water demand (m³/d)	21 663	23 351	25 169	27 130
Existing Water Sources				
Part of Ayoun El Samak Spring (m ³ /d)	4 968	4 968	4 968	4 968
Kassem Kassem Well (m ³ /d)	504	504	504	504
Total (m³/d)	5 472	5 472	5 472	5 472
Water balance	- 16 191	- 17 879	- 19 697	- 21 658
Proposed 10 new wells - See Volume V-A project NL-W. D.1				

Distribution system 2a

Population				
Markabta	6 499	7 005	7 551	8 139
Total Population	6 499	7 005	7 551	8 139
Water demand (m³/d)	1 300	1 401	1 510	1 628
Existing Water Sources				
Part of Ayoun El Samak Spring (m ³ /d)	800	800	800	800
Markabta Well (m ³ /d)	504	504	504	504
Total (m³/d)	1 304	1 304	1 304	1 304
Water balance	4	- 97	- 206	- 324
Proposed 1 new well - See Volume V-A project NL-W. D.2				



DISTRICT OF MINIEH

sheet 2 of 3

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 3a

Population				
Borge-El-Yahoudié	2 166	2 335	2 517	2 713
Deir Omar	21 663	23 350	25 169	27 129
Total Population	23 829	25 685	27 686	29 842
Water demand (m³/d)	4 766	5 137	5 537	5 968

Existing Water Sources

Part of Ayoun El Samak Spring (m3/d)	4 000	4 000	4 000	4 000
Berj El Yahoudiyeh Well (m3/d)	200	200	200	200
Deir Aamar Well (m3/d)	600	600	600	600
Deir Aamar New Well (m3/d)	264	264	264	264
Total (m³/d)	5 064	5 064	5 064	5 064

Water balance	298	- 73	- 473	- 904
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Proposed 1 new well - See Volume V-A project NL-W. D.3

Distribution system 4a

Population				
Nabi Youcheaa	12 998	14 010	15 102	16 278
Total Population	12 998	14 010	15 102	16 278
Water demand (m³/d)	2 600	2 802	3 020	3 256

Existing Water Sources

Part Of Ayoun El Samak Spring (m3/d)	100	100	100	100
Nabi Youche (Old) Well (m3/d)	1 200	1 200	1 200	1 200
Nabi Youche (new) Well (m3/d)	1 728	1 728	1 728	1 728
El Nabi Youchaa 2 Well (m3/d)	1 968	1 968	1 968	1 968
Total (m³/d)	4 996	4 996	4 996	4 996

Water balance	2 396	2 194	1 976	1 740
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DISTRICT OF MINIEH

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 5a

Population				
Tourbol	135	145	157	169
Total Population	135	145	157	169
Water demand (m³/d)	27	29	31	34

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Terbol Well (m ³ /d)	360	360	360	360
Total (m³/d)	360	360	360	360

Water balance	333	331	329	326
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Distribution system 6a

Population				
Aadoua	810	873	941	1 014
Al-Rihanié	4 322	4 658	12 585	5 412
Zouk Bhanine	10 832	11 676	13 809	13 565
Total Population	15 964	17 207	27 335	19 991
Water demand (m³/d)	3 193	3 441	5 467	3 998

Existing Water Sources

Part of Ayoun El Samak Spring (m ³ /d)	500	500	500	500
Bhannine Well (m ³ /d)	3 024	3 024	3 024	3 024
Total (m³/d)	3 524	3 524	3 524	3 524

Water balance	331	83	- 1 943	- 474
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Proposed 1 new well - See Volume V-A project NL-W. D.6



DISTRICT OF TRIPOLI

sheet 1 of 1

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Tripoli				
Population				
El Mina & New Tripoli	68 834	71 464	74 195	77 030
El Qoubbe	100 311	104 144	108 124	112 255
Abou Samra	41 867	43 467	45 128	46 852
Downtown	64 604	67 072	69 635	72 296
El Beddaoui	71 813	74 558	77 407	80 364
Exhibition zone	77 601	80 566	83 644	86 841
River	31 516	32 720	33 970	35 268
Qalamoun	26 906	27 934	29 001	30 109
Total Population	483 451	501 924	521 104	541 016
Water demand (m³/d)	96 690	100 385	104 221	108 203
Existing Water Sources				
Springs (m ³ /d)	77 500	77 500	77 500	77 500
Wells (m ³ /d)	66 670	66 670	66 670	66 670
Total (m³/d)	144 170	144 170	144 170	144 170
Water balance	47 480	43 785	39 949	35 967



DISTRICT OF BCHARRE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 1				
Population				
Moghr El Ahoual	911	982	1 058	1 141
Total Population	911	982	1 058	1 141
Water demand (m³/d)	182	196	212	228
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Moghr El Ahwal Well (m³/d)	674	674	674	674
Total (m³/d)	674	674	674	674
Water balance	492	478	462	446

Distribution system 2

Population				
Tourza	2 760	2 975	3 207	3 456
Total Population	2 760	2 975	3 207	3 456
Water demand (m³/d)	552	595	641	691
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Tourza Well 1 (m³/d)	800	800	800	800
Tourza Well 2 (m³/d)	801	801	801	801
Total (m³/d)	1 601	1 601	1 601	1 601
Water balance	1 049	1 006	960	910



DISTRICT OF BCHARRE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 3				
Population				
Chira	178	192	207	223
Total Population	178	192	207	223
Water demand (m³/d)	36	38	41	45
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
MoEW well (m ³ /d)	1 300	1 300	1 300	1 300
Chira well (m ³ /d)	500	500	500	500
Total (m³/d)	1 800	1 800	1 800	1 800
Water balance	1 764	1 762	1 759	1 755

Distribution system 4

Population				
Aabdine	1 496	1 613	1 738	1 873
Total Population	1 496	1 613	1 738	1 873
Water demand (m³/d)	299	323	348	375
Existing Water Sources				
Ain el Faouqa Spring (m ³ /d)	7	7	7	7
MoEW well (m ³ /d)	100	100	100	100
Chira well (m ³ /d)	350	350	350	350
Total (m³/d)	457	457	457	457
Water balance	158	135	110	83

Distribution system 5

Population				
Berhalioun	1 443	1 555	1 677	1 807
Total Population	1 443	1 555	1 677	1 807
Water demand (m³/d)	289	311	335	361
Existing Water Sources				
Ain el Faouqa Spring (m ³ /d)	10	10	10	10
Chira well (m ³ /d)	446	446	446	446
Total (m³/d)	456	456	456	456
Water balance	167	145	121	95



DISTRICT OF BCHARRE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 6				
Population				
Qnat	1 383	1 491	1 607	1 732
Total Population	1 383	1 491	1 607	1 732
Water demand (m³/d)	277	298	321	346
Existing Water Sources				
Ain ez Zaatariyé Spring (m ³ /d)	9	9	9	9
Ain Oum Antoun Spring (m ³ /d)	17	17	17	17
Nabaa Mar Chalita Spring (m ³ /d)	3 456	3 456	3 456	3 456
Total (m³/d)	3 482	3 482	3 482	3 482
Water balance	3 205	3 184	3 161	3 136

Distribution system 7

Population				
Mazraet Assaf	176	190	204	220
Mazraet Bani Saab	414	446	481	518
Total Population	590	636	685	739
Water demand (m³/d)	118	127	137	148
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Mazraat Aassaf well (m ³ /d)	500	500	500	500
Mazraat Bani Saab well (m ³ /d)	1 805	1 805	1 805	1 805
Total (m³/d)	2 305	2 305	2 305	2 305
Water balance	2 187	2 178	2 168	2 157



DISTRICT OF BCHARRE

sheet 4 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 8				
Population				
Beit Menzer	821	885	954	1 028
Qnaiouer	725	781	842	908
Total Population	1 546	1 666	1 796	1 936
Water demand (m³/d)	309	333	359	387
Existing Water Sources				
El Baqil Spring (m³/d)	4	4	4	4
Ain el Koussa Spring (m³/d)	69	69	69	69
Well (m³/d)	1 296	1 296	1 296	1 296
Total (m³/d)	1 369	1 369	1 369	1 369
Water balance	1 060	1 036	1 010	982

Distribution system 9

Population				
Hadath El Jobbe	4 565	4 921	5 304	5 717
Total Population	4 565	4 921	5 304	5 717
Water demand (m³/d)	913	984	1 061	1 143
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Hadath El Jobbe Well 1 (m³/d)	215	215	215	215
Hadath El Jobbe Well 2 (m³/d)	1 003	1 003	1 003	1 003
Total (m³/d)	1 218	1 218	1 218	1 218
Water balance	305	234	157	75

Distribution system 10

Population				
Brissat	689	743	801	863
Total Population	689	743	801	863
Water demand (m³/d)	138	149	160	173
Existing Water Sources				
Ain er Ramliyé Spring (m³/d)	86	86	86	86
Brissat Well (m³/d)	803	803	803	803
Total (m³/d)	889	889	889	889
Water balance	752	741	729	717



DISTRICT OF BCHARRE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 11				
Population				
Ed Dimane	1 201	1 295	1 395	1 504
Total Population	1 201	1 295	1 395	1 504
Water demand (m³/d)	240	259	279	301
Existing Water Sources				
Nabaa el Jdid Spring (m³/d)	173	173	173	173
Ain et Touti Spring (m³/d)	17	17	17	17
Ain el Mossar Spring (m³/d)	17	17	17	17
Brissat Well (m³/d)	200	200	200	200
Total (m³/d)	407	407	407	407
Water balance	167	148	128	107
Distribution system 12				
Population				
Blaouza	1 495	1 611	1 737	1 872
Total Population	1 495	1 611	1 737	1 872
Water demand (m³/d)	299	322	347	374
Existing Water Sources				
Springs (m³/d)	-	-	-	-
MoEW well (m³/d)	120	120	120	120
Blaouza well (m³/d)	1 203	1 203	1 203	1 203
Total (m³/d)	1 323	1 323	1 323	1 323
Water balance	1 024	1 001	976	949
Distribution system 13				
Population				
Haouqa	506	545	588	634
Total Population	506	545	588	634
Water demand (m³/d)	101	109	118	127
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Aarbet Qouzhaiya Well 1 (m³/d)	25	25	25	25
Aarbet Qouzhaiya Well 2 (m³/d)	40	40	40	40
Haouqa well (m³/d)	1 805	1 805	1 805	1 805
Total (m³/d)	1 870	1 870	1 870	1 870
Water balance	1 769	1 761	1 752	1 743



DISTRICT OF BCHARRE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 14				
Population				
Bane	1 228	1 324	1 427	1 538
Total Population	1 228	1 324	1 427	1 538
Water demand (m³/d)	246	265	285	308
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Bane Well (m³/d)	1 003	1 003	1 003	1 003
Total (m³/d)	1 003	1 003	1 003	1 003
Water balance	757	738	718	695

Distribution system 15				
Population				
Hasroun	6 049	6 520	7 028	7 575
Total Population	6 049	6 520	7 028	7 575
Water demand (m³/d)	1 210	1 304	1 406	1 515
Existing Water Sources				
Ghraqia Spring (m³/d)	52	52	52	52
Aayoun Spring (m³/d)	173	173	173	173
Ras en Nabaa Spring (m³/d)	864	864	864	864
Aayoun Katbé Spring (m³/d)	43	43	43	43
Hasroun Well 1 (m³/d)	903	903	903	903
Hasroun Well 2 (m³/d)	752	752	752	752
Total (m³/d)	2 787	2 787	2 787	2 787
Water balance	1 577	1 483	1 381	1 272

Distribution system 16				
Population				
Bazaoun	2 286	2 464	2 656	2 863
Total Population	2 286	2 464	2 656	2 863
Water demand (m³/d)	457	493	531	573
Existing Water Sources				
Ain Mabkha Spring (m³/d)	346	346	346	346
Aayoun Beit Choulit Spring (m³/d)	17	17	17	17
Ed Daiaa Spring (m³/d)	9	9	9	9
Bazaoun Well (m³/d)	1 037	1 037	1 037	1 037
Total (m³/d)	1 409	1 409	1 409	1 409
Water balance	951	916	877	836



DISTRICT OF BCHARRE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 17				
Population				
Bqorqacha	2 920	3 147	3 393	3 657
Total Population	2 920	3 147	3 393	3 657
Water demand (m³/d)	584	629	679	731
Existing Water Sources				
Merched Aarida Spring (m ³ /d)	216	216	216	216
Malek Spring (m ³ /d)	104	104	104	104
Bqorqacha Well (m ³ /d)	1 203	1 203	1 203	1 203
Total (m³/d)	1 523	1 523	1 523	1 523
Water balance	939	893	844	791

Distribution system 18

Population				
Bqaakafra	3 044	3 281	3 537	3 812
Total Population	3 044	3 281	3 537	3 812
Water demand (m³/d)	609	656	707	762
Existing Water Sources				
El Arbit Spring (m ³ /d)	1 000	1 000	1 000	1 000
Bqaakafra Well (m ³ /d)	801	801	801	801
Total (m³/d)	1 801	1 801	1 801	1 801
Water balance	1 192	1 145	1 094	1 039

Distribution system 19

Population				
El Marj / Dahr Baazeqta	2 361	2 545	2 743	2 957
Total Population	2 361	2 545	2 743	2 957
Water demand (m³/d)	472	509	549	591
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
El Marj Well (m ³ /d)	605	605	605	605
Total (m³/d)	605	605	605	605
Water balance	133	96	56	14



DISTRICT OF BCHARRE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 20				
Population				
Arz	2 315	2 495	2 690	2 899
Total Population	2 315	2 495	2 690	2 899
Water demand (m³/d)	463	499	538	580
Existing Water Sources				
El Hakim Spring (m³/d)	4	4	4	4
El Qaous Spring (m³/d)	389	389	389	389
Yamli Well (m³/d)	1 728	1 728	1 728	1 728
El Arz Well (m³/d)	1 296	1 296	1 296	1 296
Total (m³/d)	3 417	3 417	3 417	3 417
Water balance	2 954	2 918	2 879	2 837

Distribution system 21

Population				
Bcharre	14 780	15 931	17 172	18 509
Bnahle	543	585	631	680
Total Population	15 323	16 516	17 803	19 189
Water demand (m³/d)	3 065	3 303	3 561	3 838
Existing Water Sources				
Qadicha spring (m³/d)	2 590	2 590	2 590	2 590
Mar Semaan spring (m³/d)	2 000	2 000	2 000	2 000
Total (m³/d)	4 590	4 590	4 590	4 590
Water balance	1 525	1 287	1 029	752

Distribution system 22

Population				
Hadchit	7 115	7 669	8 266	8 910
Total Population	7 115	7 669	8 266	8 910
Water demand (m³/d)	1 423	1 534	1 653	1 782
Existing Water Sources				
El Haddad Spring (m³/d)	1 250	1 250	1 250	1 250
Hadchit Well (m³/d)	1 469	1 469	1 469	1 469
Total (m³/d)	2 719	2 719	2 719	2 719
Water balance	1 296	1 185	1 066	937



DISTRICT OF KOURA

sheet 1 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 1				
Population				
Enfeh	6 210	6 694	7 215	7 777
Total Population	6 210	6 694	7 215	7 777
Water demand (m³/d)	1 242	1 339	1 443	1 555
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Enfeh 1	3 000	3 000	3 000	3 000
Jradet Anfe	3 000	3 000	3 000	3 000
Total (m³/d)	6 000	6 000	6 000	6 000
Water balance	4 758	4 661	4 557	4 445

Distribution system 2

Population				
Badbhoun	200	216	232	250
Bargoune	500	539	581	626
Barsa	9 040	9 744	10 503	11 321
Afsdik	4 215	4 543	4 897	5 279
Beitroumine	4 200	4 527	4 880	5 260
Belmand	512	552	595	641
Bkeftine	1 954	2 106	2 270	2 447
Btouratige	3 045	3 282	3 538	3 813
Déddé	14 109	15 208	16 392	17 669
En-Nakhlé	7 326	7 897	8 512	9 175
Fih	4 401	4 744	5 113	5 511
Kelhate	2 491	2 685	2 894	3 120
Kfar Kahel	1 450	1 563	1 685	1 816
Zakroune	212	229	246	265
Total Population	53 655	57 834	62 338	67 193
Water demand (m³/d)	10 731	11 567	12 468	13 439

Existing Water Sources

Fiaa-El Kareh 1 (Jradeh)	12 000	12 000	12 000	12 000
Fiaa-El Kareh 2 (Jradeh)	12 000	12 000	12 000	12 000
Fiaa-El Kareh 3 (Jradeh)	12 000	12 000	12 000	12 000
Jradet Las salinas	192	192	192	192
Chekka 1 (Jradeh)	2 200	2 200	2 200	2 200



DISTRICT OF KOURA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Chekka 2 (Jradeh)	2 200	2 200	2 200	2 200
Barsa	216	216	216	216
Mtoll	200	200	200	200
Nakhle 1	432	432	432	432
Nakhle 2	432	432	432	432
Jdeidet Berkacha	1 680	1 680	1 680	1 680
Bkarkasha new (Haret el Berkashiyeh)	1 680	1 680	1 680	1 680
Dahr el Ain (Mar youssef)	120	120	120	120
Aaqbet Bkeftine	240	240	240	240
Bkeftine	408	408	408	408
Btouratige	456	456	456	456
Kfar kahel	48	48	48	48
Total (m³/d)	46 504	46 504	46 504	46 504
Water balance	35 773	34 937	34 036	33 065

Distribution system 3

Population				
Ras Maska	23 200	25 007	26 955	29 054
Total Population	23 200	25 007	26 955	29 054
Water demand (m³/d)	4 640	5 001	5 391	5 811
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Ras Maska Well (m ³ /d)	4 320	4 320	4 320	4 320
Total (m³/d)	4 320	4 320	4 320	4 320
Water balance	- 320	- 681	- 1 071	- 1 491
Proposed 2 new wells - See Volume V-A project NL-W. C.2				

DISTRICT OF KOURA

sheet 3 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 4

Population	2020	2025	2030	2035
Amioune	12 600	13 581	14 639	15 779
Bdebba	1 303	1 404	1 514	1 632
Bechmezzine	7 139	7 695	8 294	8 940
Aba	930	1 002	1 081	1 165
Ain Akrine	1 500	1 617	1 743	1 878
Bsarma	6 230	6 715	7 238	7 802
Bterram	3 495	3 767	4 061	4 377
Dar Chmezzine	669	721	777	838
Kfar Akka	11 559	12 459	13 430	14 476
Kfar Hazir	6 625	7 141	7 697	8 297
Kousba	11 079	11 942	12 872	13 874
Kfar Saroun	3 600	3 880	4 183	4 508
Rechdebaine	2 948	3 178	3 425	3 692
Total Population	69 677	75 104	80 953	87 258
Water demand (m³/d)	13 935	15 021	16 191	17 452

Existing Water Sources

Amioun	600	600	600	600
Amioun Agrotech	864	864	864	864
Kfarhazir Ain el Bakar	648	648	648	648
Bechmezzine	504	504	504	504
Bechmezzine Snawbar well	792	792	792	792
Bterram 1	576	576	576	576
Bterram 2	250	250	250	250
Kfar aaka	240	240	240	240
Ain akrine	1 296	1 296	1 296	1 296
Aba	450	450	450	450
Kousba WTP	15 000	15 000	15 000	15 000
Total (m³/d)	21 220	21 220	21 220	21 220

Water balance	7 285	6 199	5 029	3 768
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DISTRICT OF KOURA

sheet 4 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 5

Population				
Bhabbouche	1 755	1 892	2 039	2 198
Bziza	2 865	3 088	3 329	3 588
Dar Behtar	4 740	5 109	5 507	5 936
Kaftoune	900	970	1 046	1 127
Majdel	675	728	784	845
Total Population	10 935	11 787	12 705	13 694
Water demand (m³/d)	2 187	2 357	2 541	2 739

Existing Water Sources

Majdel	1 210	1 210	1 210	1 210
Dar Behtar	1 037	1 037	1 037	1 037
Dar Behtar 1	400	400	400	400
Dar Behtar 2	1 000	1 000	1 000	1 000
Khan bziza	480	480	480	480
Bziza	1 000	1 000	1 000	1 000
Nabaa skandar	2 000	2 000	2 000	2 000
Total (m³/d)	7 127	7 127	7 127	7 127
Water balance	4 940	4 770	4 586	4 388

Distribution system 6

Population				
Bednaye	705	760	819	883
Btaaboura	1 125	1 213	1 307	1 409
Ejdabrine	1 125	1 213	1 307	1 409
Kefraya	1 673	1 803	1 944	2 095
Kfar Hatta	2 153	2 321	2 501	2 696
Total Population	6 781	7 309	7 878	8 492
Water demand (m³/d)	1 356	1 462	1 576	1 698

Existing Water Sources

Ijd Aabrine	1 032	1 032	1 032	1 032
Ijd Aabrine 1	401	401	401	401
Ijd Aabrine 2	401	401	401	401
Btaaboura	605	605	605	605
Kfar Hatta	768	768	768	768
Total (m³/d)	3 207	3 207	3 207	3 207
Water balance	1 851	1 745	1 631	1 509



DISTRICT OF KOURA

sheet 5 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 7

Population				
Bnehrane	1 050	1 132	1 220	1 315
Total Population	1 050	1 132	1 220	1 315
Water demand (m³/d)	210	226	244	263
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Bnehrane Well (m ³ /d)	1 032	1 032	1 032	1 032
Total (m³/d)	1 032	1 032	1 032	1 032
Water balance	822	806	788	769



DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 3				
Population				
Kfar Haoura	1 130	1 218	1 313	1 415
Hasroun ej Jdide	863	930	1 003	1 081
Total Population	1 993	2 148	2 316	2 496
Water demand (m³/d)	399	430	463	499
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	288	288	288	288
Total (m³/d)	288	288	288	288
Water balance	- 111	- 142	- 175	- 211
Proposed 1 new well - See Volume V-A project NL-W. F.3				

Distribution system 4

Population				
Kfar Chakna	514	554	597	644
Total Population	514	554	597	644
Water demand (m³/d)	103	111	119	129
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	100	100	100	100
Total (m³/d)	100	100	100	100
Water balance	- 3	- 11	- 19	- 29



DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 5				
Population				
Daraya	2 260	2 436	2 626	2 830
Total Population	2 260	2 436	2 626	2 830
Water demand (m³/d)	452	487	525	566
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	230	230	230	230
Total (m³/d)	230	230	230	230
Water balance	- 222	- 257	- 295	- 336
Proposed 1 new well - See Volume V-A project NL-W. F.4				

Distribution system 6

Population				
Argesse	1 643	1 771	1 909	2 058
Benachée	518	559	602	649
Total Population	2 161	2 329	2 511	2 706
Water demand (m³/d)	432	466	502	541
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	360	360	360	360
Total (m³/d)	360	360	360	360
Water balance	- 72	- 106	- 142	- 181
Proposed 1 new well - See Volume V-A project NL-W. F.5				

Distribution system 7

Population				
Serhel	534	576	621	669
Total Population	534	576	621	669
Water demand (m³/d)	107	115	124	134
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	288	288	288	288
Total (m³/d)	288	288	288	288
Water balance	181	173	164	154



DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 8

Population				
Aïntourine	441	475	512	552
Total Population	441	475	512	552
Water demand (m³/d)	88	95	102	110

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	320	320	320	320
Total (m³/d)	320	320	320	320

Water balance	232	225	218	210
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Distribution system 9

Population				
Mazraat el Teffah	674	727	783	844
Total Population	674	727	783	844
Water demand (m³/d)	135	145	157	169

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	288	288	288	288
Total (m³/d)	288	288	288	288

Water balance	153	143	131	119
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Distribution system 10

Population				
Ardé	3 697	3 985	4 295	4 630
Rmaila	2 054	2 214	2 386	2 572
Harf Arde	1 438	1 550	1 671	1 801
Total Population	7 189	7 749	8 352	9 003
Water demand (m³/d)	1 438	1 550	1 670	1 801

Existing Water Sources

El Kadi Spring (m ³ /d)	3 333	3 333	3 333	3 333
Wells (m ³ /d)	648	648	648	648
Total (m³/d)	3 981	3 981	3 981	3 981

Water balance	2 543	2 431	2 311	2 180
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DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 11				
Population				
Acheiche	866	934	1 007	1 085
Mériata	6 742	7 267	7 833	8 443
Biader Rachaaïne	2 465	2 657	2 864	3 087
Rachehine	4 314	4 650	5 012	5 403
Sakhra	616	664	716	771
Total Population	15 003	16 172	17 431	18 789
Water demand (m³/d)	3 001	3 234	3 486	3 758
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 040	2 040	2 040	2 040
Total (m³/d)	2 040	2 040	2 040	2 040
Water balance	- 961	- 1 194	- 1 446	- 1 718
Proposed 2 new wells - See Volume V-A project NL-W. F.10				

Distribution system 12

Population				
Al-Jdeidé	259	279	301	324
Al-Khaldyé	1 643	1 771	1 909	2 058
Asnoune	822	886	955	1 029
Iâl	2 260	2 436	2 626	2 830
Karabeiche	1 130	1 218	1 313	1 415
Mazraat Ejbeh	130	140	151	162
Mazraat Jneide	187	201	217	234
Total Population	6 431	6 931	7 471	8 053
Water demand (m³/d)	1 286	1 386	1 494	1 611
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 156	1 156	1 156	1 156
Total (m³/d)	1 156	1 156	1 156	1 156
Water balance	- 130	- 230	- 338	- 455
Proposed 1 new well - See Volume V-A project NL-W. F.11				



DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 13				
Population				
Miziara	10 372	11 180	12 051	12 989
Total Population	10 372	11 180	12 051	12 989
Water demand (m³/d)	2 074	2 236	2 410	2 598
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 100	2 100	2 100	2 100
Total (m³/d)	2 100	2 100	2 100	2 100
Water balance	26	- 136	- 310	- 498
Proposed 1 new well - See Volume V-A project NL-W. F.12				

Distribution system 14

Population				
Ardate	622	671	723	779
El-Tellé	411	443	478	515
Kfar Dalakoss	3 903	4 207	4 535	4 888
Kfar hata	2 362	2 546	2 744	2 958
Zghorta	52 966	57 091	61 538	66 331
Total Population	60 264	64 958	70 017	75 470
Water demand (m³/d)	12 053	12 992	14 003	15 094
Existing Water Sources				
Springs (m³/d)	26 907	26 907	26 907	26 907
Wells (m³/d)	960	960	960	960
Total (m³/d)	27 867	27 867	27 867	27 867
Water balance	15 814	14 875	13 864	12 773



DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 15				
Population				
Aïto	778	839	904	975
Arbet Koshaya	597	643	693	747
Total Population	1 375	1 482	1 598	1 722
Water demand (m³/d)	275	296	320	344
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	996	996	996	996
Total (m³/d)	996	996	996	996
Water balance	721	700	676	652

Distribution system 16

Population				
Karm Saddé	881	950	1 024	1 104
Kfarfou	1 140	1 229	1 325	1 428
Raskifa	363	391	422	455
Sebhel	2 126	2 291	2 470	2 662
Total Population	4 511	4 862	5 241	5 649
Water demand (m³/d)	902	972	1 048	1 130
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 688	2 688	2 688	2 688
Total (m³/d)	2 688	2 688	2 688	2 688
Water balance	1 786	1 716	1 640	1 558



DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 17

Population				
Ejbeh	1 037	1 118	1 205	1 299
Total Population	1 037	1 118	1 205	1 299
Water demand (m³/d)	207	224	241	260

Existing Water Sources

Springs (m³/d)	-	-	-	-
Wells (m³/d)	864	864	864	864
Total (m³/d)	864	864	864	864

Water balance	657	640	623	604
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Distribution system 18

Population				
Basloukite	622	671	723	779
Ehden	6 223	6 708	7 231	7 794
Total Population	6 846	7 379	7 954	8 573
Water demand (m³/d)	1 369	1 476	1 591	1 715

Existing Water Sources

Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 500	1 500	1 500	1 500
Total (m³/d)	1 500	1 500	1 500	1 500

Water balance	131	24	- 91	- 215
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Proposed 1 new well - See Volume V-A project NL-W. F.17



DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 19

Population				
Kfar Zeina	2 876	3 100	3 341	3 602
Total Population	2 876	3 100	3 341	3 602
Water demand (m³/d)	575	620	668	720
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	864	864	864	864
Total (m³/d)	864	864	864	864
Water balance	289	244	196	144

Distribution system 20

Population				
Kfarsghab	2 515	2 711	2 923	3 150
Total Population	2 515	2 711	2 923	3 150
Water demand (m³/d)	503	542	585	630
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	600	600	600	600
Total (m³/d)	600	600	600	600
Water balance	97	58	15	- 30



DISTRICT OF ZGHARTA

sheet 10 of 11

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 21

Population	2020	2025	2030	2035
Bchenine	267	288	310	334
Bsebhil	1 643	1 771	1 909	2 058
Kfar Yachite	1 232	1 328	1 431	1 543
Merh Kfarsghabe	1 438	1 550	1 671	1 801
Total Population	4 580	4 937	5 321	5 736
Water demand (m³/d)	916	987	1 064	1 147

Existing Water Sources

Existing Water Sources	2020	2025	2030	2035
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 128	1 128	1 128	1 128
Total (m³/d)	1 128	1 128	1 128	1 128

Water balance	212	141	64	- 19
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DISTRICT OF ZGHARTA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 22

Population				
Bouhairet Toula	259	279	301	324
Toula	570	615	662	714
Total Population	829	894	964	1 039
Water demand (m³/d)	166	179	193	208

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	840	840	840	840
Total (m³/d)	840	840	840	840

Water balance	674	661	647	632
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DISTRICT OF BAALBECK

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution System Laboue

Population				
Part of Al Labouat	15 544	16 135	16 749	17 386
Al-Nabi Osman	7 490	8 068	8 690	9 361
Al-Aine	32 285	33 513	34 788	36 112
Al-Qa El-Benjakie	7 865	8 472	9 126	9 831
Part of Al - Fakiat	233	251	270	290
Jabouleh et Al-Bijage	1 310	1 411	1 520	1 637
Zaboud	1 370	1 475	1 588	1 710
Al-Qa Bayoun	3 375	3 635	3 915	4 217
Total Population	69 472	72 960	76 646	80 544
Water demand (m³/d)	13 894	14 592	15 329	16 109

Existing Water Sources

Springs (m ³ /d)	10 000	10 000	10 000	10 000
Wells (m ³ /d)	12 170	12 170	12 170	12 170
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	22 170	22 170	22 170	22 170

Water balance	8 276	7 578	6 841	6 061
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Distribution System Ouyoun Orgosh

Population				
El-Ram	680	732	788	848
Barka	3 470	3 738	4 026	4 337
Ainata	3 000	3 231	3 480	3 748
Bachwat	9 345	10 067	10 845	11 683
Riha	2 065	2 224	2 395	2 580
Knaissat	3 600	3 878	4 177	4 499
Dair El-Ahmar	12 000	12 927	13 926	15 002
Part of Nabha	6 325	6 565	6 814	7 073
Karha	1 710	1 842	1 984	2 137
Total Population	42 195	45 204	48 435	51 907

DISTRICT OF BAALBECK

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Water demand (m³/d)	8 439	9 041	9 687	10 418
Existing Water Sources				
Springs (m ³ /d)	8 500	8 500	8 500	8 500
Wells (m ³ /d)	10 844	10 844	10 844	10 844
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	19 344	19 344	19 344	19 344
Water balance	10 905	10 303	9 657	8 926

Distribution System Younine, Magne & Nahle

Population				
Nahleh	13 258	14 282	15 385	16 574
Part of Younine	11 758	12 666	13 644	14 698
Maqneh	7 195	7 751	8 350	8 995
Total Population	32 211	34 699	37 379	40 267
Water demand (m³/d)	6 442	6 940	7 476	8 053
Existing / Proposed Water Sources				
Springs (m ³ /d)	6 300	6 300	6 300	6 300
Wells (m ³ /d)	2 765	4 435	4 435	4 435
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	9 065	10 735	10 735	10 735
Water balance	2 623	3 795	3 259	2 682

Distribution System Yammouneh

Population				
Btehdy	1 580	1 702	1 833	1 974
Chlifa	4 185	4 508	4 856	5 231
Al-Saidat	2 360	2 542	2 738	2 949
Kfardan	3 265	3 517	3 788	4 080
Jabba	480	517	556	598
Part of Haddet	10 424	11 229	12 096	13 029
Haouche el-Rafika	2 600	2 800	3 016	3 249
Part of Bouday	16 700	17 990	19 380	20 877
Chemistar	34 350	35 686	37 075	38 520
Kfar Dabache	2 300	2 477	2 668	2 874



DISTRICT OF BAALBECK

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Bait Chama	4 500	4 847	5 221	5 624
Bednayet	16 000	17 236	18 568	20 003
Ksarnaba	7 000	7 540	8 122	8 749
Tamnine El-Tahta	10 700	11 526	12 416	13 375
Taraya	7 870	8 478	9 133	9 838
Total Population	124 314	132 595	141 466	150 970
Water demand (m³/d)	24 863	26 519	28 293	30 178
Existing Water Sources				
Springs (m ³ /d)	16 800	16 800	16 800	16 800
Wells (m ³ /d)	13 009	13 009	13 009	13 009
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	29 809	29 809	29 809	29 809
Water balance	4 946	3 290	1 516	- 369

Distribution System Yahfoufa-Ain Sikkeh

Population				
Jenta	1 450	1 562	1 682	1 811
Yahfoufa	1 035	1 114	1 200	1 292
Total Population	2 485	2 676	2 882	3 103
Water demand (m³/d)	497	535	576	621
Existing Water Sources				
Springs (m ³ /d)	15 000	15 000	15 000	15 000
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	15 000	15 000	15 000	15 000
Water balance	14 503	14 465	14 424	14 379



DISTRICT OF BAALBECK

sheet 4 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution System Nabi Sbat				
Population				
Hourtala	11 650	12 550	13 519	14 563
Brital	15 700	16 297	16 917	17 560
Nabi Sbate	180	193	207	222
Chaibeh	395	425	457	492
Haouche El-Tal Safyat	1 165	1 255	1 351	1 455
Haouche Barada	600	646	695	748
Hizzine	2 240	2 413	2 599	2 799
Total Population	31 930	33 779	35 745	37 839
Water demand (m³/d)	6 386	6 756	7 149	7 568
Existing Water Sources				
Springs (m ³ /d)	6 000	6 000	6 000	6 000
Wells (m ³ /d)	1 527	1 527	1 527	1 527
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	7 527	7 527	7 527	7 527
Water balance	1 141	771	378	- 41

Local Distribution system-Aarsal

Population				
Arsale	49 420	51 301	53 253	55 280
Total Population	49 420	51 301	53 253	55 280
Water demand (m³/d)	9 884	10 260	10 651	11 056
Existing / Proposed Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 808	10 434	10 434	10 434
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 808	10 434	10 434	10 434
Water balance	- 8 076	174	- 216	- 622
Proposed 5 new wells - See Volume V-A project BQ-W. A.6				



DISTRICT OF BAALBECK

sheet 5 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Ouyoun Orgosh

Population				
Part of Nabha	500	538	579	623
Total Population	500	538	579	623
Water demand (m³/d)	100	108	116	125

Existing Water Sources

Springs (m ³ /d)	4 500	4 500	4 500	4 500
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	4 500	4 500	4 500	4 500
Water balance	4 400	4 392	4 384	4 375

Local Distribution System-Yammouneh

Population				
Yamouneh	4 000	4 309	4 642	5 000
Dar El-Ouassia	450	484	521	561
Total Population	4 450	4 793	5 163	5 561
Water demand (m³/d)	890	959	1 033	1 112

Existing / Proposed Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	460	1 043	1 043	1 043
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	460	1 043	1 043	1 043
Water balance	- 430	84	10	- 69

Proposed 1 new well - See Volume V-A project BQ-W. A.8



DISTRICT OF BAALBECK

sheet 6 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Halbata-EI Kharayeb

Population				
Halbata	2 175	2 343	2 524	2 719
Al-Kharayeb	500	538	579	623
Total Population	2 675	2 881	3 103	3 342
Water demand (m³/d)	535	576	621	668

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 124	1 124	1 124	1 124
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 124	1 124	1 124	1 124

Water balance	589	548	503	456
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Local Distribution System-Fekha & Jdaide

Population				
Part of El Fakiat	17 452	18 116	18 805	19 520
Total Population	17 452	18 116	18 805	19 520
Water demand (m³/d)	3 490	3 623	3 761	3 904

Existing / Proposed Water Sources

Springs (m ³ /d)	1 262	1 262	1 262	1 262
Wells (m ³ /d)	406	2 436	2 436	2 436
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 668	3 698	3 698	3 698

Water balance	- 1 822	75	- 63	- 206
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Proposed 4 new wells - See Volume V-A project BQ-W. A.10



DISTRICT OF BAALBECK

sheet 7 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution System-Baalbeck, Aamechki & Ain Bourday				
Population				
Ain Bourday	1 645	1 772	1 908	2 055
Baalbek	95 165	98 787	102 547	106 450
Oummouchki	-	-	-	-
Total Population	96 810	100 559	104 455	108 505
Water demand (m³/d)	19 362	20 112	20 891	21 701
Existing / Proposed Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	11 186	22 304	22 304	22 304
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	11 186	22 304	22 304	22 304
Water balance	- 8 176	2 192	1 413	603
Proposed 3 new wells - See Volume V-A project BQ-W. A.11				

Local Distribution System-Douris & Ansar

Population				
Douress	5 160	5 558	5 987	6 449
Total Population	5 160	5 558	5 987	6 449
Water demand (m³/d)	1 032	1 112	1 197	1 290
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 224	1 224	1 224	1 224
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 224	1 224	1 224	1 224
Water balance	192	112	26	- 66



DISTRICT OF BAALBECK

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution System-Temnine El-Fawqa				
Population				
Tamnine-el-Fauqa	4 500	4 847	5 221	5 624
Total Population	4 500	4 847	5 221	5 624
Water demand (m³/d)	900	969	1 044	1 125
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	945	945	945	945
Dams (m³/d)	-	-	-	-
Total (m³/d)	945	945	945	945
Water balance	45	- 24	- 99	- 180

Local Distribution System-Majdeloun

Population				
Majdeloun	1 820	1 960	2 111	2 274
Total Population	1 820	1 960	2 111	2 274
Water demand (m³/d)	364	392	422	455
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 800	1 800	1 800	1 800
Dams (m³/d)	-	-	-	-
Total (m³/d)	1 800	1 800	1 800	1 800
Water balance	1 436	1 408	1 378	1 345



DISTRICT OF BAALBECK

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Talia

Population				
Talia	2 445	2 633	2 836	3 055
Part of Haouche Al-Sonaid	1 630	1 755	1 890	2 036
Total Population	4 075	4 388	4 726	5 091
Water demand (m³/d)	815	878	945	1 018

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 922	1 922	1 922	1 922
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 922	1 922	1 922	1 922

Water balance	1 107	1 044	977	904
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Local Distribution System-Seraain Et Tahta and El-Fawqa

Population				
Saraine	9 340	10 061	10 838	11 675
Total Population	9 340	10 061	10 838	11 675
Water demand (m³/d)	1 868	2 012	2 168	2 335

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 750	2 750	2 750	2 750
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 750	2 750	2 750	2 750

Water balance	882	738	582	415
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DISTRICT OF BAALBECK

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Nabi Chit

Population				
Part of Al-Nabi Chite	15 725	16 323	16 944	17 589
Total Population	15 725	16 323	16 944	17 589
Water demand (m³/d)	3 145	3 265	3 389	3 518

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	5 211	5 211	5 211	5 211
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	5 211	5 211	5 211	5 211

Water balance	2 066	1 946	1 822	1 693
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Local Distribution System-Taybeh and laat

Population				
Al-Taybat	3 110	3 350	3 608	3 886
Yaar	6 500	7 002	7 543	8 125
Total Population	9 610	10 352	11 151	12 011
Water demand (m³/d)	1 922	2 070	2 230	2 402

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	3 662	3 662	3 662	3 662
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	3 662	3 662	3 662	3 662

Water balance	1 740	1 592	1 432	1 260
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DISTRICT OF BAALBECK

sheet 11 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution System-Rasm El Hadath				
Population				
Part of Younine	2 556	2 753	2 965	3 194
Part of Chaat	2 483	2 674	2 880	3 102
Total Population	5 039	5 427	5 845	6 296
Water demand (m³/d)	1 008	1 085	1 169	1 259
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 223	1 223	1 223	1 223
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 223	1 223	1 223	1 223
Water balance	215	138	54	- 36

Local Distribution System-Ras Baalbeck

Population				
Ras Baalbek El-Sahl	12 600	13 573	14 621	15 750
Total Population	12 600	13 573	14 621	15 750
Water demand (m³/d)	2 520	2 715	2 924	3 150
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	3 280	3 280	3 280	3 280
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	3 280	3 280	3 280	3 280
Water balance	760	565	356	130



DISTRICT OF BAALBECK

sheet 12 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Harbata

Population				
Part of Harbata	4 745	5 111	5 505	5 930
Total Population	4 745	5 111	5 505	5 930
Water demand (m³/d)	949	1 022	1 101	1 186

Existing Water Sources

Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 764	2 764	2 764	2 764
Dams (m³/d)	-	-	-	-
Total (m³/d)	2 764	2 764	2 764	2 764

Water balance	1 815	1 742	1 663	1 578
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Local Distribution System-Sbouba

Population				
Sbouba	5 870	6 323	6 811	7 337
Total Population	5 870	6 323	6 811	7 337
Water demand (m³/d)	1 174	1 265	1 362	1 467

Existing Water Sources

Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 419	1 419	1 419	1 419
Dams (m³/d)	-	-	-	-
Total (m³/d)	1 419	1 419	1 419	1 419

Water balance	245	154	57	- 48
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DISTRICT OF BAALBECK

sheet 13 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution System-Khreibeh				
Population				
Khreibeh	3 020	3 253	3 504	3 774
Total Population	3 020	3 253	3 504	3 774
Water demand (m³/d)	604	651	701	755
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 227	2 227	2 227	2 227
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 227	2 227	2 227	2 227
Water balance	1 623	1 576	1 526	1 472

Local Distribution System-Tfeil

Population				
Tfeil	1 300	1 400	1 508	1 624
Total Population	1 300	1 400	1 508	1 624
Water demand (m³/d)	260	280	302	325
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 815	1 815	1 815	1 815
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 815	1 815	1 815	1 815
Water balance	1 555	1 535	1 513	1 490



DISTRICT OF BAALBECK

sheet 14 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Qalileh & Harfouch

Population				
Part of Nabha	360	387	416	448
Total Population	360	387	416	448
Water demand (m³/d)	72	77	83	90

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 020	2 020	2 020	2 020
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 020	2 020	2 020	2 020

Water balance	1 948	1 943	1 937	1 930
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Local Distribution System-Mazraat Beit Slaibi

Population				
Part of Chemsitar	750	807	869	936
Total Population	750	807	869	936
Water demand (m³/d)	150	161	174	187

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	250	250	250	250
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	250	250	250	250

Water balance	100	89	76	63
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DISTRICT OF BAALBECK

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution System-Er Remasseh				
Population				
Part of Bouday	1 400	1 508	1 624	1 749
Total Population	1 400	1 508	1 624	1 749
Water demand (m³/d)	280	302	325	350
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	328	328	328	328
Dams (m³/d)	-	-	-	-
Total (m³/d)	328	328	328	328
Water balance	48	26	3	- 22

Local Distribution System-Mazna3 Ez Zohra

Population				
Part of Haddet	3 300	3 555	3 829	4 124
Total Population	3 300	3 555	3 829	4 124
Water demand (m³/d)	660	711	766	825
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	784	784	784	784
Dams (m³/d)	-	-	-	-
Total (m³/d)	784	784	784	784
Water balance	124	73	18	- 41



DISTRICT OF BAALBECK

sheet 16 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution System-Qeld Es Sabaa				
Population				
Part of Haddet	1 356	1 460	1 572	1 693
Total Population	1 356	1 460	1 572	1 693
Water demand (m³/d)	271	292	314	339
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	325	325	325	325
Dams (m³/d)	-	-	-	-
Total (m³/d)	325	325	325	325
Water balance	54	33	11	- 14

Local Distribution System-Chaat & Es-Soueidiyeh

Population				
Part of Chaat	7 446	8 021	8 640	9 307
Total Population	7 446	8 021	8 640	9 307
Water demand (m³/d)	1 489	1 604	1 728	1 861
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 728	1 728	1 728	1 728
Dams (m³/d)	-	-	-	-
Total (m³/d)	1 728	1 728	1 728	1 728
Water balance	239	124	-	- 133



DISTRICT OF BAALBECK

sheet 17 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Rasm Al-Khoder

Population				
Part of Al Nabi Chit	2 775	2 989	3 220	3 468
Part of Chaat	1 425	1 535	1 653	1 780
Total Population	4 200	4 524	4 873	5 248
Water demand (m³/d)	840	905	975	1 050

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 665	1 665	1 665	1 665
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 665	1 665	1 665	1 665

Water balance	825	760	690	615
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Local Distribution System-Ham & Maaraboun

Population				
Maaraboun	2 620	2 822	3 040	3 274
Ham	1 365	1 470	1 583	1 705
Total Population	3 985	4 292	4 623	4 979
Water demand (m³/d)	797	858	925	996

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 020	2 020	2 020	2 020
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 020	2 020	2 020	2 020

Water balance	1 223	1 162	1 095	1 024
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DISTRICT OF BAALBECK

sheet 18 of 18

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-Moqraq-Amhaz-Toufiquiyeh and En Noqra

Population				
Mikrak	4 175	4 497	4 844	5 218
Part of Al-Labouat	2 627	2 830	3 048	3 283
Part of Harabata	2 555	2 752	2 964	3 193
Total Population	9 357	10 079	10 856	11 694
Water demand (m³/d)	1 871	2 016	2 171	2 339

Existing / Proposed Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	3 312	3 312	3 312	3 312
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	3 312	3 312	3 312	3 312

Water balance	1 441	1 296	1 141	973
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DISTRICT OF HERMEL

sheet 1 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution System Hermel Upper, Ras El Mal & Ain Zarqa Spring

Population				
El Hermel	51 000	52 941	54 956	57 047
El Hermel_Wata Alkamoue	204	219	235	253
El Mansoura_Tlal Alfara	2 627	2 830	3 048	3 283
Sahlet El Chahkouneh	153	164	176	189
El Nabee Smael	204	219	235	253
Sahel Hermel	561	604	650	700
Bouaida	1 856	1 999	2 153	2 319
El Itri	20	21	22	23
Total Population	56 625	58 997	61 475	64 067
Water demand (m³/d)	11 325	11 799	12 295	12 813

Existing Water Sources

Springs (m³/d)	14 000	14 000	14 000	14 000
Wells (m³/d)	3 285	3 285	3 285	3 285
Dams (m³/d)	-	-	-	-
Total (m³/d)	17 285	17 285	17 285	17 285

Water balance	5 960	5 486	4 990	4 472
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Distribution System Ain El Haour Spring+Mazraat Soujoud

Population				
Sawah Allaou	153	164	176	189
Zeghrine Et Tahta_El Makhor	775	834	898	967
Mgharet Hasna	20	21	22	23
Mrah El Mechref	286	308	331	356
Mazraat Soujoud	969	1 043	1 123	1 209
El Beoul	918	988	1 064	1 146
Mrah El Mhailless Zeghrine	219	235	253	272
Mrad Elias	41	44	47	50
Ras Aaqabet Zeghrine	92	99	106	114
El Toffaha	66	71	76	81
Mrah Beit Taha	102	109	117	126
Moghr Fatmeh	56	60	64	68
Mouaissret Zaghrine	117	126	135	145
El Chalta	184	198	213	229
Kherbet El Lawoz	-	-	-	-
Al Barkhsh	82	88	94	101
Beit Allam	464	499	537	578
Beit Allaou	398	428	461	496
Marjhen	694	747	804	866
El Msateb	61	65	70	75

DISTRICT OF HERMEL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
El Hima	223	240	258	277
Ob Elsher	31	33	35	37
Biout Ein Jamee	204	219	235	253
El Mdaouich	398	428	461	496
Sahel Abou Moussa	-	-	-	-
Choab Daiee	26	28	30	32
Ain El Hramiyeh	780	840	904	973
Es Soueidiyeh	274	295	317	341
Ein El Baida	612	659	709	763
Total Population	8 245	8 869	9 540	10 263
Water demand (m³/d)	1 649	1 774	1 908	2 053
Existing Water Sources				
Springs (m ³ /d)	1 123	1 123	1 123	1 123
Wells (m ³ /d)	700	700	700	875
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 823	1 823	1 823	1 998
Water balance	174	49	- 85	- 55

Distribution System Naanaah-El Kharbe & El Wardeh Springs

Population				
Mrah Ras El Ain	592	637	686	739
Ras El Aaqaba	61	65	70	75
Mrah El Damdoum	77	82	88	94
Maql Ayoub	377	406	437	470
Mrah El Souaisseh	683	735	791	852
Jaouz	301	324	349	375
Samhat	301	324	349	375
Sahlet En Naanaa	663	714	769	828
Total Population	3 055	3 287	3 539	3 808
Water demand (m³/d)	611	657	708	762
Existing Water Sources				
Springs (m ³ /d)	1 030	1 030	1 030	1 030
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 030	1 030	1 030	1 030
Water balance	419	373	322	268

Distribution System Beit Et Tochem-El Charge-Mazraat Chelman

DISTRICT OF HERMEL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Population				
Beit Et Tochom	882	950	1 023	1 102
El Charkee	204	219	235	253
Mazraat El Chalmane	51	54	58	62
Total Population	1 137	1 223	1 316	1 417
Water demand (m³/d)	227	245	263	283
Proposed Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	300	300	300	300
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	300	300	300	300
Water balance	73	55	37	17

Distribution System Ouadi En Naira-Ouadi Bnit-Zoueitini-Wadi El Karem & Kaeb Wadi El Karem

Population				
Wadi En Naira	347	373	401	431
Wadi Bnit	500	538	579	623
Mrah Yassen	31	33	35	37
Wadi El Karem	408	439	472	508
Mrah Zouatini	255	274	295	317
Mazraat El Fakih	357	384	413	444
Kaeb Wadi El Karem	51	54	58	62
Total Population	1 949	2 095	2 253	2 422
Water demand (m³/d)	390	419	451	484
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 250	2 250	2 250	2 250
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 250	2 250	2 250	2 250
Water balance	1 860	1 831	1 799	1 766



DISTRICT OF HERMEL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution System Ouadi Faara-Mrah El Aaqabet

Population				
Al Maisra	31	33	35	37
Wadi Faara	71	76	81	87
Total Population	102	109	116	124
Water demand (m³/d)	20	22	23	25

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	460	460	460	460
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	460	460	460	460

Water balance	440	438	437	435
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Distribution System Maabour Spring

Population				
Jiwar El Hashish	1 301	1 401	1 509	1 625
El Boustane	1 581	1 703	1 834	1 975
Total Population	2 882	3 104	3 343	3 600
Water demand (m³/d)	576	621	669	720

Existing Water Sources

Springs (m ³ /d)	735	735	735	735
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	735	735	735	735

Water balance	159	114	66	15
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DISTRICT OF HERMEL

sheet 5 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution System Lezzabe Spring, Brissa & Charbine

Population				
El Moudawar	31	33	35	37
Brissa	755	813	875	942
Ain El Jdideh	255	274	295	317
Charbine El Faouka	469	505	544	586
Charbine El Tahta	1 887	2 032	2 189	2 358
El Braij	194	208	224	241
Khrabit Botom	306	329	354	381
Wadi El Debbe	128	137	147	158
Karm Dahbe	-	-	-	-
El Howa	31	33	35	37
Ali El Tawel	102	109	117	126
Total Population	4 158	4 473	4 815	5 183
Water demand (m³/d)	832	895	963	1 037

Existing Water Sources

Springs (m³/d)	800	800	800	800
Wells (m³/d)	2 200	2 200	2 200	2 200
Dams (m³/d)	-	-	-	-
Total (m³/d)	3 000	3 000	3 000	3 000

Water balance	2 168	2 105	2 037	1 963
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Distribution System Aarouba+El Hariq

Population				
El Zekbe	755	813	875	942
Sahlet El Maii	3 407	3 670	3 953	4 258
Mrah Ed Dalil	479	516	555	597
El Harika	663	714	769	828
Karm Fissane	184	198	213	229
Fissane	944	1 016	1 094	1 178
El Mouasser	770	829	893	962
Saiar	194	208	224	241
Mrah El Arab	265	285	307	330
Mrah El Zaarour	122	131	141	151
Qanafez	622	670	721	776
El Houchrieh	158	170	183	197
Middan	51	54	58	62
Mrah El Shoab	444	478	514	553
Harf Non	122	131	141	151
Total Population	9 180	9 883	10 641	11 455



DISTRICT OF HERMEL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Water demand (m³/d)	1 836	1 977	2 128	2 291
Existing Water Sources				
Springs (m ³ /d)	850	850	850	850
Wells (m ³ /d)	3 000	3 000	3 000	3 000
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	3 850	3 850	3 850	3 850
Water balance	2 014	1 873	1 722	1 559

Distribution System Ouyoun Obeid

Population				
Beit Sleiman	265	285	307	330
Harf El Semea	393	423	455	490
Mrah Deaibess	189	203	218	234
El Hmaire	780	840	904	973
Total Population	1 627	1 751	1 884	2 027
Water demand (m³/d)	325	350	377	405
Existing Water Sources				
Springs (m ³ /d)	380	380	380	380
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	380	380	380	380
Water balance	55	30	3	- 25

Local Distribution system-El Kouakh

Population				
El Kouakh	1 550	1 669	1 797	1 935
Total Population	1 550	1 669	1 797	1 935
Water demand (m³/d)	310	334	359	387
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 400	2 400	2 400	2 400
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 400	2 400	2 400	2 400
Water balance	2 090	2 066	2 041	2 013

DISTRICT OF HERMEL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Local Distribution System-El Qasr

Population				
El Qasr	9 894	10 658	11 481	12 368
El Safawe	133	143	154	165
En Nassrieh	510	549	591	636
Total Population	10 537	11 350	12 226	13 169
Water demand (m³/d)	2 107	2 270	2 445	2 634

Existing / Proposed Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 100	2 475	2 475	2 475
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 100	2 475	2 475	2 475

Water balance	- 1 007	205	30	- 159
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Proposed 1 new well - See Volume V-A project BQ-W. B.11

Local Distribution System-Haouch Saied Ali & Haouch Beit Ismail

Population				
Haouch Saied Ali	510	549	591	636
Haouch Beit Smaïl	1 428	1 538	1 656	1 783
Beit Hira	449	483	520	560
El Kreine	255	274	295	317
Total Population	2 642	2 844	3 062	3 296
Water demand (m³/d)	528	569	612	659

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	618	618	618	618
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	618	618	618	618

Water balance	90	49	6	41
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Local Distribution System-Jbeb El Homor

Population				
Jbab El Homr	102	109	117	126
Shatah Wadi Alzaraqkt	133	143	154	165
Sawah	255	274	295	317
Total Population	490	526	566	608



DISTRICT OF HERMEL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Water demand (m³/d)	98	105	113	122
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	500	500	500	500
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	500	500	500	500
Water balance	402	395	387	378

Local Distribution System-Ouadi Et Tourkmane - Ouadi El Ratel

Population				
Wadi El Tourkmane	612	659	709	763
Wadi El Ratel	459	494	532	573
Total Population	1 071	1 153	1 241	1 336
Water demand (m³/d)	214	231	248	267

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	700	700	700	700
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	700	700	700	700
Water balance	486	469	452	433

Local Distribution System-Chouaghir

Population				
Chouaghir	2 570	2 768	2 981	3 211
Total Population	2 570	2 768	2 981	3 211
Water demand (m³/d)	514	554	596	642

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	602	602	602	602
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	602	602	602	602
Water balance	88	48	6	- 40



DISTRICT OF WEST BEKAA- RACHAYA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 1

Population				
Aiha	4 814	5 189	5 593	6 029
Total Population	4 814	5 189	5 593	6 029
Water demand (m³/d)	963	1 038	1 119	1 206
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 765	2 765	2 765	2 765
Total (m³/d)	2 765	2 765	2 765	2 765
Water balance	1 802	1 727	1 646	1 559

Distribution system 1

Population				
Ammik et "Jouret Ammik"	1 403	1 512	1 630	1 757
Chouberkié "Ammik"	11	12	13	14
Dair Tahmiche	95	103	111	119
Total Population	1 509	1 626	1 753	1 890
Water demand (m³/d)	302	325	351	378
Existing Water Sources				
Springs (m ³ /d)	28 858	28 858	28 858	28 858
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	28 858	28 858	28 858	28 858
Water balance	28 556	28 533	28 507	28 480



DISTRICT OF WEST BEKAA- RACHAYA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 2				
Population				
Ain Horche	2 188	2 359	2 542	2 741
Total Population	2 188	2 359	2 542	2 741
Water demand (m³/d)	438	472	508	548
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 497	1 497	1 497	1 497
Total (m³/d)	1 497	1 497	1 497	1 497
Water balance	1 059	1 025	989	949

Distribution system 3				
Population				
Deir El Achayer	1 641	1 769	1 907	2 055
Total Population	1 641	1 769	1 907	2 055
Water demand (m³/d)	328	354	381	411
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	216	216	216	216
Total (m³/d)	216	216	216	216
Water balance	- 112	- 138	- 165	- 195
Proposed 1 new well - See Volume V-A project BQ-W. C.5				

Distribution system 4				
Population				
Kfarqouk	3 749	4 041	4 355	4 695
Total Population	3 749	4 041	4 355	4 695
Water demand (m³/d)	750	808	871	939
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 037	1 037	1 037	1 037
Total (m³/d)	1 037	1 037	1 037	1 037
Water balance	287	229	166	98



DISTRICT OF WEST BEKAA- RACHAYA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 5				
Population				
Yanta	3 749	4 041	4 355	4 695
Total Population	3 749	4 041	4 355	4 695
Water demand (m³/d)	750	808	871	939
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 124	1 124	1 124	1 124
Total (m³/d)	1 124	1 124	1 124	1 124
Water balance	374	316	253	185

Distribution system 6				
Population				
Kherbet Kanafar	5 724	6 169	6 650	7 168
Total Population	5 724	6 169	6 650	7 168
Water demand (m³/d)	1 145	1 234	1 330	1 434
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 074	2 074	2 074	2 074
Total (m³/d)	2 074	2 074	2 074	2 074
Water balance	929	840	744	640

Distribution system 7				
Population				
Bab Mareh	627	676	728	785
Total Population	627	676	728	785
Water demand (m³/d)	125	135	146	157
Existing Water Sources				
Springs (m ³ /d)	21 744	21 744	21 744	21 744
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	21 744	21 744	21 744	21 744
Water balance	21 619	21 609	21 598	21 587



DISTRICT OF WEST BEKAA- RACHAYA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 8				
Population				
Ana	2 671	2 879	3 103	3 345
Total Population	2 671	2 879	3 103	3 345
Water demand (m³/d)	534	576	621	669
Existing Water Sources				
Springs (m ³ /d)	21 744	21 744	21 744	31 968
Wells (m ³ /d)	2 160	2 160	2 160	2 160
Total (m³/d)	23 904	23 904	23 904	34 128
Water balance	23 370	23 328	23 283	33 459

Distribution system 9				
Population				
Heloua	937	1 010	1 088	1 173
Total Population	937	1 010	1 088	1 173
Water demand (m³/d)	187	202	218	235
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 160	2 160	2 160	1 037
Total (m³/d)	2 160	2 160	2 160	1 037
Water balance	1 973	1 958	1 942	802

Distribution system 10				
Population				
Ain Ata	3 749	4 041	4 355	4 695
Total Population	3 749	4 041	4 355	4 695
Water demand (m³/d)	750	808	871	939
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 728	1 728	1 728	1 728
Total (m³/d)	1 728	1 728	1 728	1 728
Water balance	978	920	857	789



DISTRICT OF WEST BEKAA- RACHAYA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 11

Population	2020	2025	2030	2035
Bakka	1 970	2 123	2 288	2 466
Total Population	1 970	2 123	2 288	2 466
Water demand (m³/d)	394	425	458	493

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	912	912	912	912
Total (m³/d)	912	912	912	912

Water balance	518	487	454	419
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Distribution system 12

Population	2020	2025	2030	2035
Rachaya	10 395	11 204	12 077	13 017
Total Population	10 395	11 204	12 077	13 017
Water demand (m³/d)	2 079	2 241	2 415	2 603

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	4 121	4 121	4 121	4 121
Total (m³/d)	4 121	4 121	4 121	4 121

Water balance	2 042	1 880	1 706	1 518
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Distribution system 13

Population	2020	2025	2030	2035
Aïn-Zebdé	2 407	2 595	2 797	3 015
Total Population	2 407	2 595	2 797	3 015
Water demand (m³/d)	481	519	559	603

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 728	1 728	1 728	1 728
Total (m³/d)	1 728	1 728	1 728	1 728

Water balance	1 247	1 209	1 169	1 125
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DISTRICT OF WEST BEKAA- RACHAYA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 14				
Population				
Aïtanit	1 464	1 578	1 701	1 833
Total Population	1 464	1 578	1 701	1 833
Water demand (m³/d)	293	316	340	367
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	864	864	864	864
Total (m³/d)	864	864	864	864
Water balance	571	548	524	497

Distribution system 15				
Population				
Tal Zenoub	1 641	1 769	1 907	2 055
Total Population	1 641	1 769	1 907	2 055
Water demand (m³/d)	328	354	381	411
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 800	1 800	1 800	1 800
Total (m³/d)	1 800	1 800	1 800	1 800
Water balance	1 472	1 446	1 419	1 389

Distribution system 16				
Population				
Kefraya	3 447	3 715	4 004	4 316
Total Population	3 447	3 715	4 004	4 316
Water demand (m³/d)	689	743	801	863
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 592	2 592	2 592	2 592
Total (m³/d)	2 592	2 592	2 592	2 592
Water balance	1 903	1 849	1 791	1 729



DISTRICT OF WEST BEKAA- RACHAYA

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 17				
Population				
Saghbine	4 869	5 248	5 657	6 098
Deir-Aïn-el-Jaouzé	34	37	39	42
Total Population	4 869	5 248	5 657	6 098
Water demand (m³/d)	974	1 050	1 131	1 220
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	5 184	5 184	5 184	5 184
Total (m³/d)	5 184	5 184	5 184	5 184
Water balance	4 210	4 134	4 053	3 964

Distribution system 18				
Population				
Wadi-el-Arayeche	10	11	11	12
Total Population	10	11	11	12
Water demand (m³/d)	2	2	2	2
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	3 024	3 024	3 024	3 024
Total (m³/d)	3 024	3 024	3 024	3 024
Water balance	3 022	3 022	3 022	3 022

Distribution system 19				
Population				
Ain el tine	4 202	4 529	4 882	5 262
Machghara	19 913	21 464	23 135	24 937
Maidoun	1 219	1 314	1 416	1 526
Total Population	25 333	27 306	29 433	31 726
Water demand (m³/d)	5 067	5 461	5 887	6 345
Existing Water Sources				
Springs (m ³ /d)	19 684	19 684	19 684	19 684
Wells (m ³ /d)	3 288	3 288	3 288	3 288
Total (m³/d)	22 972	22 972	22 972	22 972
Water balance	17 905	17 511	17 085	16 627



DISTRICT OF WEST BEKAA- RACHAYA

sheet 8 of 9

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 20				
Population				
Baaloul	3 671	3 957	4 265	4 597
Joub janine	14 771	15 922	17 162	18 499
Kamed el Louz	12 720	13 710	14 778	15 929
Lala	8 903	9 597	10 344	11 150
Loucia	109	118	127	137
Lebbaya	6 046	6 517	7 025	7 572
Sohmor	10 051	10 834	11 678	12 587
Yohmor	5 360	5 778	6 228	6 713
Zelaya	709	764	824	888
Qaraoun	8 268	8 911	9 606	10 354
Qeleya	2 247	2 422	2 611	2 815
Total Population	72 857	78 531	84 647	91 240
Water demand (m³/d)	14 571	15 706	16 929	18 248
Existing Water Sources				
Springs (m ³ /d)	56 525	56 525	56 525	56 525
Wells (m ³ /d)	3 288	3 288	3 288	3 288
Total (m³/d)	59 813	59 813	59 813	59 813
Water balance	45 242	44 107	42 884	41 565

Distribution system 21				
Population				
Mdoukha	2 687	2 897	3 122	3 365
Bireh	1 452	1 565	1 687	1 818
Khirbet Rouha	3 122	3 365	3 627	3 909
Ain Arab	946	1 020	1 100	1 185
Total Population	8 207	8 847	9 536	10 278
Water demand (m³/d)	1 641	1 769	1 907	2 056
Existing Water Sources				
Springs (m ³ /d)	6 377	6 377	6 377	6 377
Wells (m ³ /d)	3 284	3 284	3 284	3 284
Total (m³/d)	9 661	9 661	9 661	9 661
Water balance	8 020	7 892	7 754	7 605



DISTRICT OF WEST BEKAA- RACHAYA

sheet 9 of 9

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 22				
Population				
Rafid	6 042	6 513	7 020	7 567
Mhaidthe	3 081	3 321	3 580	3 859
Kfardenis	3 579	3 858	4 158	4 482
Daher el ahmar	2 395	2 582	2 783	2 999
Total Population	15 097	16 273	17 541	18 907
Water demand (m³/d)	3 019	3 255	3 508	3 781
Existing Water Sources				
Springs (m ³ /d)	11 731	11 731	11 731	11 731
Wells (m ³ /d)	3 456	3 456	3 456	3 456
Total (m³/d)	15 187	15 187	15 187	15 187
Water balance	12 168	11 932	11 679	11 406

Distribution system 23				
Population				
majdel Balhis	3 343	3 603	3 884	4 186
Kaoukaba	2 134	2 300	2 479	2 672
Kfarmechki	1 464	1 578	1 701	1 833
Nabi safe	175	189	203	219
Haouch el qannabe	2 437	2 627	2 831	3 052
Mazraet jaafar	11	12	13	14
Tannoura	2 068	2 229	2 403	2 590
Beit lahia	3 048	3 286	3 542	3 818
Bakkifa	3 081	3 321	3 580	3 859
El Aaqabeh	3 124	3 367	3 629	3 912
Total Population	20 885	22 511	24 264	26 154
Water demand (m³/d)	4 177	4 502	4 853	5 231
Existing Water Sources				
Springs (m ³ /d)	16 083	16 083	16 083	16 083
Wells (m ³ /d)	8 042	8 042	8 042	8 042
Total (m³/d)	24 125	24 125	24 125	24 125
Water balance	19 948	19 623	19 272	18 894



DISTRICT OF ZAHLE

sheet 1 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 1				
Population				
Hochemoche	291	302	313	325
Rayak	9 615	9 982	10 364	10 760
Nasriyat Rizk	2 129	2 295	2 474	2 667
Haouche Hala	16 559	17 191	17 848	18 530
Total Population	28 594	29 771	31 000	32 282
Water demand (m³/d)	5 719	5 954	6 200	6 456
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	3 720	3 720	3 720	3 720
Total (m³/d)	3 720	3 720	3 720	3 720
Water balance	- 1 999	- 2 234	- 2 480	- 2 736
Proposed 3 new wells - See Volume V-A project BQ-W. C.6				

Distribution system 2

Population				
Niha	2 853	3 075	3 314	3 572
Total Population	2 853	3 075	3 314	3 572
Water demand (m³/d)	571	615	663	714
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 296	1 296	1 296	1 296
Total (m³/d)	1 296	1 296	1 296	1 296
Water balance	725	681	633	582



DISTRICT OF ZAHLE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 3				
Population				
Maazraat-el-Ramtanieh	100	107	116	125
Touaité	1 163	1 254	1 351	1 457
Total Population	1 263	1 361	1 467	1 581
Water demand (m³/d)	253	272	293	316
Existing Water Sources				
Springs (m ³ /d)	36	36	36	36
Wells (m ³ /d)	1 003	1 003	1 003	1 003
Total (m³/d)	1 039	1 039	1 039	1 039
Water balance	786	767	746	723

Distribution system 4

Population				
Zebdol	996	1 034	1 073	1 114
Tanail	2 414	2 506	2 602	2 702
Chtaura	5 984	6 213	6 450	6 697
Jditah	14 112	14 651	15 211	15 792
Saïd Neil	22 460	23 319	24 210	25 135
Talabaya	36 996	38 410	39 877	41 401
Total Population	82 963	86 133	89 424	92 841
Water demand (m³/d)	16 593	17 227	17 885	18 568
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	25 920	25 920	25 920	25 920
Total (m³/d)	25 920	25 920	25 920	25 920
Water balance	9 327	8 693	8 035	7 352



DISTRICT OF ZAHLE

sheet 3 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 5				
Population				
Ablah	13 109	13 610	14 130	14 670
Total Population	13 109	13 610	14 130	14 670
Water demand (m³/d)	2 622	2 722	2 826	2 934
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 521	1 521	1 521	1 521
Total (m³/d)	1 521	1 521	1 521	1 521
Water balance	- 1 101	- 1 201	- 1 305	- 1 413
Proposed 1 new well - See Volume V-A project BQ-W. C.7				

Distribution system 6				
Population				
Zahlé Mar Antonios	167	174	180	187
Zahlé Saidet Al-Najda	837	869	902	936
Zahlé Mar Elias	983	1 021	1 060	1 100
Zahlé Mar Gérios	1 036	1 075	1 116	1 159
Ksara	638	662	688	714
Zahlé Haouche Al-Zaraané	1 328	1 379	1 432	1 487
Zahlé Al-Rassié	575	597	620	644
Zahlé Barbara	1 182	1 227	1 274	1 323
Zahlé Midan	1 621	1 683	1 748	1 814
Zahlé Haouche Al-Oumara	7 709	8 004	8 310	8 627
Zahlé Maallaka Kerek	17 584	18 256	18 953	19 677
Maallaka (Terres)	34 310	35 621	36 982	38 395
Zahlé (Terres)	81 538	84 654	87 888	91 247
Kaa-el-Rime	4 530	4 703	4 883	5 070
Hizzerta	7 333	7 613	7 904	8 206
Total Population	161 372	167 538	173 940	180 587
Water demand (m³/d)	32 274	33 508	34 788	36 117
Existing Water Sources				
Springs (m ³ /d)	21 768	21 768	21 768	21 768
Wells (m ³ /d)	25 412	25 412	25 412	25 412
Total (m³/d)	47 180	47 180	47 180	47 180
Water balance	14 906	13 672	12 392	11 063



DISTRICT OF ZAHLE

sheet 4 of 8

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system 7

Population	2020	2025	2030	2035
Chouberkié Tabet	38	41	44	48
Haouche Kaissar	38	41	44	48
Haouche Sayadi	38	41	44	48
Al-Nasriyé	91	98	106	114
Tal-el-Akhdar	175	189	203	219
Al-Mazraa	746	804	867	935
Wadi-el-Dalam	2 920	3 148	3 393	3 657
Maksé	4 762	5 133	5 532	5 963
Kab Elias	30 718	33 110	35 689	38 469
Mandara	98	106	114	123
Tchiflik Eddé	44	47	51	55
Tchiflik Kikano	5	6	6	7
Total Population	39 675	42 765	46 095	49 686
Water demand (m³/d)	7 935	8 553	9 219	9 937

Existing Water Sources

Springs (m ³ /d)	72 816	72 816	72 816	72 816
Wells (m ³ /d)	8 880	8 880	8 880	8 880
Total (m³/d)	81 696	81 696	81 696	81 696

Water balance	73 761	73 143	72 477	71 759
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Distribution system 8

Population	2020	2025	2030	2035
Mreijat	4 114	4 435	4 780	5 152
Bouerije	4 274	4 607	4 965	5 352
Total Population	8 388	9 041	9 745	10 504
Water demand (m³/d)	1 678	1 808	1 949	2 101

Existing Water Sources

Springs (m ³ /d)	612	612	612	612
Wells (m ³ /d)	1 680	1 680	1 680	1 680
Total (m³/d)	2 292	2 292	2 292	2 292

Water balance	614	484	343	191
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DISTRICT OF ZAHLE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 9				
Population				
Al-Ali-Nahri	17 114	17 768	18 447	19 152
Hauouche el Ghanam	1 344	1 396	1 449	1 504
Total Population	18 458	19 164	19 896	20 656
Water demand (m³/d)	3 692	3 833	3 979	4 131
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	8 640	8 640	8 640	8 640
Total (m³/d)	8 640	8 640	8 640	8 640
Water balance	4 948	4 807	4 661	4 509

Distribution system 10

Population				
Al-Nabi Aïla	2 153	2 235	2 320	2 409
Tal-al-Amara	10	11	11	12
Total Population	2 163	2 246	2 332	2 421
Water demand (m³/d)	433	449	466	484
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	476	476	476	476
Total (m³/d)	476	476	476	476
Water balance	43	27	10	- 8



DISTRICT OF ZAHLE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 11				
Population				
Fourzol	14 171	14 712	15 274	15 858
Total Population	14 171	14 712	15 274	15 858
Water demand (m³/d)	2 834	2 942	3 055	3 172
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 555	1 555	1 555	1 555
Total (m³/d)	1 555	1 555	1 555	1 555
Water balance	- 1 279	- 1 387	- 1 500	- 1 617
Proposed 1 new well - See Volume V-A project BQ-W. C.9				

Distribution system 12

Population				
Al-Djeziré	313	337	364	392
Al-Istable	120	130	140	151
Al-Khiara	1 653	1 782	1 921	2 070
Al-Marje	9 316	10 041	10 823	11 666
Al-Wakf	16	18	19	21
Haouche-el-Harimé	2 691	2 900	3 126	3 369
Harime-el-Soughra	142	153	165	178
Khiara-el-Atika	5	6	6	7
Bar-Elias	32 771	35 323	38 074	41 039
Total Population	47 028	50 690	54 638	58 894
Water demand (m³/d)	9 406	10 138	10 928	11 779
Existing Water Sources				
Springs (m³/d)	8 640	8 640	8 640	8 640
Wells (m³/d)	3 288	3 288	3 288	3 288
Total (m³/d)	11 928	11 928	11 928	11 928
Water balance	2 522	1 790	1 000	149

Distribution system 13

Population				
Mansoura	3 830	4 128	4 449	4 796
Soltan Yacoub el Aradi	69	74	80	86
Al-Sawiré	7 112	7 666	8 263	8 907
Soltan-Yacoub	4 924	5 307	5 721	6 166
Dakoué	821	885	953	1 028
Ghazzé	8 839	9 527	10 269	11 069



DISTRICT OF ZAHLE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Hamara	5 471	5 897	6 356	6 851
Mejdel-Anjar	28 011	30 192	32 544	35 079
Aita el fokhar	3 172	3 419	3 685	3 972
Total Population	62 248	67 096	72 321	77 954
Water demand (m³/d)	12 450	13 419	14 464	15 591
Existing Water Sources				
Springs (m ³ /d)	21 860	21 860	21 860	21 860
Wells (m ³ /d)	19 812	19 812	19 812	19 812
Total (m³/d)	41 672	41 672	41 672	41 672
Water balance	29 222	28 253	27 208	26 081

Distribution system 14

Population				
Delhamiye	2 495	2 689	2 898	3 124
Dair-el-Ghazel	1 532	1 651	1 780	1 918
Koussaya	1 532	1 651	1 780	1 918
Ain Kfar Zabed	3 676	3 963	4 271	4 604
Rait	3 173	3 420	3 687	3 974
Kfar Zabed	8 576	9 244	9 964	10 740
Terbol	11 165	12 035	12 972	13 982
Massa	12 364	13 327	14 365	15 484
Total Population	44 513	47 980	51 717	55 745
Water demand (m³/d)	8 903	9 596	10 343	11 149
Existing Water Sources				
Springs (m ³ /d)	13 000	13 000	13 000	13 000
Wells (m ³ /d)	7 867	7 867	7 867	7 867
Total (m³/d)	20 867	20 867	20 867	20 867
Water balance	11 964	11 271	10 524	9 718



DISTRICT OF ZAHLE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system 15				
Population				
Anjar	16 206	17 468	18 828	20 295
Total Population	16 206	17 468	18 828	20 295
Water demand (m³/d)	3 241	3 494	3 766	4 059
Existing Water Sources				
Springs (m³/d)	57 888	57 888	57 888	57 888
Wells (m³/d)	60 048	60 048	60 048	60 048
Total (m³/d)	117 936	117 936	117 936	117 936
Water balance	114 695	114 442	114 170	113 877



DISTRICT OF ZAHRANI

sheet 1 of 3

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
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Northern & Eastern Sub-system

Population				
Ech Charqiye	1 960	2 394	2 924	3 572
El Aaddoussiye	11 388	13 909	16 989	20 750
El Merouaniye	2 805	3 427	4 185	5 112
En Najjariye	6 126	7 482	9 138	11 161
En Nmairiye	5 978	7 301	8 918	10 892
Zeffa	30 336	37 052	45 256	55 275
Insar	4 546	5 552	6 781	8 282
Kaoutariet Es Siyad	1 173	1 433	1 750	2 138
Khartoum	2 672	3 264	3 986	4 869
Mazraat Kaoutariyet er Rizz	1 284	1 568	1 915	2 339
Mazraat Sinai	1 283	1 567	1 914	2 338
Total Population	69 551	84 949	103 756	126 728
Water demand (m³/d)	13 910	16 990	20 751	25 346

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	15 077	15 077	15 077	15 077
Total (m³/d)	15 077	15 077	15 077	15 077

Water balance	1 166	- 1 913	- 5 675	- 10 269
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Proposed improvement of transmission network
See Volume V-A projects SL-W.D.1 and SL-W.D.5



DISTRICT OF ZAHRANI

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Middle Sub-system				
Population				
Bissariye	17 465	21 332	26 055	31 823
Ghassaniye	4 592	5 608	6 849	8 366
Qaaqaiet Es Snaoubar	3 974	4 854	5 929	7 241
Teffahta	8 469	10 343	12 633	15 430
Total Population	34 500	42 137	51 466	62 860
Water demand (m³/d)	6 900	8 427	10 293	12 572
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	4 787	4 787	4 787	4 787
Total (m³/d)	4 787	4 787	4 787	4 787
Water balance	- 2 113	- 3 640	- 5 506	- 7 785
Proposed improvement of transmission network See Volume V-A projects SL-W.D.2 and SL-W.D.6				

Coastal Sub-system				
Population				
Aadloun	16 393	20 023	24 456	29 870
El Babliye	7 807	9 535	11 646	14 224
Loubiye	3 388	4 138	5 055	6 174
Es Saksakiye	10 777	13 163	16 077	19 637
Insariye	6 566	8 020	9 795	11 964
Sarafand	27 756	33 901	41 407	50 574
Total Population	72 687	88 780	108 436	132 443
Water demand (m³/d)	14 537	17 756	21 687	26 489
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	9 917	9 917	9 917	9 917
Total (m³/d)	9 917	9 917	9 917	9 917
Water balance	- 4 621	- 7 839	- 11 771	- 16 572
Proposed Elbrak wells, pumping station, and lift line - See Volume V-A project SL-W.D.3				



DISTRICT OF ZAHRANI

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Southern Sub-system				
Population				
Arzai	5 863	7 161	8 747	10 683
El Kharayeb	15 786	19 282	23 550	28 764
Ez Zrariye	11 796	14 408	17 597	21 493
Total Population	33 445	40 851	49 894	60 940
Water demand (m³/d)	6 689	8 170	9 979	12 188
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	6 242	6 242	6 242	6 242
Total (m³/d)	6 242	6 242	6 242	6 242
Water balance	- 447	- 1 928	- 3 737	- 5 946

Proposed upgrade of El Zrariyeh regional reservoir
See Volume V-A projects SL-W.D.4 and SL-W.D.7



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Arkey system				
Population				
Arkey	2 358	2 881	3 518	4 297
Total Population	2 358	2 881	3 518	4 297
Water demand (m³/d)	472	576	704	859
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	546	546	546	546
Total (m³/d)	546	546	546	546
Water balance	75	- 30	- 158	- 313
Proposed improvement of transmission network - See Volume V-A project SL-W.E.1				

Barti System

Population				
Berti	1 415	1 729	2 111	2 579
Sfenta	29	36	44	53
Total Population	1 444	1 765	2 155	2 632
Water demand (m³/d)	289	353	431	526
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	890	890	890	890
Total (m³/d)	890	890	890	890
Water balance	601	537	459	363



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Bnaafoul System				
Population				
Bnaafoul	3 021	3 690	4 507	5 505
Qnaitra	460	562	687	839
Aanqoun	379	463	566	691
Total Population	3 860	4 715	5 760	7 035
Water demand (m³/d)	772	943	1 152	1 407
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	854	854	854	854
Total (m³/d)	854	854	854	854
Water balance	82	- 89	- 298	- 553
Deficit will be covered by Arkey works - See Volume V-A project SL-W E.1				

Jbaa System

Population				
Jbaa	10 352	12 644	15 444	18 863
Total Population	10 352	12 644	15 444	18 863
Water demand (m³/d)	2 070	2 529	3 089	3 773
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 000	2 000	2 000	2 000
Total (m³/d)	2 000	2 000	2 000	2 000
Water balance	- 70	- 529	- 1 089	- 1 773
Deficit will be covered by Nabaa el Tasse works - See Volume V-A project SL-W E.6				



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Hajje System				
Population				
Hajje	1 478	1 806	2 205	2 694
Total Population	1 478	1 806	2 205	2 694
Water demand (m³/d)	296	361	441	539
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 788	1 788	1 788	1 788
Total (m³/d)	1 788	1 788	1 788	1 788
Water balance	1 492	1 426	1 347	1 249

Houmine Et Tahta System

Population				
Houmine Et Tahta	3 451	4 216	5 149	6 289
Total Population	3 451	4 216	5 149	6 289
Water demand (m³/d)	690	843	1 030	1 258
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 114	1 114	1 114	1 114
Total (m³/d)	1 114	1 114	1 114	1 114
Water balance	424	271	85	- 143

Haitoule System

Population				
Haitoule	132	162	197	241
Total Population	132	162	197	241
Water demand (m³/d)	26	32	39	48
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 013	1 013	1 013	1 013
Total (m³/d)	1 013	1 013	1 013	1 013
Water balance	987	981	974	965



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Roumine System				
Population				
Roumine	4 181	5 107	6 238	7 619
Total Population	4 181	5 107	6 238	7 619
Water demand (m³/d)	836	1 021	1 248	1 524
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 416	1 416	1 416	1 416
Total (m³/d)	1 416	1 416	1 416	1 416
Water balance	580	395	169	- 108

Fouar-Serail System

Population				
Saida Ed-Dekermane	74 768	91 322	111 541	136 236
Saida El-Qadimeh	7 478	9 133	11 155	13 624
Saida El-Oustani	14 954	18 265	22 308	27 247
Haret Saida	8 728	10 660	13 020	15 902
Hlaliye Saida	10 337	12 625	15 420	18 834
Bramie	162	198	242	295
Miye ou Miye	1 101	1 345	1 643	2 006
Ghaziye	645	788	963	1 175
Bqosta	48	58	71	86
Total Population	118 221	144 394	176 363	215 405
Water demand (m³/d)	23 644	28 879	35 273	43 081
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	57 423	57 423	57 423	57 423
Total (m³/d)	57 423	57 423	57 423	57 423
Water balance	33 779	28 544	22 151	14 342



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Miye ou Miye System				
Population				
Miye ou Miye	5 754	7 028	8 584	10 485
Total Population	5 754	7 028	8 584	10 485
Water demand (m³/d)	1 151	1 406	1 717	2 097
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	533	533	533	533
Total (m³/d)	533	533	533	533
Water balance	- 617	- 872	- 1 183	- 1 564
Deficit will be covered by Fouar-Serail works - See Volume V-A project SL-W E.2				

Villat System

Population				
Darb Es-Sim	589	720	879	1 074
Miye ou Miye	2 083	2 545	3 108	3 796
Total Population	2 672	3 265	3 987	4 870
Water demand (m³/d)	534	653	797	974
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 171	2 171	2 171	2 171
Total (m³/d)	2 171	2 171	2 171	2 171
Water balance	1 637	1 518	1 374	1 197



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Darb Es-Sim System				
Population				
Darb Es-Sim	5 391	6 585	8 043	9 824
Total Population	5 391	6 585	8 043	9 824
Water demand (m³/d)	1 078	1 317	1 609	1 965
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 543	1 543	1 543	1 543
Total (m³/d)	1 543	1 543	1 543	1 543
Water balance	464	226	- 66	- 422
Deficit will be covered by Four-Serail works - See Volume V-A project SL-W E.2				

Sirob System

Population				
Dar Es-Sim	1 859	2 271	2 774	3 388
Total Population	1 859	2 271	2 774	3 388
Water demand (m³/d)	372	454	555	678
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 331	1 331	1 331	1 331
Total (m³/d)	1 331	1 331	1 331	1 331
Water balance	960	877	777	654

Tanbourit System

Population				
Tanbourit	1 386	1 693	2 068	2 526
Total Population	1 386	1 693	2 068	2 526
Water demand (m³/d)	277	339	414	505
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	311	311	311	311
Total (m³/d)	311	311	311	311
Water balance	33	- 28	- 103	- 195
Deficit will be covered by Nabaa el Tasse works - See Volume V-A project SL-W E.6				



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Aabra System				
Population				
Bqosta	495	605	739	902
Aabra Saida	4 226	5 162	6 305	7 701
Total Population	4 721	5 767	7 044	8 603
Water demand (m³/d)	944	1 153	1 409	1 721
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 904	1 904	1 904	1 904
Total (m³/d)	1 904	1 904	1 904	1 904
Water balance	960	751	495	183

Majdelyoun and Saydoun Wells

Population				
Haret Saida	13 914	16 994	20 757	25 352
Hlaliye Saida	9 829	12 005	14 662	17 908
Bramie	2 379	2 906	3 549	4 334
AAbra Saida	8 980	10 968	13 397	16 362
Bqosta	496	605	739	902
Majdelyoun	4 659	5 691	6 951	8 489
Total Population	40 257	49 169	60 055	73 347
Water demand (m³/d)	8 051	9 834	12 011	14 669
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	7 800	7 800	7 800	7 800
Total (m³/d)	7 800	7 800	7 800	7 800
Water balance	- 251	- 2 034	- 4 211	- 6 869
Wells rehabilitation - See Volume V-A project SL-W E.3				



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Mar Elias System				
Population				
Haret Saida	5 225	6 382	7 795	9 521
Total Population	5 225	6 382	7 795	9 521
Water demand (m³/d)	1 045	1 276	1 559	1 904
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 310	2 310	2 310	2 310
Total (m³/d)	2 310	2 310	2 310	2 310
Water balance	1 265	1 034	751	406

Al Rafah System

Population				
Majdelyoun	1 581	1 932	2 359	2 881
Total Population	1 581	1 932	2 359	2 881
Water demand (m³/d)	316	386	472	576
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 592	2 592	2 592	2 592
Total (m³/d)	2 592	2 592	2 592	2 592
Water balance	2 276	2 206	2 120	2 016

Salhiye System

Population				
Salhiyet Saida	2 680	3 274	3 999	4 884
Total Population	2 680	3 274	3 999	4 884
Water demand (m³/d)	536	655	800	977
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 144	1 144	1 144	1 144
Total (m³/d)	1 144	1 144	1 144	1 144
Water balance	608	490	345	168



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Charhabil System				
Population				
Bqosta	368	450	549	671
Total Population	368	450	549	671
Water demand (m³/d)	74	90	110	134
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	7 776	7 776	7 776	7 776
Total (m³/d)	7 776	7 776	7 776	7 776
Water balance	7 702	7 686	7 666	7 642

Mazraat Tobbaya System

Population				
Aarab Tobbaya	1 266	1 547	1 889	2 307
Total Population	1 266	1 547	1 889	2 307
Water demand (m³/d)	253	309	378	461
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	368	368	368	368
Total (m³/d)	368	368	368	368
Water balance	115	59	- 10	- 94
Deficit will be covered by Arkey works - See Volume V-A project SL-W E.1				

Aazze System

Population				
Aazzi	1 185	1 448	1 768	2 160
Total Population	1 185	1 448	1 768	2 160
Water demand (m³/d)	237	290	354	432
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	968	968	968	968
Total (m³/d)	968	968	968	968
Water balance	731	679	615	536

DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Aanqoun System				
Population				
Aanqoun	7 895	9 643	11 778	14 386
Total Population	7 895	9 643	11 778	14 386
Water demand (m³/d)	1 579	1 929	2 356	2 877
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	3 261	3 261	3 261	3 261
Total (m³/d)	3 261	3 261	3 261	3 261
Water balance	1 682	1 333	906	384

Aain Ed-Delb System

Population				
Aain Ed-Delb	3 675	4 489	5 483	6 697
Total Population	3 675	4 489	5 483	6 697
Water demand (m³/d)	735	898	1 097	1 339
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 400	1 400	1 400	1 400
Total (m³/d)	1 400	1 400	1 400	1 400
Water balance	665	502	303	60

Ain Bou Souar System

Population				
Ain Bou Souar	2 174	2 656	3 244	3 962
Total Population	2 174	2 656	3 244	3 962
Water demand (m³/d)	435	531	649	792
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 312	1 312	1 312	1 312
Total (m³/d)	1 312	1 312	1 312	1 312
Water balance	877	780	663	519

Ain Qana System



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Population				
Aain Qana	5 452	6 660	8 134	9 935
Total Population	5 452	6 660	8 134	9 935
Water demand (m³/d)	1 090	1 332	1 627	1 987
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	199	199	199	199
Total (m³/d)	199	199	199	199
Water balance	- 891	- 1 133	- 1 428	- 1 788
Deficit will be covered by Nabaa el Tasse works - See Volume V-A project SL-W E.6				

El Qraiye Well 2

Population				
Qraiye Saida	923	1 128	1 377	1 682
Total Population	923	1 128	1 377	1 682
Water demand (m³/d)	185	226	275	336
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 118	1 118	1 118	1 118
Total (m³/d)	1 118	1 118	1 118	1 118
Water balance	933	892	842	781



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
El Qraiye Well 1				
Population				
Qraiye Saida	3 690	4 507	5 505	6 724
Jensnaya	995	1 216	1 485	1 814
Total Population	4 685	5 723	6 990	8 538
Water demand (m³/d)	937	1 145	1 398	1 708
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 276	1 276	1 276	1 276
Total (m³/d)	1 276	1 276	1 276	1 276
Water balance	339	131	- 122	- 432
Deficit will be covered by Majdelyoun - See Volume V-A project SL-W E.3				

Qinnarit System

Population				
Aaqtanit	86	106	129	157
Bnaafoul	57	70	86	104
Qennarit	5 975	7 298	8 914	10 888
Total Population	6 118	7 474	9 129	11 149
Water demand (m³/d)	1 224	1 495	1 826	2 230
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 240	1 240	1 240	1 240
Total (m³/d)	1 240	1 240	1 240	1 240
Water balance	16	- 255	- 586	- 990
Deficit will be covered by Nabaa el Tasse works - See Volume V-A project SL-W E.6				



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Aaqtanit System				
Population				
Aaqtanit	1 559	1 905	2 326	2 841
Jinjlaya	403	493	602	735
Total Population	1 962	2 398	2 928	3 576
Water demand (m³/d)	392	480	586	715
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	691	691	691	691
Total (m³/d)	691	691	691	691
Water balance	299	211	105	- 24

Karkha System

Population				
Karkha	702	858	1 048	1 280
Total Population	702	858	1 048	1 280
Water demand (m³/d)	140	172	210	256
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	816	816	816	816
Total (m³/d)	816	816	816	816
Water balance	676	645	607	560

Kfar Beit System

Population				
Kfar Beit	547	669	817	997
Total Population	547	669	817	997
Water demand (m³/d)	109	134	163	199
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	305	305	305	305
Total (m³/d)	305	305	305	305
Water balance	196	171	142	106



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Kfar Melki Saida System				
Population				
Kfar Melki Saida	4 774	5 831	7 122	8 699
Total Population	4 774	5 831	7 122	8 699
Water demand (m³/d)	955	1 166	1 424	1 740
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 421	2 421	2 421	2 421
Total (m³/d)	2 421	2 421	2 421	2 421
Water balance	1 466	1 255	997	681

Jernaya System

Population				
Jernaya	1 380	1 686	2 059	2 515
Kfar Chellal	362	443	541	660
Total Population	1 742	2 129	2 600	3 175
Water demand (m³/d)	348	426	520	635
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 026	2 026	2 026	2 026
Total (m³/d)	2 026	2 026	2 026	2 026
Water balance	1 678	1 600	1 506	1 391



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Kfar Hatta System				
Population				
Kfar Hatta Saida	5 527	6 751	8 246	10 071
Total Population	5 527	6 751	8 246	10 071
Water demand (m³/d)	1 105	1 350	1 649	2 014
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 504	1 504	1 504	1 504
Total (m³/d)	1 504	1 504	1 504	1 504
Water balance	399	154	- 145	- 510
Deficit will be covered by Arkey works - See Volume V-A project SL-W E.1				

Kfar Falous System

Population				
Kfar Falous	224	274	335	409
Ouadi El-Laymoun	656	802	979	1 196
Mharbiye	288	352	430	525
Total Population	1 168	1 428	1 744	2 130
Water demand (m³/d)	234	286	349	426
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 281	1 281	1 281	1 281
Total (m³/d)	1 281	1 281	1 281	1 281
Water balance	1 047	995	932	855



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Kfarfila System				
Population				
Kfarfila	2 203	2 691	3 287	4 015
Total Population	2 203	2 691	3 287	4 015
Water demand (m³/d)	441	538	657	803
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	149	149	149	149
Total (m³/d)	149	149	149	149
Water balance	- 292	- 389	- 508	- 654
Deficit will be covered by Ffar Falous works - See Volume V-A project SL-W E.4				

Kfaroue System

Population				
Kfaroue	3 233	3 949	4 824	5 891
Total Population	3 233	3 949	4 824	5 891
Water demand (m³/d)	647	790	965	1 178
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	640	640	640	640
Total (m³/d)	640	640	640	640
Water balance	- 7	- 150	- 325	- 538
Catchment and protection of Kfaroue and Oum Chemmas springs See Volume V-A project SL-W E.5				



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Kefraya System				
Population				
Saida Kefraya	742	907	1 107	1 353
Total Population	742	907	1 107	1 353
Water demand (m³/d)	148	181	221	271
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 144	1 144	1 144	1 144
Total (m³/d)	1 144	1 144	1 144	1 144
Water balance	996	963	923	874

Mjaydel System

Population				
Mjaydel Jezzine	1 190	1 454	1 776	2 169
Total Population	1 190	1 454	1 776	2 169
Water demand (m³/d)	238	291	355	434
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	192	192	192	192
Total (m³/d)	192	192	192	192
Water balance	- 46	- 99	- 163	- 242
Deficit will be covered by Nabaa el Tasse works - See Volume V-A project SL-W E.6				

Mrah-el-Hbasse System

Population				
Mrah-el-Hbasse	460	562	687	839
Total Population	460	562	687	839
Water demand (m³/d)	92	112	137	168
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	200	200	200	200
Total (m³/d)	200	200	200	200
Water balance	108	88	63	32



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Maamariye System				
Population				
Maamariye	1 725	2 107	2 574	3 144
Ghaziye	419	512	626	764
Total Population	2 144	2 619	3 200	3 908
Water demand (m³/d)	429	524	640	782
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 315	2 315	2 315	2 315
Total (m³/d)	2 315	2 315	2 315	2 315
Water balance	1 886	1 791	1 675	1 533

Ghaziye System

Population				
Ghaziye	9 269	11 322	13 828	16 890
Total Population	9 269	11 322	13 828	16 890
Water demand (m³/d)	1 854	2 264	2 766	3 378
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	9 741	9 741	9 741	9 741
Total (m³/d)	9 741	9 741	9 741	9 741
Water balance	7 887	7 476	6 975	6 363



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Maghdouche System				
Population				
Maghdouche	9 709	11 858	14 484	17 690
Zaghdraya	731	893	1 090	1 331
Mtayriye	604	738	901	1 100
Zeita	185	226	276	337
Total Population	11 229	13 715	16 751	20 458
Water demand (m³/d)	2 246	2 743	3 350	4 092
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 809	1 809	1 809	1 809
Total (m³/d)	1 809	1 809	1 809	1 809
Water balance	- 437	- 934	- 1 541	- 2 283
Deficit will be covered by Fouar-Serail works - See Volume V-A project SL-W E.2				

Zeita System

Population				
Zeita	1 348	1 647	2 011	2 457
Total Population	1 348	1 647	2 011	2 457
Water demand (m³/d)	270	329	402	491
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	960	960	960	960
Total (m³/d)	960	960	960	960
Water balance	691	631	558	469



DISTRICT OF SAIDA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Ouadi Baanqoudaine Wells				
Population				
Baissour	748	913	1 116	1 362
Chawalik	978	1 195	1 459	1 782
Kfar Jarra	2 301	2 810	3 433	4 192
A'ain El-Mir (El Establ)	1 346	1 644	2 008	2 452
Ouadi Baanqoudaine	1 335	1 630	1 991	2 431
Total Population	6 708	8 192	10 007	12 219
Water demand (m³/d)	1 342	1 638	2 001	2 444
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 209	1 209	1 209	1 209
Total (m³/d)	1 209	1 209	1 209	1 209
Water balance	- 133	- 429	- 792	- 1 235
Deficit will be covered by Kfar Falous works - See Volume V-A project SL-W E.4				

Nabeh el Tasse System

Population				
Hassaniye	559	682	833	1 017
Khzaiz	248	303	370	451
Lebaa	2 462	3 007	3 673	4 485
Mazraat Aarab Soukkar	789	963	1 176	1 436
Aarab Ej-Jall	691	844	1 030	1 258
Sarba	2 301	2 810	3 433	4 192
Mazraat el Khraibe	87	106	129	157
Houmine El-Faouqa	4 257	5 199	6 350	7 755
Hmaile	52	64	77	94
Mazraat Kaleit Mais	64	78	95	115
Total Population	11 510	14 056	17 166	20 960
Water demand (m³/d)	2 302	2 811	3 433	4 192
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 757	1 757	1 757	1 757
Total (m³/d)	1 757	1 757	1 757	1 757
Water balance	- 545	- 1 055	- 1 677	- 2 435
Deficit will be covered by Nabaa el Tasse works - See Volume V-A project SL-W E.6				



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Ain Toghra System				
Population				
Wadi Jezzine	1 015	1 240	1 514	1 849
Baba	104	127	155	189
Btedine El-LEGCH	756	924	1 128	1 378
Taaid	156	190	232	283
Bisri	311	380	464	566
Harf Jezzine	363	443	541	661
Machmouché	363	443	541	661
Sabbah	497	607	742	906
El-Ghabbatieh	415	506	618	755
Midane Jezzine	777	949	1 159	1 415
Homsiyé	466	570	695	849
Roum	3 106	3 794	4 634	5 660
Aazour	1 191	1 455	1 777	2 170
Anane	1 274	1 556	1 900	2 321
Qtalé Jezzine	290	355	433	529
Mazraat El-Mathane	363	443	541	661
Qabaa Jezzine	156	190	232	283
Qaytoulé	1 719	2 099	2 564	3 132
Mrah Bou Chedid	176	215	263	321
Maknounet Jezzine	570	696	850	1 038
Haytoura	425	519	634	774
Zhilta	466	570	695	849
Sanaya	477	582	711	868
Bouslaya	290	355	433	529
Hidab	311	380	464	566
Saydoun	642	784	958	1 170
Rimat	259	317	387	472
Sfaray	1 088	1 328	1 622	1 981
Total Population	18 026	22 017	26 887	32 836
Water demand (m³/d)	3 605	4 403	5 377	6 567
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	3 207	3 207	3 207	3 207
Total (m³/d)	3 207	3 207	3 207	3 207
Water balance	- 398	- 1 196	- 2 170	- 3 360
Proposed general infrastructure project - See Volume V-A project SL-W.B.1				



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Kfarhouna System				
Population				
Kfarhoune	3 344	4 085	4 989	6 094
Total Population	3 344	4 085	4 989	6 094
Water demand (m³/d)	669	817	998	1 219
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	720	720	720	720
Total (m³/d)	720	720	720	720
Water balance	51	- 97	- 278	- 499
Construction of Ain Qobais catchment - See Volume V-A project SL-W.B.1 to B.2				

Ain Majdalan System

Population				
Ain Majdalain	1 264	1 543	1 885	2 302
Jezzine	121	148	180	220
Roummanet	32	38	47	57
Jabal Toura	32	38	47	57
Total Population	1 449	1 767	2 159	2 636
Water demand (m³/d)	290	353	432	527
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 622	2 622	2 622	2 622
Total (m³/d)	2 622	2 622	2 622	2 622
Water balance	2 332	2 269	2 190	2 095



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Jezzine System				
Population				
Jezzine	7 116	8 692	10 616	12 967
Total Population	7 116	8 692	10 616	12 967
Water demand (m³/d)	1 423	1 738	2 123	2 593
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	4 754	4 754	4 754	4 754
Total (m³/d)	4 754	4 754	4 754	4 754
Water balance	3 331	3 016	2 631	2 161

Benwate Municipality System

Population				
Benouati Jezzine	1 605	1 961	2 395	2 925
Dahr Ed-Deir	31	38	47	57
Total Population	1 636	1 999	2 442	2 982
Water demand (m³/d)	327	400	488	596
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	-	-	-	-
Water balance	- 327	- 400	- 488	- 596
Proposed genal project at district level - See Volume V-A project SL-W.B.1				



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Bkassine Municipality System				
Population				
Bkassine	2 878	3 516	4 294	5 245
Bhannine	83	102	124	113
Total Population	2 961	3 618	4 418	5 358
Water demand (m³/d)	592	724	884	1 072
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	5 280	5 280	5 280	5 280
Total (m³/d)	5 280	5 280	5 280	5 280
Water balance	4 688	4 556	4 396	4 208

Aaray Municipality System

Population				
Aaray	921	1 125	1 374	1 679
Total Population	921	1 125	1 374	1 679
Water demand (m³/d)	184	225	275	336
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 267	1 267	1 267	1 267
Total (m³/d)	1 267	1 267	1 267	1 267
Water balance	1 083	1 042	992	931

Rihane Municipality System

Population				
Rihane Jezzine	3 665	4 477	5 468	6 679
Total Population	3 665	4 477	5 468	6 679
Water demand (m³/d)	733	895	1 094	1 336
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	4 723	4 723	4 723	4 723
Total (m³/d)	4 723	4 723	4 723	4 723
Water balance	3 990	3 828	3 629	3 387



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Sejoud Municipality System				
Population				
Soujoud	849	1 037	1 267	1 547
Total Population	849	1 037	1 267	1 547
Water demand (m³/d)	170	207	253	309
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	-	-	-	-
Water balance	- 170	- 207	- 253	- 309
Deficit will be covered by works done in Nabatiyeh - See Volume V-A project SL-W.A.2				

Jarmaq Municipality System

Population				
Jarmaq	93	114	139	170
Total Population	93	114	139	170
Water demand (m³/d)	19	23	28	34
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	700	700	700	700
Total (m³/d)	700	700	700	700
Water balance	681	677	672	666



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Aaichiye Municipality System				
Population				
Aaychiye	1 170	1 430	1 746	2 132
Total Population	1 170	1 430	1 746	2 132
Water demand (m³/d)	234	286	349	426
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	805	805	805	805
Total (m³/d)	805	805	805	805
Water balance	571	519	456	379

Aaramata Municipality System

Population				
Aaramata	2 588	3 161	3 861	4 716
Total Population	2 588	3 161	3 861	4 716
Water demand (m³/d)	518	632	772	943
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	448	448	448	448
Total (m³/d)	448	448	448	448
Water balance	- 70	- 184	- 324	- 495
Construction of Ain Qobais catchment - See Volume V-A project SL-W.B.1 to B.2				

Qatrani System

Population				
Qatrani	176	215	263	321
Chbail	62	76	93	113
Total Population	238	291	356	434
Water demand (m³/d)	48	58	71	87
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	528	528	528	528
Total (m³/d)	528	528	528	528
Water balance	480	470	457	441



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Srairi Municipality System				
Population				
Srayri	518	633	773	944
Total Population	518	633	773	944
Water demand (m³/d)	104	127	155	189
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	-	-	-	-
Water balance	- 104	- 127	- 155	- 189
Proposed general infrastructure project - See Volume V-A project SL-W.B.1				



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Mliikh System				
Population				
Mliikh	952	1 163	1 421	1 735
Total Population	952	1 163	1 421	1 735
Water demand (m³/d)	190	233	284	347
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 059	1 059	1 059	1 059
Total (m³/d)	1 059	1 059	1 059	1 059
Water balance	869	826	775	712

Louaize System

Population				
Louayzet Jezzine	1 056	1 290	1 576	1 925
Total Population	1 056	1 290	1 576	1 925
Water demand (m³/d)	211	258	315	385
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 092	1 092	1 092	1 092
Total (m³/d)	1 092	1 092	1 092	1 092
Water balance	881	834	777	707



DISTRICT OF JEZZINE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Independent systems				
Population				
Ouardiyé	32	38	47	59
Mazraat El-Aarqoub	32	38	47	59
Maraat Ouazaiyé	42	51	62	77
Mazraat Khaled Khazen	52	64	78	95
Mazraat Zighrine Jezzine	32	38	47	59
Mazraat Tamra	32	38	47	59
El-Demachkiyeh	32	38	47	59
Mahmoudiyé- Jezzine	32	38	47	59
Mazraat Qrouh	32	38	47	59
Mazraat Er-Rouhbane	32	38	47	59
Mazraat Louzid (Louayziyé)	32	38	47	59
Total Population	382	457	563	703
Water demand (m³/d)	76	91	113	141
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	-	-	-	-
Water balance	- 76	- 91	- 113	- 141
Catchment and protection of major springs - See Volume V-A project SL-W.B.2				



DISTRICT OF BINT JBEIL

sheet 1 of 4

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Taybeh System				
Population				
Chaqra	13 000	15 879	19 394	23 688
Baraachit	7 000	8 550	10 443	12 755
Safad Al Battikh	4 000	4 886	5 968	7 289
Kounin	3 500	4 275	5 222	6 378
Saf el Hawa	11 000	13 436	16 411	20 044
Aynata	8 000	9 772	11 935	14 577
Tamriyyeh	3 105	3 793	4 633	5 658
Bani Hayyan	1 320	1 613	1 970	2 406
Qabrikha	2 500	3 054	3 730	4 556
Touline	3 105	3 793	4 633	5 658
Souwana	4 000	4 886	5 968	7 289
Chahabiah	20 500	25 039	30 583	37 354
Majdel Selm	11 676	14 262	17 419	21 276
Taybeh	8 000	9 772	11 935	14 577
Deir Seriane	1 808	2 209	2 698	3 295
Salaa	3 050	3 726	4 551	5 558
Aalman	3 717	4 540	5 546	6 773
Aadchit Al Qser	700	855	1 045	1 276
Qantara	2 000	2 443	2 984	3 645
Aadaisseh	4 100	5 008	6 117	7 471
Total Population	116 081	141 791	173 185	211 523
Water demand (m³/d)	23 216	28 358	34 637	42 305
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	10 368	10 368	10 368	10 368
Total (m³/d)	10 368	10 368	10 368	10 368
Water balance	- 12 848	- 17 990	- 24 269	- 31 937
Proposed rehabilitation of Taybeh WTP and related infrastructure See Volume V-A project SL-W. F.1				



DISTRICT OF BINT JBEIL

sheet 2 of 4

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Kafra PS System				
Population				
Tibnine	6 495	7 934	9 690	11 835
Ayta El Jabal (Ayta Al Zot)	1 962	2 397	2 927	3 575
Hadatha	3 420	4 178	5 103	6 232
Tiri	2 000	2 443	2 984	3 645
Bait Yphoon	1 973	2 410	2 944	3 596
Kounin	3 500	4 275	5 222	6 378
Ain Ebel	4 500	5 497	6 714	8 200
Saf El Hawa				
Srebbine	1 807	2 208	2 696	3 293
Bait Lif	8 467	10 342	12 632	15 428
Qaouzah	1 500	1 833	2 238	2 734
Ayta Al Shaab	7 050	8 611	10 518	12 846
Rmaich	7 440	9 088	11 100	13 557
Total Population	50 114	61 216	74 768	91 319
Water demand (m³/d)	10 023	12 243	14 954	18 264
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	3 360	3 360	3 360	3 360
Total (m³/d)	3 360	3 360	3 360	3 360
Water balance	- 6 663	- 8 883	- 11 594	- 14 904
Proposed rehabilitation of Saf el Hawa PS - See Volume V-A project SL-W. F.2				



DISTRICT OF BINT JBEIL

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Markaba PS System				
Population				
Talloussa	1 600	1 955	2 387	2 916
Rob Tlateen	1 520	1 857	2 268	2 770
Markaba	4 160	5 082	6 206	7 581
Aadaisseh	4 100	5 008	6 117	7 471
Houla	9 000	10 993	13 427	16 400
Mais el Jabal	17 573	21 464	26 216	32 021
Mhaybib	500	611	746	912
Blida	4 000	4 886	5 968	7 289
Total Population	42 453	51 856	63 335	77 360
Water demand (m³/d)	8 491	10 371	12 667	15 472
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	4 368	4 368	4 368	4 368
Total (m³/d)	4 368	4 368	4 368	4 368
Water balance	- 4 123	- 6 003	- 8 299	- 11 104

Proposed rehabilitation of Markaba PS - See Volume V-A project SL-W. F.3

Saf El Hawa System

Population				
Yaroun	27 326	33 377	40 766	49 792
Bint Jbeil	10 500	12 825	15 665	19 133
Aynata	8 000	9 772	11 935	14 577
Aytaroun	11 000	13 436	16 411	20 044
Maroun El Ras	1 500	1 833	2 238	2 734
Total Population	58 326	71 243	87 015	106 280
Water demand (m³/d)	11 665	14 249	17 403	21 256
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 952	2 952	2 952	2 952
Total (m³/d)	2 952	2 952	2 952	2 952
Water balance	- 8 713	- 11 297	- 14 451	- 18 304

Proposed rehabilitation of Slouki PS - See Volume V-A project SL-W. F.4



DISTRICT OF BINT JBEIL

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Ech Chhabiye System				
Population				
Borge Kalaouiye	2 082	2 543	3 106	3 793
Deir Ntar	4 164	5 085	6 211	7 586
Froune	2 286	2 792	3 410	4 165
Ghandouriye	750	916	1 118	1 366
Jmeijme	1 996	2 437	2 977	3 636
Kfardounine	5 205	6 357	7 764	9 483
Kherbet Salem	10 757	13 139	16 048	19 601
Qalaouiye	2 446	2 988	3 649	4 457
Soultaniye	3 123	3 814	4 659	5 690
Rabb Salacine	1 583	1 933	2 361	2 883
Total Population	34 392	42 004	51 303	62 660
Water demand (m³/d)	6 878	8 401	10 261	12 532
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 560	1 560	1 560	1 560
Total (m³/d)	1 560	1 560	1 560	1 560
Water balance	- 5 318	- 6 841	- 8 701	- 10 972
Will be supplied from Chabieh System in Sour district - See Volume V-A project SL-W. C.7 Will be supplied also from local sources as backup in case of deficit				



DISTRICT OF HASBAYA

sheet 1 of 5

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Halta System				
Population				
Halta	5 000	6 108	7 460	9 111
Kfarchouba				
Kfarhamam	1 800	2 199	2 686	3 280
Dahayrjet	1 684	2 057	2 513	3 069
Total Population	8 484	10 364	12 659	15 460
Water demand (m³/d)	1 697	2 073	2 532	3 092
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 680	1 680	1 680	1 680
Total (m³/d)	1 680	1 680	1 680	1 680
Water balance	- 17	- 393	- 852	- 1 412
Proposed 1 new well with 3 km transmission line - See Volume V-A project SL-W. G.1				

Hebbariye System

Population				
Rachaya El Foukhar	1 440	1 759	2 149	2 624
Kfarhamam	1 800	2 199	2 686	3 280
Meri	1 684	2 057	2 513	3 069
Hebbariye	2 935	3 585	4 379	5 348
Fardis	1 200	1 466	1 791	2 187
Abou Qamha	200	245	299	365
Kawkaba	1 450	1 772	2 164	2 643
Ain Jarfa	1 830	2 236	2 731	3 335
Chwayya	2 959	3 615	4 415	5 392
Ain Qenia	3 215	3 927	4 797	5 859
Total Population	18 713	22 861	27 924	34 102
Water demand (m³/d)	3 743	4 572	5 585	6 820
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 032	1 032	1 032	1 032
Total (m³/d)	1 032	1 032	1 032	1 032
Water balance	- 2 711	- 3 540	- 4 553	- 5 788
Proposed rehab. of Hebbariyeh and Ain Jarfa PS - See Volume V-A project SL-W. G.2				



DISTRICT OF HASBAYA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Hasbani System				
Population				
Hasbaya	14 170	17 308	21 140	25 820
Ain Jarfa	578	706	863	1 054
Total Population	14 748	18 014	22 003	26 874
Water demand (m³/d)	2 950	3 603	4 401	5 375
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	-	-	-	-
Water balance	- 2 950	- 3 603	- 4 401	- 5 375
Proposed rehab. of Hasbani PS and new wells field + PS See Volume V-A project SL-W. G.3				

Ebel el Saqi/Snoubar System

Population				
Ebel El Saqi	2 975	3 634	4 439	5 421
Blat	1 650	2 016	2 462	3 007
Debbine	1 638	2 001	2 444	2 985
Khiam	16 870	20 606	25 168	30 740
Total Population	23 133	28 257	34 513	42 153
Water demand (m³/d)	4 627	5 651	6 903	8 431
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	6 540	6 540	6 540	6 540
Total (m³/d)	6 540	6 540	6 540	6 540
Water balance	1 913	889	- 363	- 1 891
Proposed rehab. of Ebel el Saki PS - See Volume V-A project SL-W. G.4				



DISTRICT OF HASBAYA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Marj Al Khawkh System				
Population				
Deir Mimas	1 890	2 309	2 820	3 444
Kfarkila	13 000	15 879	19 394	23 688
Qlaiaa	5 540	6 767	8 265	10 095
Marjeyoun	7 175	8 764	10 704	13 074
Khiam	16 870	20 606	25 168	30 740
Borj Al Mlouk (Khirbe)	1 720	2 101	2 566	3 135
Total Population	46 195	56 426	68 917	84 176
Water demand (m³/d)	9 239	11 285	13 783	16 835
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	9 720	9 720	9 720	9 720
Total (m³/d)	9 720	9 720	9 720	9 720
Water balance	481	- 1 565	- 4 063	- 7 115
Rehabilitation of Marj el Khaoukh PS - See Volume V-A project SL-W. G.5				

Wazzani / Hasbani System

Population				
Kfarkila				
Khiam				
Abbassieh	729	891	1 088	1 329
Ain arab				
Rihanet Berri				
Total Population	729	891	1 088	1 329
Water demand (m³/d)	146	178	218	266
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	2 280	2 280	2 280	2 280
Total (m³/d)	2 280	2 280	2 280	2 280
Water balance	2 134	2 102	2 062	2 014



DISTRICT OF HASBAYA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Marj El Zhou Ind. System				
Population				
Marj El Zhou (Dnaibe)	1 200	1 466	1 791	2 187
Total Population	1 200	1 466	1 791	2 187
Water demand (m³/d)	240	293	358	437
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	480	480	480	480
Total (m³/d)	480	480	480	480
Water balance	240	187	122	43

Khalouat System

Population				
Khalouat	2 400	2 932	3 581	4 374
Total Population	2 400	2 932	3 581	4 374
Water demand (m³/d)	480	586	716	875
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	792	792	792	792
Total (m³/d)	792	792	792	792
Water balance	312	206	76	- 83



DISTRICT OF HASBAYA

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Local Systems				
Population				
El-Majidiyé	235	287	350	427
Al-Dellafé	395	482	589	719
Burghoz	838	1 024	1 250	1 527
Chabaaa	12 490	15 255	18 633	22 758
El-Kfeir	3 643	4 450	5 435	6 638
Mimas	1 515	1 850	2 260	2 760
El-Amra	885	1 081	1 320	1 613
Mazraet el-Sarada	89	109	132	162
Mazraet-El-Jrein	365	445	544	664
Total Population	20 455	24 983	30 513	37 268
Water demand (m³/d)	4 091	4 997	6 103	7 454
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	-	-	-	-
Water balance	- 4 091	- 4 997	- 6 103	- 7 454
Proposed 3 new wells and PS in Chebaa - See Volume V-A project SL-W. G.7				



DISTRICT OF NABATIYE

sheet 1 of 4

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Northern System				
Population				
Aarab Salim	16 684	20 378	24 890	30 401
Deir El Zahrani	12 940	15 805	19 305	23 579
Habbouch	15 872	19 387	23 679	28 921
Jarjouaa	4 233	5 171	6 315	7 714
Kfar Roummane	18 561	22 671	27 690	33 821
Kfaroue	871	1 064	1 300	1 588
Total Population	69 161	84 476	103 179	126 024
Water demand (m³/d)	13 832	16 895	20 636	25 205
Existing Water Sources				
Springs (m ³ /d)	9 676	9 676	9 676	9 676
Wells (m ³ /d)	7 390	7 390	7 390	7 390
Total (m³/d)	17 066	17 066	17 066	17 066
Water balance	3 234	171	- 3 570	- 8 139
Proposed rehab. of Nabeh el Tasseh and Kfar Roummane PS + Gravity conveyor See Volume V-A project SL-W. A.1 and SL-W A.8				

Nabatiye System				
Population				
Kfar Tibnit	14 988	18 307	22 360	27 310
Nabatiye El Faouqa	15 612	19 069	23 291	28 447
Nabatiye El Tahta - Kfar Joz	92 979	113 565	138 709	169 419
Total Population	123 579	150 941	184 360	225 176
Water demand (m³/d)	24 716	30 188	36 872	45 035
Existing Water Sources				
Springs (m ³ /d)	17 290	17 290	17 290	17 290
Wells (m ³ /d)	15 460	15 460	15 460	15 460
Total (m³/d)	32 750	32 750	32 750	32 750
Water balance	8 034	2 562	- 4 122	- 12 285
Proposed supply scheme from Yohmor WTP - See Volume V-A project SL-W. A.2				



DISTRICT OF NABATIYE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Western System				
Population				
Toul & El Kfour	13 270	16 209	19 797	24 180
Ed Douair	14 745	18 010	21 997	26 868
Zebdine	6 078	7 424	9 068	11 075
Total Population	34 093	41 643	50 862	62 123
Water demand (m³/d)	6 819	8 329	10 172	12 425
Existing Water Sources				
Springs (m³/d)	4 770	4 770	4 770	4 770
Wells (m³/d)	1 050	1 050	1 050	1 050
Total (m³/d)	5 820	5 820	5 820	5 820
Water balance	- 999	- 2 509	- 4 352	- 6 605
Proposed rehab of Fakhr el Din scheme - See Volume V-A project SL-W. A.3				

Middle System

Population				
Aabba	10 005	12 221	14 926	18 231
Harouf	15 959	19 493	23 809	29 080
Jibchit	16 167	19 747	24 119	29 459
Choukine	2 274	2 778	3 393	4 144
Choukine-Ain Dahab	2 004	2 448	2 990	3 652
Maifadoun	9 660	11 799	14 412	17 602
Total Population	56 069	68 486	83 649	102 168
Water demand (m³/d)	11 214	13 697	16 730	20 434
Existing Water Sources				
Springs (m³/d)	7 845	7 845	7 845	7 845
Wells (m³/d)	9 197	9 197	9 197	9 197
Total (m³/d)	17 042	17 042	17 042	17 042
Water balance	5 828	3 345	312	- 3 392
Proposed new regional reservoir and gravity line - See Volume V-A project SL-W. A.9				



DISTRICT OF NABATIYE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Southern System				
Population				
Aadchit	7 005	8 556	10 451	12 764
Braiqaa	3 699	4 518	5 519	6 741
El Qsaibe	8 933	10 911	13 327	16 277
Kfar Sir	16 133	19 705	24 068	29 397
Qaaqalet Ej Jisr	10 435	12 746	15 568	19 014
Sir El Gharbiye	9 929	12 128	14 813	18 092
Total Population	56 134	68 564	83 746	102 285
Water demand (m³/d)	11 227	13 713	16 749	20 457
Existing Water Sources				
Springs (m³/d)	7 854	7 854	7 854	7 854
Wells (m³/d)	7 396	7 396	7 396	7 396
Total (m³/d)	15 250	15 250	15 250	15 250
Water balance	4 023	1 537	- 1 499	- 5 207
Proposed new regional reservoir and gravity line - See Volume V-A project SL-W. A.10				

Arnoun Yohmor System

Population				
Arnoun	2 637	3 221	3 934	4 805
Yohmor	4 493	5 488	6 703	8 187
Total Population	7 130	8 709	10 637	12 992
Water demand (m³/d)	1 426	1 742	2 127	2 598
Existing Water Sources				
Springs (m³/d)	998	998	998	998
Wells (m³/d)	1 010	1 010	1 010	1 010
Total (m³/d)	2 008	2 008	2 008	2 008
Water balance	582	266	- 119	- 590
Proposed new regional reservoir and gravity line - See Volume V-A project SL-W. A.4				



DISTRICT OF NABATIYE

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Zaoutar System				
Population				
Zaoutar El Charqiye	3 869	4 726	5 772	7 050
Zaoutar El Gharbiye	3 072	3 753	4 583	5 598
Total Population	6 941	8 479	10 355	12 648
Water demand (m³/d)	1 388	1 696	2 071	2 530
Existing Water Sources				
Springs (m ³ /d)	4 656	4 656	4 656	4 656
Wells (m ³ /d)	785	785	785	785
Total (m³/d)	5 441	5 441	5 441	5 441
Water balance	4 053	3 745	3 370	2 911



DISTRICT OF SOUR

sheet 1 of 8

Water demand = 200 l/d/cap

Village Name	2020	2030	2040	2050
Kfardounine System				
Population				
Kfar Dounine	8 117	9 914	12 109	14 790
Qalaouiye	2 317	2 830	3 457	4 222
Tair Falsay	6 040	7 378	9 011	11 006
Silaa	3 050	3 726	4 551	5 558
Deir Kifa	5 084	6 209	7 584	9 263
Froun	2 817	3 441	4 202	5 133
Srifa-Niha	9 334	11 400	13 924	17 007
Naffakhiye	470	575	702	857
Derdaghaiya	4 033	4 926	6 017	7 349
Arzoun	1 567	1 914	2 338	2 855
Chehour	15 134	18 484	22 577	27 575
Ghandouriye	1 500	1 833	2 238	2 734
Borj Qalaouiye	3 550	4 336	5 296	6 469
Bestiyat	500	611	746	912
Hmairi	1 434	1 751	2 139	2 612
Hallousiye	3 534	4 316	5 272	6 439
Bafliye	2 700	3 298	4 028	4 920
Barich	5 550	6 779	8 280	10 113
Debaal	5 167	6 311	7 708	9 415
Total Population	81 898	100 032	122 179	149 229
Water demand (m³/d)	16 380	20 006	24 436	29 845.80
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	15 348	15 348	15 348	15 348
Total (m³/d)	15 348	15 348	15 348	15 348
Water balance	- 1 032	- 4 658	- 9 088	- 14 498
Proposed new conveyors lines - See Volume V-A project SL-W. C.1				



DISTRICT OF SOUR

Water demand = 200 sheet 2 of 8

Village Name	2020	2030	2040	2050
Maaroub System				
Population				
Maaroub	5 834	7 125	8 703	10 630
Jennata	1 534	1 873	2 288	2 794
Toura El Mantra	6 667	8 143	9 946	12 148
Deir Qanoun	8 833	10 789	13 178	16 095
Aabbassiye	42 334	51 707	63 154	77 137
Bedias	2 550	3 115	3 805	4 647
Borj Rahhal	8 400	10 260	12 532	15 306
Total Population	76 152	93 012	113 606	138 757
Water demand (m³/d)	15 230	18 602	22 721	27 751
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	19 248	19 248	19 248	19 248
Total (m³/d)	19 248	19 248	19 248	19 248
Water balance	4 018	646	- 3 473	- 8 503
Proposed new gravity conveyor - See Volume V-A project SL-W. C.2				

Borj Ech Chemali System

Population				
Borj Ech Chemali - Maachouq	18 000	21 986	26 853	32 799
Sour	53 333	65 142	79 564	97 180
Total Population	71 333	87 128	106 417	129 979
Water demand (m³/d)	14 267	17 426	21 283	25 996
Existing Water Sources				
Springs (m ³ /d)	14 000	14 000	14 000	14 000
Wells (m ³ /d)	1 210	1 210	1 210	1 210
Total (m³/d)	15 210	15 210	15 210	15 210
Water balance	943	- 2 216	- 6 073	- 10 786
Proposed new PS + Rehab of Ras el Ain and El Bass WTPs and PSs See Volume V-A project SL-W. C.3				



DISTRICT OF SOUR

Water demand = 200 Sheaf of 8

Village Name	2020	2030	2040	2050
Saddiqine System				
Population				
Qana El Jalil	30 834	37 660	45 998	56 182
Hanaouay	4 167	5 090	6 216	7 593
Deir Qanoun	4 083	4 987	6 092	7 440
Rmaidiye	3 434	4 194	5 122	6 256
Knaisse	1 517	1 853	2 263	2 764
Ech Chaaitiye-El Malkiye	5 033	6 148	7 509	9 171
Total Population	49 068	59 932	73 200	89 406
Water demand (m³/d)	9 814	11 986	14 640	17 881.20
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	3 073	3 073	3 073	3 073
Total (m³/d)	3 073	3 073	3 073	3 073
Water balance	- 6 741	- 8 913	- 11 567	- 14 808
Proposed Rehab of Siddiquin PS + new Siddiquine-Batoulay lift line See Volume V-A project SL-W. C.4				

Hanaouay Sub System

Population				
Ain Baal-El Hoch	31 667	38 678	47 242	57 701
Batoulay	4 834	5 904	7 211	8 807
Total Population	36 501	44 582	54 453	66 508
Water demand (m³/d)	7 300	8 916	10 891	13 302
Existing Water Sources				
Springs (m³/d)	9 942	9 942	9 942	9 942
Wells (m³/d)	1 202	1 202	1 202	1 202
Total (m³/d)	11 144	11 144	11 144	11 144
Water balance	3 844	2 228	253	- 2 158
Proposed Rehab of Batoulay PS - See Volume V-A project SL-W. C.5				



DISTRICT OF SOUR

Water demand = 200 sheets of 8

Village Name	2020	2030	2040	2050
Mansouri Sub System				
Population				
Mansouri	4 167	5 090	6 216	7 593
Izziye - El Henniye	2 134	2 606	3 183	3 888
El Qlaile	9 334	11 400	13 924	17 007
Total Population	15 635	19 096	23 323	28 488
Water demand (m³/d)	3 127	3 819	4 665	5 698
Existing Water Sources				
Springs (m ³ /d)	9 676	9 676	9 676	9 676
Wells (m ³ /d)	-	-	-	-
Total (m³/d)	9 676	9 676	9 676	9 676
Water balance	6 549	5 857	5 012	3 979

Kafra + Ramiye Sub System

Population				
Kafra	9 034	11 034	13 477	16 460
Beit Lif	1 525	1 863	2 276	2 779
Hanine	12 867	15 716	19 195	23 445
Aita Ech Chaab	8 467	10 342	12 631	15 428
Rmaysh	1 250	1 527	1 865	2 278
Ramiye	2 017	2 464	3 009	3 675
Marouahine	1 210	1 478	1 806	2 205
Mazraat Ez-Zalloutiyeh	2 200	2 688	3 283	4 009
Boustane Al Kasayer	2 524	3 083	3 765	4 598
Qaouzah	1 500	1 833	2 238	2 734
Chihine	3 067	3 747	4 576	5 589
Zebqine	2 142	2 616	3 195	3 903
Ej Jibbain	3 050	3 726	4 551	5 558
Jbal El Botm	16 200	19 787	24 168	29 519
Majdel Zoun	507	619	756	924
Chamaa Al Qalaa	217	266	324	396
Yarine	1 500	1 833	2 238	2 734
Debel	4 034	4 927	6 018	7 350
Ed Dhaira	11 334	13 843	16 908	20 651
Aalma	1 807	2 207	2 696	3 292
En Naqoura	867	1 059	1 293	1 580
Srobbine	8 334	10 179	12 432	15 185
Yater	3 117	3 808	4 651	5 680
Tair Harfa	2 020	2 468	3 014	3 681
Total Population	100 790	123 113	150 365	183 653
Water demand (m³/d)	20 158	24 623	30 073	36 731



DISTRICT OF SOUR

Water demand = 200 sheet 5 of 8

Village Name	2020	2030	2040	2050
Existing Water Sources				
Springs (m ³ /d)				
Wells (m ³ /d)	21 661	21 661	21 661	21 661
Total (m³/d)	21 661	21 661	21 661	21 661
Water balance	1 503	- 2 962	- 8 412	- 15 070
Proposed Rehab of Kafra PS + new Ramya PS and lift and gravity lines See Volume V-A project SL-W. C.6				

Chehabiye Sub System

Population				
Chehabiye	20 500	25 039	30 583	37 354
El Majdel	4 530	5 533	6 758	8 255
Jouaiya	14 117	17 243	21 060	25 723
Mahrouna	2 605	3 182	3 887	4 747
Total Population	41 752	50 997	62 288	76 079
Water demand (m³/d)	8 350	10 199	12 458	15 216
Existing Water Sources				
Springs (m ³ /d)				
Wells (m ³ /d)	5 041	5 041	5 041	5 041
Total (m³/d)	5 041	5 041	5 041	5 041
Water balance	- 3 309	- 5 158	- 7 417	- 10 175
Proposed Rehab of Chhabiyeh PS + Ouadi Jilo PS1 lift line See Volume V-A project SL-W. C.7				



DISTRICT OF SOUR

Water demand = 200 sheets of 8

Village Name	2020	2030	2040	2050
Haddatha Sub System				
Population				
Haddatha	5 167	6 311	7 708	9 415
Aita Al Jabal	4 537	5 542	6 768	8 267
Rachaf	2 534	3 095	3 780	4 617
Haris	11 284	13 782	16 833	20 560
Total Population	23 522	28 730	35 089	42 859
Water demand (m³/d)	4 704	5 746	7 018	8 572
Existing Water Sources				
Springs (m³/d)				
Wells (m³/d)	3 989	3 989	3 989	3 989
Total (m³/d)	3 989	3 989	3 989	3 989
Water balance	- 715	- 1 757	- 3 029	- 4 583
Proposed Regional reservoir 3000 m³ - See Volume V-A project SL-W. C.8				

Es Soultaniye Sub System

Population				
Es Soultaniye	4 100	5 008	6 117	7 471
Tibnine	18 167	22 190	27 102	33 103
Baraachit	10 167	12 418	15 167	18 525
Safad El Batikh	4 500	5 497	6 714	8 200
Majdel Selm	12 055	14 725	17 984	21 966
Jmajme	3 734	4 560	5 570	6 803
Khirbet Selm	22 167	27 075	33 069	40 391
Deir Ntar	7 100	8 672	10 592	12 938
Total Population	81 990	100 145	122 315	149 397
Water demand (m³/d)	16 398	20 029	24 463	29 879
Existing Water Sources				
Springs (m³/d)				
Wells (m³/d)	8 140	8 140	8 140	8 140
Total (m³/d)	8 140	8 140	8 140	8 140
Water balance	- 8 258	- 11 889	- 16 323	- 21 739
Proposed Rehab of Ouadi Jilo PS1 - See Volume V-A project SL-W. C.9				



DISTRICT OF SOUR

Water demand = 200 m³/d at 7 of 8

Village Name	2020	2030	2040	2050
Deir Aames Sub System				
Population				
Deir Aames	3 067	3 746	4 575	5 588
Recheknanay	2 234	2 728	3 332	4 070
Saddiqine	8 000	9 772	11 935	14 577
El Biyad	2 025	2 474	3 021	3 690
Mazraat Michrif	722	882	1 077	1 315
Total Population	16 048	19 602	23 940	29 240
Water demand (m³/d)	3 210	3 920	4 788	5 848
Existing Water Sources				
Springs (m ³ /d)				
Wells (m ³ /d)	3 442	3 442	3 442	3 442
Total (m³/d)	3 442	3 442	3 442	3 442
Water balance	232	- 478	- 1 346	- 2 406
Deficit will be covered by Saddiqine works - See Volume V-A project SL-W. C.4				



DISTRICT OF SOUR

Water demand = 200 sheet 8 of 8

Village Name	2020	2030	2040	2050
Aaitit System (Ouadi Jilo 1)				
Population				
Aaytit	5 333	6 514	7 956	9 718
Bazouriyé	14 933	18 240	22 278	27 210
Ouadi Jilo - Jabal Hanine	2 550	3 115	3 805	4 647
Yanouh	2 050	2 504	3 059	3 736
Total Population	24 866	30 373	37 098	45 311
Water demand (m³/d)	4 973	6 075	7 420	9 062
Existing Water Sources				
Springs (m ³ /d)				
Wells (m ³ /d)	3 375	3 375	3 375	3 375
Total (m³/d)	3 375	3 375	3 375	3 375
Water balance	- 1 598	- 2 700	- 4 045	- 5 687
Deficit will be covered by El Soultaniyeh works - See Volume V-A project SL-W. C.9				

Ouadi Jilo 2

Population				
Maarake	12 200	14 902	18 201	22 230
Tayr Debbe	7 971	9 736	11 892	14 525
Total Population	20 171	24 638	30 093	36 755
Water demand (m³/d)	4 034	4 928	6 019	7 351
Existing Water Sources				
Springs (m ³ /d)				
Wells (m ³ /d)	3 139	3 139	3 139	3 139
Total (m³/d)	3 139	3 139	3 139	3 139
Water balance	- 895	- 1 789	- 2 880	- 4 212
Proposed Rehab of Ouadi Jilo PS2 - See Volume V-A project SL-W. C.10				



DISTRICT OF BEIRUT

sheet 1 of 2

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system Borj Abi Haydar and Tallet El Khayat

Population				
Mazraa (85%)	124 255	128 985	133 895	138 991
Moussaytbeh	158 306	164 332	170 587	177 080
Bachoura (80%)	14 589	15 144	15 720	16 318
Zoukak el-Blatt (70%)	11 131	11 555	11 995	12 451
Minet el-Hosn (40%)	3 504	3 638	3 776	3 920
Ain el-Mreisseh	14 117	14 654	15 211	15 790
Ras Beyrouth	88 319	91 681	95 170	98 792
Total Population	414 223	429 988	446 353	463 342
Water demand (m³/d)	82 845	85 998	89 271	92 668

Existing Water Sources (Summer)

Dbaye WTP (m ³ /d)	68 189	68 189	68 189	68 189
Naameh Bas Pumping station (r Additional from Dbaye wtp	17 809	17 809		
(Janneh Dam) Or from Awali Project / Pieri			21 082	24 480
Total (m³/d)	85 998	85 998	89 271	92 668
Water balance	3 154	-	-	-



DISTRICT OF BEIRUT

sheet 2 of 2

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Achrafiyeh Lower and Upper				
Population				
Mazraa (15%)	21 927	22 762	23 628	24 528
Achrafieh	15 090	16 265	17 532	18 898
Remeil	105 037	109 035	113 185	117 493
Medawar	59 611	61 880	64 235	66 680
Port	12 118	12 579	13 057	13 554
Saifeh	378	392	406	421
Bachoura (20%)	6 256	6 494	6 741	6 997
Zoukak El-Blatt (30%)	3 647	3 786	3 930	4 080
Minet El-Hosn (60%)	4 771	4 952	5 141	5 336
Total Population	228 836	238 145	247 855	257 986
Water demand (m³/d)	45 767	47 629	49 571	51 597
Existing Water Sources (Summer)				
Dbaye WTP (m³/d)	40 000	40 000	40 000	40 000
Wells (m³/d)	-	-	-	-
Additional from Dbaye WTP (Janneh Dam)			9 571	11 597
Total (m³/d)	40 000	40 000	49 571	51 597
Water balance	- 5 767	- 7 629	-	-

Deficit will be covered from Janneh dam



DISTRICT OF JBEIL

sheet 1 of 7

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution System Afqa Spring Lower Region and Coastal Area

Population	2020	2025	2030	2035
Janne	37	39	42	45
Frat	29	31	33	35
Aabeydate	1 327	1 429	1 539	1 657
Habil	279	300	323	347
Part of Hjoula	154	165	177	190
Part of Tourzaya	91	98	105	113
Ferhet	700	754	812	874
Bazyoun	232	249	268	288
Ain ed Delbe	249	268	288	310
Ain jrain	296	318	342	368
Mechane	998	1 075	1 158	1 247
El Hsoun	1 201	1 293	1 392	1 499
Adonis	1 511	1 627	1 752	1 887
Fatre	2 480	2 671	2 877	3 099
Bzebdine	1 107	1 192	1 284	1 383
Aalita	1 028	1 107	1 192	1 284
Bshille	1 013	1 091	1 175	1 265
Jouret el Qattine	185	199	214	230
Halate	20 107	20 872	21 666	22 490
Jbail	34 295	35 600	36 955	38 361
Blat	14 734	15 294	15 876	16 480
Amchite	28 732	29 825	30 960	32 138
Kfar-Mashoune et Dmalsa	1 011	1 089	1 173	1 263
Edda	2 167	2 334	2 514	2 708
Bintael (Fdar-El-Soufla)	1 195	1 287	1 386	1 493
Kfar Kaouass	144	155	166	178
Hboub	4 025	4 336	4 671	5 031
Mehrine	445	479	516	555
Kartaboune	3 708	3 994	4 302	4 634
Mastita	1 501	1 617	1 741	1 875
El-Jlaice	315	339	365	393
Breige	480	517	556	598
Nahr-Ibrahim	7 042	7 586	8 172	8 803
Qorqaya	37	39	42	45
El-Ramout	249	268	288	310
Litige 2155	37	39	42	45
Ghorfine	1 026	1 105	1 190	1 281
Part of Beshtlida	448	482	518	557



DISTRICT OF JBEIL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Behdaydate	747	804	866	932
El Kafr	905	974	1 049	1 130
Kfoun	1 092	1 176	1 266	1 363
Hbaine	1 541	1 660	1 788	1 926
Saqyet el Khayt	279	300	323	347
Beyt Hebbaq	498	536	577	621
Shamate	840	904	973	1 048
Hsarate	2 213	2 384	2 568	2 766
Total Population	142 730	149 901	157 482	165 492
Water demand (m³/d)	28 546	29 980	31 496	33 098

Existing / Proposed Water Sources

Spring / River (m³/d)	26 879	26 879	24 754	24 754
Wells (m³/d)	1 470	1 470	1 470	1 470
Dams (m³/d)	-	-	5 300	7 000
Total (m³/d)	28 349	28 349	31 524	33 224

Water balance

- 197	- 1 631	28	126
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Proposed dam and wells from 2030 - See Volume V-A project BML-W. B.1

Distribution System El Mejdal

Population				
El Mejdal	1 028	1 107	1 192	1 284
Part of El Aqoura	1 160	1 249	1 345	1 451
El Mogheiri	717	772	831	895
Total Population	2 905	3 128	3 368	3 630
Water demand (m³/d)	581	626	674	726

Existing Water Sources

Springs (m³/d)	681	681	681	681
Wells (m³/d)	-	-	-	-
Dams (m³/d)	-	-	-	-
Total (m³/d)	681	681	681	681

Water balance

100	55	7	- 45
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DISTRICT OF JBEIL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution System Afqa				
Population				
Afqa	598	644	693	746
Litige 7058	149	160	172	185
Total Population	747	804	865	931
Water demand (m³/d)	149	161	173	186
Existing Water Sources				
Springs (m ³ /d)	175	175	175	175
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	175	175	175	175
Water balance	26	14	2	- 11

Distribution System El Ghabet and Lassa

Population				
El Mzarib	241	259	279	300
Aarasta	361	388	417	449
El Hdaini	236	254	273	294
Sarhita	577	621	668	719
El Ghabat	764	823	886	954
Ain Ghouaibe	560	603	649	699
Lassa	2 529	2 724	2 934	3 160
Total Population	5 268	5 672	6 106	6 575
Water demand (m³/d)	1 054	1 134	1 221	1 315
Existing Water Sources				
Springs (m ³ /d)	1 233	1 233	1 233	1 233
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 233	1 233	1 233	1 233
Water balance	179	99	12	- 82



DISTRICT OF JBEIL

sheet 4 of 7

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution System Qartaba-Aouaini				
Population				
Tartej	2 435	2 623	2 825	3 043
Deir Mar Sarkis	406	437	470	506
Qartaba	7 715	8 311	8 953	9 644
Bolhos	250	269	289	311
El Qottara	451	485	522	562
Maifouq	2 152	2 318	2 497	2 689
Jaj	2 763	2 976	3 205	3 452
Part of Ehmej	2 615	2 817	3 034	3 268
Mechmech	2 435	2 623	2 825	3 043
Saqi Rechmaiya	249	268	288	310
Lehfed	2 419	2 605	2 806	3 022
Part of Hjoula	513	552	594	639
Part of Tourzaya	1 594	1 717	1 849	1 991
Aanaya	1 060	1 141	1 229	1 323
Aalmat	2 389	2 573	2 771	2 985
Hosna	2 389	2 573	2 771	2 985
Ras Osta	3 459	3 726	4 013	4 323
Sebrine	47	50	53	57
Part of Beshtlida	717	772	831	895
Mazraat es Siyad	1 216	1 309	1 410	1 518
El Souane	636	685	737	793
Hema Mar Maroun Aannaya	1 255	1 351	1 455	1 567
Part of Beije	295	317	341	367
Total Population	39 460	42 498	45 768	49 293
Water demand (m³/d)	7 892	8 500	9 154	9 859
Existing / Proposed Water Sources				
Springs (m³/d)	-	-	2 125	2 125
Wells (m³/d)	9 170	14 448	14 448	14 448
Dams (m³/d)	-	-	-	-
Total (m³/d)	9 170	14 448	16 573	16 573
Water balance	1 278	5 948	7 419	6 714
Equipment of 3 wells from 2025 - See Volume V-A project BML-W. B.6				



DISTRICT OF JBEIL

sheet 5 of 7

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution System El Kharbe-Qatra and Afqa Spring				
Population				
Haqel	670	721	776	835
Sbayel	1 368	1 473	1 586	1 708
Part of Beije	1 888	2 033	2 190	2 359
Ain Kfaa	731	787	847	912
Ghalboun	1 154	1 243	1 339	1 442
Hosrayel	1 539	1 657	1 785	1 922
Rihane	326	351	378	407
Jedayel	2 899	3 123	3 364	3 623
Shikhane	639	688	741	798
El Mounsef	2 621	2 823	3 041	3 276
Gharzouz	768	827	890	958
Bekhaaze	179	192	206	221
El Berbara	1 261	1 358	1 462	1 574
Kfar Kidde	228	245	263	283
shmout	326	351	378	407
Maade	1 163	1 252	1 348	1 452
Fghale	1 311	1 412	1 521	1 638
Total Population	19 071	20 536	22 115	23 815
Water demand (m³/d)	3 814	4 107	4 423	4 763
Existing Water Sources				
Springs (m ³ /d)	2 033	2 033	2 033	2 033
Wells (m ³ /d)	2 432	2 432	2 432	2 432
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	4 465	4 465	4 465	4 465
Water balance	651	358	42	- 298



DISTRICT OF JBEIL

sheet 6 of 7

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution system-El Aqoura				
Population				
Part of El Aqoura	4 497	4 844	5 218	5 621
Total Population	4 497	4 844	5 218	5 621
Water demand (m³/d)	899	969	1 044	1 124
Existing Water Sources				
Springs (m ³ /d)	1 350	1 350	1 350	1 350
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 350	1 350	1 350	1 350
Water balance	451	381	306	226

Local Distribution System-Laqlouq and Arab el Laqlouq				
Population				
Laqlouq and Arab el Laqlouq	2 171	2 338	2 518	2 711
Total Population	2 171	2 338	2 518	2 711
Water demand (m³/d)	434	468	504	542
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	480	480	480	480
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	480	480	480	480
Water balance	46	12	- 24	- 62



DISTRICT OF JBEIL

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local Distribution System-Qamez				
Population				
Qamez	149	160	172	185
Total Population	149	160	172	185
Water demand (m³/d)	30	32	34	37
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	288	288	288	288
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	288	288	288	288
Water balance	258	256	254	251

Local Distribution System-EI Mokhada				
Population				
Part of Ehmej (EI Mokhada)	1 130	1 217	1 311	1 412
Total Population	1 130	1 217	1 311	1 412
Water demand (m³/d)	226	243	262	282
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 800	1 800	1 800	1 800
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 800	1 800	1 800	1 800
Water balance	1 574	1 557	1 538	1 518



DISTRICT OF METN

sheet 1 of 4

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system Coastal Metn

Population	2020	2025	2030	2035
Antélias	31 629	32 837	34 092	35 395
Baouchariat	143 227	148 700	154 382	160 281
Biakoute	5 873	6 331	6 824	7 355
Bkennaya	7 620	7 911	8 213	8 527
Borge Hammoud	140 711	146 087	151 670	157 465
Dbayé	5 789	6 010	6 240	6 478
Deir Tamiche	1 009	1 088	1 173	1 264
Dekouanet	56 364	58 518	60 754	63 075
El-Zalka	23 779	24 688	25 631	26 610
Fanar	20 302	21 077	21 883	22 719
Haret El-Belleni	3 039	3 275	3 530	3 805
Jal-el-Dib	21 509	22 330	23 184	24 070
Jodaidat	33 490	34 770	36 098	37 478
Majdoub	5 099	5 497	5 925	6 386
Mar Abda El-Mchammar	10	11	12	13
Mar Roukose et Dahr El-Hossai	10 293	11 095	11 959	12 890
Mazraet Deir Aoukar	2 103	2 266	2 443	2 633
Mazraet El-Hadira	4 822	5 198	5 603	6 039
Mezher	3 190	3 439	3 707	3 995
Mkallesse	5 681	5 899	6 124	6 358
Naccache	26 750	27 772	28 834	29 935
Senn el Fil	57 238	59 426	61 696	64 054
Wata Amaret Chalhoub	10 268	10 661	11 068	11 491
Zouk-Khrab	13 158	13 661	14 183	14 724
Total Population	632 953	658 546	685 226	713 043
Water demand (m³/d)	126 591	131 709	137 045	142 609

Existing Water Sources

Existing Water Sources	2020	2025	2030	2035
Springs (m³/d)	-	-	-	-
Wells (m³/d)	18 848	18 848	18 848	18 848
Stations (m³/d)	103 900	103 900	103 900	103 900
Awali Project (m³/d)	-	9 000	15 000	20 000
Dams (m³/d)	-	-	-	-
Total (m³/d)	122 748	131 748	137 748	142 748

Water balance	- 3 843	38	702	139
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Deficit will be covered from Awali project



DISTRICT OF METN

sheet 2 of 4

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Upper Metn				
Population				
Abou-Mizane	319	344	371	400
Aïn Aar	3 290	3 546	3 822	4 120
Aïn El-Kabou	1 004	1 082	1 167	1 258
Aïn -El-Zeitouné	460	496	535	576
Aïn-Alak	5 575	6 010	6 478	6 982
Aïn-El-Kach	560	603	650	701
Aïn-El-Kharroubé	3 598	3 879	4 181	4 506
Aïn-El-Safsaf	1 559	1 680	1 811	1 952
Aïn-El-Sindiané	805	868	936	1 009
Aïn-el-Teffaha	664	716	772	832
Aïn-Saâdé	14 691	15 836	17 069	18 398
Aïroune	1 658	1 787	1 926	2 076
Antoura	3 604	3 884	4 187	4 513
Baabdat et Sfaïlé	18 363	19 793	21 335	22 996
Baskinta	10 094	10 880	11 728	12 641
Beit Chebab	13 138	14 161	15 264	16 453
Beit El Koukou	3 687	3 974	4 284	4 618
Beit Mery	24 728	26 654	28 730	30 968
Bikfaya	12 061	13 000	14 013	15 104
Broummana	20 518	22 116	23 838	25 695
Bsalime	8 734	9 415	10 148	10 938
Bsifrine et El-Zahriyé	487	525	566	610
Bekaatouta	1 597	1 721	1 855	2 000
Bekaatet Kénaan	1 124	1 212	1 306	1 408
Bteghrine	6 600	7 115	7 669	8 266
Chaouié, Knaitré et Mar gergesse Bhurdok	1 182	1 274	1 373	1 480
Chouaya	1 789	1 928	2 078	2 240
Choueir	9 843	10 610	11 436	12 327
Chrine	915	987	1 063	1 146
Dahr El Souwan	7 908	8 524	9 188	9 903
Deir Chamra	476	513	553	596
Dik El-Mehdi	9 901	10 672	11 503	12 399
Douar	3 666	3 952	4 260	4 591
El Freiké	2 568	2 768	2 984	3 216
El Mtein	4 618	4 978	5 366	5 783



DISTRICT OF METN

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
El-Atchané	3 023	3 258	3 512	3 786
El-Dechouniyeh	4 069	4 386	4 728	5 096
El-Jouar	1 030	1 111	1 197	1 290
El-Khellé	105	113	122	131
El-Khouchara	6 365	6 861	7 395	7 971
El-Machera	209	225	243	262
El-Mansouriyeh	31 899	34 383	37 061	39 947
El-Mayassé	1 276	1 376	1 483	1 598
El-Mhaidcé	2 715	2 927	3 155	3 401
El-Mrouge	4 116	4 437	4 782	5 155
El-Mtaïleb	10 492	11 309	12 190	13 139
El-Ouyoun	4 273	4 606	4 965	5 351
El-Sfaïlé	1 731	1 866	2 011	2 168
Hebouss	1 297	1 398	1 507	1 624
Hemlaya	3 415	3 681	3 968	4 277
Jouret-El-Ballout	3 656	3 941	4 248	4 578
Kaakour	2 646	2 853	3 075	3 314
Kanabet Broummana	5 115	5 513	5 943	6 406
Kannabet Salima	404	435	469	506
Kfar Akab	1 313	1 415	1 525	1 644
Kfartaï	502	541	583	629
Kornet Chahouane	30 790	33 188	35 773	38 559
Kornet-El-Hamra	9 252	9 973	10 749	11 587
Mar Boutros Karm El-Tine	1 543	1 663	1 793	1 932
Mar Chaya et Mzakki	8 855	9 544	10 288	11 089
Mar Mikhael Bnabil	78	85	91	98
Mar Mousa-El-Douar	2 469	2 661	2 868	3 092
Marjaba	1 376	1 483	1 598	1 723
Maska et El-Ghabeh	5 732	6 179	6 660	7 179
Mazraet Beit Chaar	16 381	17 657	19 032	20 514
Mazraet Yachou	25 947	27 968	30 146	32 494
Mchikha	146	158	170	183
Nabiyeh	6 449	6 951	7 492	8 076
Roumieh	5 894	6 353	6 848	7 382
Sakiet-El-Misk et Bhorsaf	9 095	9 804	10 567	11 390
Wadi Chahine	303	327	352	380
Wadi El-Karm	465	502	541	583
Wata El-Mrouge	3 389	3 653	3 938	4 244
Zabbougha	952	1 026	1 106	1 192
Zacrite	8 489	9 150	9 862	10 630
Zaraoune	1 276	1 376	1 483	1 598
Majdel Tarchiche	-	-	-	-
Zeghrine	1 156	1 246	1 343	1 448
Total Population	431 476	465 081	501 303	540 347



DISTRICT OF METN

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Water demand (m³/d)	86 295	93 016	100 261	108 069
Existing Water Sources				
Springs (m ³ /d)	24 550	24 550	24 550	24 550
Wells (m ³ /d)	22 666	24 396	24 396	24 396
Stations (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Dams (Chabrouh and Boqaata)	12 000	50 000	50 000	50 000
Total (m³/d)	59 216	98 946	98 946	98 946
Water balance	- 27 080	5 929	- 1 315	- 9 124

Proposed 10 wells - See Volume V-A project BML-W. F.1



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
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Distribution system Ain el delbe

Population				
Baabda	31 697	32 909	34 166	35 472
El Louaize	11 565	12 466	13 436	14 483
Hadath(upper)	45 528	47 267	49 074	50 949
Hazmieh	41 305	42 883	44 521	46 223
Jamhour	9 754	10 126	10 513	10 915
Wadi Chahrour	10 566	10 970	11 389	11 825
Total Population	150 415	156 621	163 100	169 866
Water demand (m³/d)	30 083	31 324	32 620	33 973

Existing Water Sources

Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	15 512	17 112	17 112	17 112
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	14 500	16 000	17 000
Total (m³/d)	15 512	31 612	33 112	34 112

Water balance	- 14 571	288	492	139
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Deficit will be covered from Awali project



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Bmaryam				
Population				
Btebiat	443	477	514	554
Btekhay	1 893	1 965	2 040	2 118
Deir El-Harf	1 184	1 276	1 376	1 483
El-Dleibé	586	631	680	733
El-Erbaniyeh	1 571	1 693	1 825	1 967
El-Kalaa	1 178	1 270	1 369	1 475
Haret Hamzé	340	367	396	426
Hasbaya-el Meten	1 115	1 202	1 296	1 397
Ras el Meten	7 471	7 756	8 053	8 360
Ras-el-Harf	1 804	1 945	2 096	2 260
Salima	4 793	5 166	5 568	6 002
Zandouka	-	-	-	-
Bzebdine	3 977	4 287	4 621	4 980
El-Khreibé	896	966	1 041	1 122
El-Kneissé	696	750	809	872
El-Krayé	2 199	2 371	2 555	2 754
El-Ksaibeh	1 258	1 356	1 462	1 576
Falougha	7 415	7 992	8 615	9 286
Jouar el Haouz	1 349	1 454	1 567	1 689
Jouret Arsoune	325	351	378	407
Kartada	553	596	643	693
Kobbaï	4 856	5 235	5 642	6 082
Ktalé	862	929	1 002	1 080
El Kahlouniye	134	144	155	167
Bmariam	1 575	1 698	1 830	1 973
Total Population	48 473	51 877	55 532	59 456
Water demand (m³/d)	9 695	10 375	11 106	11 891
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	7 837	7 837	7 837	7 837
Dams (m³/d)	7 000	7 000	7 000	7 000
Awali Project (m³/d)	-	-	-	-
Total (m³/d)	14 837	14 837	14 837	14 837
Water balance	5 142	4 461	3 730	2 945



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Daychouniyeh				
Population				
Chiah	63 710	66 145	68 673	71 297
Hadath(lower)	68 290	70 900	73 609	76 422
Borj el Brajneh(upper)	34 404	35 719	37 083	38 500
Gobeiri	115 563	119 979	124 564	129 324
Haret Horaïk	111 493	115 753	120 177	124 769
Total Population	393 461	408 496	424 106	440 311
Water demand (m³/d)	78 692	81 699	84 821	88 062
Existing Water Sources				
Springs (m ³ /d)	6 000	6 000	6 000	6 000
Wells (m ³ /d)	22 704	23 504	23 504	23 504
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	53 000	56 000	59 000
Total (m³/d)	28 704	82 504	85 504	88 504
Water balance	- 49 988	805	683	442
Deficit will be covered from Awali project				

Distribution system Mechref wells

Population				
Borj el Brajneh(lower)	137 615	142 873	148 333	154 001
Khaldeh-Damour	26 857	27 883	28 948	30 054
Khaldeh-Dohat Aaramoun	39 974	41 502	43 088	44 734
Total Population	204 446	212 258	220 369	228 789
Water demand (m³/d)	40 889	42 452	44 074	45 758
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	28 224	28 224	28 224	28 224
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	15 000	16 000	18 000
Total (m³/d)	28 224	43 224	44 224	46 224
Water balance	- 12 665	772	150	466
Deficit will be covered from Awali project				



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Raayan				
Population				
Abey	3 756	4 049	4 364	4 704
Aramoun	4 971	5 161	5 358	5 563
Aghmide	2 013	2 170	2 339	2 522
Ainab	1 614	1 739	1 875	2 021
Aïn Drafile	496	535	576	621
Aïn El-Halzoune	598	645	695	749
Aïn Ksour	805	868	935	1 008
Ain Freydis	74	80	86	93
Aïn Traz	1 299	1 400	1 509	1 627
Aïn-Dara	6 837	7 098	7 370	7 651
Ain El Marj	184	198	213	230
Aïn-El-Jdeidé	9 043	9 747	10 506	11 324
Ain es Saideh	346	373	402	434
Aïn-Enoub	3 602	3 882	4 185	4 510
Aïn-Rommané	336	362	390	420
Aïn Zhalta	3 000	3 234	3 486	3 757
Aïtate	2 547	2 745	2 959	3 189
Aley	22 137	22 982	23 861	24 772
Araya	3 778	4 073	4 390	4 732
Baalchemay	11 472	12 365	13 329	14 367
Baïssour	5 748	5 968	6 196	6 433
Baouarta	1 089	1 173	1 265	1 363
Bdédoune	2 996	3 230	3 481	3 752
Bhamdoun	9 540	9 905	10 283	10 676
Bhamdoun Mhatta	9 213	9 565	9 930	10 310
Bhouara	163	175	189	204
Bisrine	1 221	1 316	1 419	1 529
Bkhichtay	7 851	8 462	9 121	9 831
Bmakkine	715	770	830	895
Bmehraï	1 463	1 577	1 699	1 832
Bouzridé	1 387	1 495	1 612	1 737
Bsatine	1 179	1 271	1 370	1 477
Btallaoun	1 028	1 108	1 195	1 288
Btater	4 426	4 595	4 770	4 953
Bteezanieh	874	942	1 015	1 094
Chamlane	1 556	1 677	1 807	1 948
Chanay	3 996	4 148	4 307	4 471
Chartoun	3 752	4 044	4 359	4 698
Chourite	508	548	590	636
Chouit	2 568	2 768	2 983	3 216
Dakkoun	1 127	1 215	1 309	1 411
Dfoun	1 393	1 502	1 618	1 745
Dhour El Aabadiyeh	3 259	3 513	3 786	4 081



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Douair El-Roummane	483	521	562	605
El Halaliyeh	768	828	892	962
El-Abadiyeh	10 575	11 399	12 286	13 243
EL-Azouniyeh	1 155	1 245	1 342	1 446
El-Bennayé	1 283	1 383	1 490	1 606
El Kahhaleh	4 172	4 332	4 497	4 669
El-Ghaboun	2 263	2 440	2 630	2 834
El-Kamatiyeh	7 803	8 101	8 411	8 732
El-Mansouriyeh	5 360	5 777	6 227	6 712
El-Mreijate	740	798	860	927
El-Ramliyeh	1 564	1 686	1 817	1 958
El-Rejmeh	473	510	549	592
Jdael et Kfarhi	173	186	201	217
Jisr El Qadi	134	144	155	167
Kaïfoun	6 827	7 088	7 359	7 640
Kfar Matta	3 668	3 954	4 262	4 593
Kfar-Aamma	1 835	1 977	2 131	2 297
Kfarnice	1 269	1 368	1 474	1 589
Maasraïti	472	508	548	591
Majdel Baana	4 331	4 669	5 032	5 424
Mazraet El-Nahr	613	661	713	768
Mchakhté	184	198	213	230
Mejdlaya	2 106	2 270	2 447	2 638
Majdel Meouche	3 000	3 234	3 486	3 757
Qabrchmoun/Remhala jdide	1 178	1 270	1 369	1 475
Rechmaya	7 426	8 005	8 628	9 300
Remhala	1 950	2 101	2 265	2 441
Roueissat El-Naaman	1 192	1 285	1 385	1 493
Roueissat-el-Ballout	1 178	1 270	1 369	1 475
Roueissat Sawfar	2 039	2 198	2 369	2 554
Selfaya	2 000	2 155	2 323	2 504
Sebaal	-	-	-	-
Souk-El-Gharb	2 694	2 797	2 903	3 014
Habramoun	337	363	391	422
Houmale	1 706	1 838	1 982	2 136
Wadi El-Sit	1 061	1 144	1 233	1 329
Total Population	229 968	244 373	259 767	276 220
Water demand (m³/d)	45 994	48 875	51 953	55 244



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Existing Water Sources				
Springs (m ³ /d)	15 088	15 088	15 088	15 088
Wells (m ³ /d)	72 299	77 339	77 339	77 339
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	1 352	1 352	1 352
Total (m³/d)	87 387	93 779	93 779	93 779
Water balance	41 394	44 905	41 826	38 535

Distribution system Chweyfat

Population				
Aamrousiyeh	50 241	52 161	54 154	56 224
Chweyfat	44 568	46 271	48 040	49 875
Total Population	94 810	98 432	102 194	106 099
Water demand (m³/d)	18 962	19 686	20 439	21 220
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	10 440	10 440	10 440	10 440
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	10 000	10 000	11 000
Total (m³/d)	10 440	20 440	20 440	21 440
Water balance	- 8 522	754	1	220
Deficit will be covered from Awali project				

Local distribution system-Arsoune

Population				
Arsoune	1 653	1 782	1 921	2 070
Total Population	1 653	1 782	1 921	2 070
Water demand (m³/d)	331	356	384	414
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	475	475	475	475
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	475	475	475	475
Water balance	145	119	91	61



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Bchamoune				
Population				
Bchamoune	3 651	3 790	3 935	4 086
Total Population	3 651	3 790	3 935	4 086
Water demand (m³/d)	730	758	787	817
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 280	2 280	2 280	2 280
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	2 280	2 280	2 280	2 280
Water balance	1 550	1 522	1 493	1 463

Local distribution system-Bedghane				
Population				
Bedghane	1 765	1 902	2 050	2 210
Total Population	1 765	1 902	2 050	2 210
Water demand (m³/d)	353	380	410	442
Existing Water Sources				
Springs (m ³ /d)	650	650	650	650
Wells (m ³ /d)	-	300	300	300
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	650	950	950	950
Water balance	297	570	540	508



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Bleibel				
Population				
Bleibel	948	1 022	1 101	1 187
Total Population	948	1 022	1 101	1 187
Water demand (m³/d)	190	204	220	237
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 824	1 824	1 824	1 824
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	1 824	1 824	1 824	1 824
Water balance	1 634	1 620	1 604	1 587

Local distribution system-Boutchay				
Population				
Boutchay	681	734	791	853
Total Population	681	734	791	853
Water demand (m³/d)	136	147	158	171
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 608	1 608	1 608	1 608
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	1 608	1 608	1 608	1 608
Water balance	1 472	1 461	1 450	1 437



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Bsaba				
Population				
Bsaba	1 700	1 832	1 975	2 129
Total Population	1 700	1 832	1 975	2 129
Water demand (m³/d)	340	366	395	426
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 296	1 296	1 296	1 296
Dams (m³/d)	-	-	-	-
Awali Project (m³/d)	-	-	-	-
Total (m³/d)	1 296	1 296	1 296	1 296
Water balance	956	930	901	870

Local distribution system-Bsous				
Population				
Bsous	3 215	3 465	3 735	4 026
Total Population	3 215	3 465	3 735	4 026
Water demand (m³/d)	643	693	747	805
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	48	48	48	48
Dams (m³/d)	-	-	-	-
Awali Project (m³/d)	-	700	700	800
Total (m³/d)	48	748	748	848
Water balance	- 595	55	1	43
Deficit will be covered from Awali project				



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Charoun				
Population				
Charoun	5 822	6 275	6 764	7 291
Total Population	5 822	6 275	6 764	7 291
Water demand (m³/d)	1 164	1 255	1 353	1 458
Existing Water Sources				
Springs (m ³ /d)	410	410	410	410
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	410	410	410	410
Water balance	- 754	- 845	- 943	- 1 048
Deficit will be covered from Raayan System - See Volume V-A project BML-W. C.8				

Local distribution system-Chbaniyeh				
Population				
Chbaniyeh	4 436	4 781	5 154	5 555
Total Population	4 436	4 781	5 154	5 555
Water demand (m³/d)	887	956	1 031	1 111
Existing Water Sources				
Springs (m ³ /d)	50	50	50	50
Wells (m ³ /d)	450	450	450	450
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	500	500	500	500
Water balance	- 387	- 456	- 531	- 611
1 well is proposed - See Volume V-A project BML-W. C.3				



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Deir Koubel				
Population				
Deir-Koubel	1 735	1 870	2 015	2 172
Total Population	1 735	1 870	2 015	2 172
Water demand (m³/d)	347	374	403	434
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	660	660	660	660
Dams (m³/d)	-	-	-	-
Awali Project (m³/d)	-	-	-	-
Total (m³/d)	660	660	660	660
Water balance	313	286	257	226

Local distribution system-Hammana				
Population				
Hammana	12 980	13 476	13 991	14 525
Total Population	12 980	13 476	13 991	14 525
Water demand (m³/d)	2 596	2 695	2 798	2 905
Existing Water Sources				
Springs (m³/d)	3 000	3 000	3 000	3 000
Wells (m³/d)	600	600	600	600
Dams (m³/d)	-	-	-	-
Awali Project (m³/d)	-	-	-	-
Total (m³/d)	3 600	3 600	3 600	3 600
Water balance	1 004	905	802	695



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Kernayel				
Population				
Kernayel	4 552	4 907	5 289	5 701
Total Population	4 552	4 907	5 289	5 701
Water demand (m³/d)	910	981	1 058	1 140
Existing Water Sources				
Springs (m ³ /d)	300	300	300	300
Wells (m ³ /d)	1 500	1 500	1 500	1 500
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	1 800	1 800	1 800	1 800
Water balance	890	819	742	660

Local distribution system-Kfar Selouane				
Population				
Kfar Selouane	3 994	4 305	4 641	5 002
Total Population	3 994	4 305	4 641	5 002
Water demand (m³/d)	799	861	928	1 000
Existing Water Sources				
Springs (m ³ /d)	96	96	96	96
Wells (m ³ /d)	396	396	396	396
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	492	492	492	492
Water balance	- 307	- 369	- 436	- 508

Deficit will be covered from Bmaryam System - See Volume V-A project BML-W. C.8



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Kfarchima				
Population				
Kfarchima	21 258	22 070	22 914	23 789
Total Population	21 258	22 070	22 914	23 789
Water demand (m³/d)	4 252	4 414	4 583	4 758
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	4 440	4 440	4 440	4 440
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	200	400
Total (m³/d)	4 440	4 440	4 640	4 840
Water balance	188	26	57	82

Local distribution system-Sarahmoul				
Population				
Sarahmoul	337	363	391	422
Total Population	337	363	391	422
Water demand (m³/d)	67	73	78	84
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	336	336	336	336
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	336	336	336	336
Water balance	269	263	258	252



DISTRICT OF BAABDA-ALEY

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Tarchiche				
Population				
Tarchiche	2 312	2 492	2 686	2 895
Total Population	2 312	2 492	2 686	2 895
Water demand (m³/d)	462	498	537	579
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	-	-	-	-
Water balance	- 462	- 498	- 537	- 579
Deficit will be covered from Bmaryam System - See Volume V-A project BML-W. C.8				

Local distribution system-Sawfar				
Population				
Sawfar	3 262	3 517	3 790	4 086
Total Population	3 262	3 517	3 790	4 086
Water demand (m³/d)	652	703	758	817
Existing Water Sources				
Springs (m ³ /d)	4 800	4 800	4 800	4 800
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Awali Project (m ³ /d)	-	-	-	-
Total (m³/d)	4 800	4 800	4 800	4 800
Water balance	4 148	4 097	4 042	3 983



DISTRICT OF BAABDA-ALEY

sheet 15 of 15

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-EI-Mechrefeh				
Population				
EI-Mechrefeh	2 612	2 815	3 034	3 271
Total Population	2 612	2 815	3 034	3 271
Water demand (m³/d)	522	563	607	654
Existing Water Sources				
Springs (m³/d)	-	-	-	-
Wells (m³/d)	1 920	1 920	1 920	1 920
Dams (m³/d)	-	-	-	-
Awali Project (m³/d)	-	-	-	-
Total (m³/d)	1 920	1 920	1 920	1 920
Water balance	1 398	1 357	1 313	1 266



DISTRICT OF CHOUF

sheet 1 of 9

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Barouk-Kafra				
Population				
Aïn Kéni	1 250	1 347	1 452	1 565
Aïn Ouzai	2 500	2 695	2 905	3 131
Ammik	850	916	988	1 064
Baïkoun	150	162	174	188
Batloune	4 060	4 376	4 717	5 084
Bchatfine	4 034	4 348	4 686	5 051
Botmé	1 500	1 617	1 743	1 878
Brih et Mteilé	2 669	2 877	3 101	3 342
Deir Baba	1 274	1 373	1 480	1 595
Deir Couché	1 062	1 144	1 234	1 330
Douair Bsennaï	-	-	-	-
El-Barouk	6 500	7 006	7 552	8 140
El-Biré	352	379	409	441
El-Fouara	1 105	1 191	1 284	1 384
El-Freidice	-	-	-	-
El-Jdeidé	17 500	18 863	20 332	21 916
El-Kahlouniyeh	2 000	2 156	2 324	2 505
El-Kneissé	531	572	617	665
El-Moukhtara	1 000	1 078	1 162	1 252
El-Samkanieh	15 000	16 168	17 428	18 785
El-Werhaniyeh	2 490	2 684	2 893	3 118
Ghabet Jaafar	-	-	-	-
Kfar Fakoud	3 335	3 595	3 875	4 177
Kfar Haml	-	-	-	-
Kfar Katra	-	-	-	-
Kfar Nabraxh	12 000	12 935	13 942	15 028
Kfarhime	5 306	5 720	6 165	6 645
Maasser Beit Eddine	1 274	1 373	1 480	1 595
Sirjbal	2 122	2 288	2 466	2 658
Wadi Bnahley	690	744	802	864
Total Population	90 554	97 607	105 209	113 403
Water demand (m³/d)	18 111	19 521	21 042	22 681
Existing Water Sources				
Springs (m³/d)	3 240	3 240	3 240	3 240
Wells (m³/d)	11 809	11 809	11 809	11 809
Dams (m³/d)	-	-	-	-
Total (m³/d)	15 049	15 049	15 049	15 049
Water balance	- 3 062	- 4 472	- 5 993	- 7 631
2 wells are proposed - See Volume V-A project BML-W. E.1				



DISTRICT OF CHOUF

sheet 2 of 9

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Damour wells				
Population				
Damour	28 262	30 463	32 836	35 393
Naamat	37 682	40 617	43 780	47 190
Total Population	65 944	71 080	76 616	82 583
Water demand (m³/d)	13 189	14 216	15 323	16 517
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	15 480	15 480	15 480	15 480
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	15 480	15 480	15 480	15 480
Water balance	2 291	1 264	157	- 1 037
3 wells are proposed - See Volume V-A project BML-W. E.10				

Distribution system El Qaa

Population				
Aïn-el-Assad et Chmeicé	701	756	814	878
Almane	2 583	2 784	3 001	3 235
Anbal	1 250	1 347	1 452	1 565
Anoute	4 550	4 904	5 286	5 698
Atrine	1 000	1 078	1 162	1 252
Baakline	16 220	17 483	18 845	20 312
Baassir	8 856	9 546	10 289	11 091
Barja	26 567	28 636	30 866	33 270
Beit Eddine	1 698	1 830	1 973	2 127
Benouaïti	424	457	493	531
Bkhchtaine	-	-	-	-
Bkifa	200	216	232	250
Bsaba	4 500	4 850	5 228	5 635
Chehime	23 615	25 454	27 437	29 574
Dahr El-Mghara	1 320	1 423	1 534	1 653
Dalhouné	3 203	3 452	3 721	4 011
Daraya	5 609	6 046	6 517	7 024
Debbiyeh	12 058	12 997	14 009	15 101
Debbiyeh (Ain el Haour)	2 780	2 997	3 230	3 481
Deir Mkhallsse	800	862	929	1 002
El Jiyeh	9 225	9 943	10 718	11 553
El-Berjaine	3 690	3 977	4 287	4 621
El-Bkaya	-	-	-	-
El-Jleilyeh	100	108	116	125



DISTRICT OF CHOUF

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
El-Maaniyeh	150	162	174	188
El-Moghaïriyeh	8 701	9 379	10 109	10 896
El-Wardaniyeh	5 535	5 966	6 431	6 932
Gharifé	6 000	6 467	6 971	7 514
Hasroute	1 500	1 617	1 743	1 878
Jadra	-	-	-	-
Jmeiliyeh	1 507	1 624	1 751	1 887
Joun	8 199	8 838	9 526	10 268
Katermaya	7 380	7 955	8 574	9 242
Kherbet Bisri	75	81	87	94
Kraya	10	11	12	13
Majdalouna	819	883	952	1 026
Mazboud	6 199	6 682	7 202	7 763
Mazmoura	200	216	232	250
Mazraet El-Dahr	1 200	1 293	1 394	1 503
Mtoulé Bzina	1 000	1 078	1 162	1 252
Rmeileh	5 166	5 568	6 002	6 469
Sebline	8 029	8 654	9 328	10 055
Wadi Abou Youssef	-	-	-	-
Zaarouriyeh	4 700	5 066	5 461	5 886
Total Population	197 319	212 687	229 252	247 107
Water demand (m³/d)	39 464	42 537	45 850	49 421
Existing Water Sources				
Springs (m ³ /d)	9 000	9 000	9 000	9 000
Wells (m ³ /d)	36 893	36 893	36 893	36 893
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	45 893	45 893	45 893	45 893
Water balance	6 429	3 355	42	- 3 529

3 wells are proposed - See Volume V-A project BML-W. E.9



DISTRICT OF CHOUF

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Mristi				
Population				
Baadarane	2 000	2 156	2 324	2 505
El-Khreibe	2 500	2 695	2 905	3 131
Mristé	-	-	-	-
Haret Jandal	800	862	929	1 002
Total Population	5 300	5 713	6 158	6 637
Water demand (m³/d)	1 060	1 143	1 232	1 327
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 064	2 064	2 064	2 064
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 064	2 064	2 064	2 064
Water balance	1 004	921	832	737

Local distribution system-Ammatour				
Population				
Ammatour	4 000	4 312	4 647	5 009
Total Population	4 000	4 312	4 647	5 009
Water demand (m³/d)	800	862	929	1 002
Existing Water Sources				
Springs (m ³ /d)	700	700	700	700
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	700	700	700	700
Water balance	- 100	- 162	- 229	- 302
1 well is proposed - See Volume V-A project BML-W. E.8				



DISTRICT OF CHOUF

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Bater				
Population				
Bater	3 500	3 773	4 066	4 383
Total Population	3 500	3 773	4 066	4 383
Water demand (m³/d)	700	755	813	877
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 592	2 592	2 592	2 592
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 592	2 592	2 592	2 592
Water balance	1 892	1 837	1 779	1 715

Local distribution system-Dardourite				
Population				
Dardourite	2 335	2 516	2 712	2 924
Total Population	2 335	2 516	2 712	2 924
Water demand (m³/d)	467	503	542	585
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	552	552	552	552
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	552	552	552	552
Water balance	85	49	10	- 33



DISTRICT OF CHOUF

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Dmite				
Population				
Dmite	5 306	5 720	6 165	6 645
Total Population	5 306	5 720	6 165	6 645
Water demand (m³/d)	1 061	1 144	1 233	1 329
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	840	840	840	840
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	840	840	840	840
Water balance	- 221	- 304	- 393	- 489
1 well is proposed - See Volume V-A project BML-W. E.8				

Local distribution system-El Jahliyah				
Population				
El-Jahliyah	4 246	4 576	4 933	5 317
Total Population	4 246	4 576	4 933	5 317
Water demand (m³/d)	849	915	987	1 063
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	336	336	336	336
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	336	336	336	336
Water balance	- 513	- 579	- 651	- 727
1 well is proposed - See Volume V-A project BML-W. E.8				



DISTRICT OF CHOUF

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system El Mouchref				
Population				
El Mouchref	1 507	1 624	1 751	1 887
Total Population	1 507	1 624	1 751	1 887
Water demand (m³/d)	301	325	350	377
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	45	45	45	45
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	45	45	45	45
Water balance	- 256	- 280	- 305	- 332
1 well is proposed - See Volume V-A project BML-W. E.8				

Local distribution system-Maasser el Chouf				
Population				
Maasser el Chouf	1 600	1 725	1 859	2 004
Total Population	1 600	1 725	1 859	2 004
Water demand (m³/d)	320	345	372	401
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 440	1 440	1 440	1 440
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 440	1 440	1 440	1 440
Water balance	1 120	1 095	1 068	1 039



DISTRICT OF CHOUF

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Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Mazraet El Chouf				
Population				
Mazraet El Chouf	10 000	10 779	11 618	12 523
Total Population	10 000	10 779	11 618	12 523
Water demand (m³/d)	2 000	2 156	2 324	2 505
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	600	600	600	600
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	600	600	600	600
Water balance	- 1 400	- 1 556	- 1 724	- 1 905
2 wells are proposed - See Volume V-A project BML-W. E.8				

Local distribution system-Niha				
Population				
Niha	5 000	5 389	5 809	6 262
Total Population	5 000	5 389	5 809	6 262
Water demand (m³/d)	1 000	1 078	1 162	1 252
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 790	1 790	1 790	1 790
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 790	1 790	1 790	1 790
Water balance	790	713	629	538



DISTRICT OF CHOUF

sheet 9 of 9

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Mristé				
Population				
Mristé	1 250	1 347	1 452	1 565
Total Population	1 250	1 347	1 452	1 565
Water demand (m³/d)	250	269	290	313
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 640	2 640	2 640	2 640
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 640	2 640	2 640	2 640
Water balance	2 390	2 371	2 350	2 327

Local distribution system-Deir El Kamar				
Population				
Deir El Kamar	11 145	12 013	12 948	13 957
Total Population	11 145	12 013	12 948	13 957
Water demand (m³/d)	2 229	2 403	2 590	2 791
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	4 200	4 200	4 200	4 200
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	4 200	4 200	4 200	4 200
Water balance	1 971	1 797	1 610	1 409



DISTRICT OF KESEROUANE

sheet 1 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Al Assal				
Population				
Faraya	11 192	12 064	13 003	14 016
Mazraet Kfardebiane	15 090	16 265	17 532	18 898
Total Population	26 282	28 329	30 535	32 914
Water demand (m³/d)	5 256	5 666	6 107	6 583
Existing Water Sources				
Springs (m ³ /d)	7 000	7 000	7 000	7 000
Wells (m ³ /d)	-	-	-	-
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	7 000	7 000	7 000	7 000
Water balance	1 744	1 334	893	417

Distribution system Al Moudiq

Population				
Boukak El-Dine	-	-	-	-
Deir Baklouche	-	-	-	-
Djounié Ghadir	-	-	-	-
Djounié Haret Sakhr	34 795	36 125	37 505	38 938
Djounié Sahel Alma	24 962	25 916	26 906	27 934
Djounié Sarba	35 228	36 574	37 972	39 423
Edma et Defné	19 665	20 416	21 197	22 007
El-Bouar	7 361	7 934	8 552	9 218
El-Ekaïbé	7 963	8 583	9 252	9 972
EL-Safra	9 725	10 097	10 482	10 883
Kfarhbab	10 903	11 752	12 667	13 654
Kferyacine	-	-	-	-
Tabarja	-	-	-	-
Wata Salam	-	-	-	-
Zouk Mikael	42 004	43 609	45 275	47 006
Zouk Mousbeh	44 517	46 218	47 984	49 818
Total Population	237 123	247 224	257 793	268 853
Water demand (m³/d)	47 425	49 445	51 559	53 771
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	72 864	72 864	72 864	72 864
Dams (m ³ /d)	4 500	4 500	4 500	4 500
Total (m³/d)	77 364	77 364	77 364	77 364
Water balance	29 939	27 919	25 805	23 593



DISTRICT OF KESEROUANE

sheet 2 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Chabrouh-Ain el delbeh-Afqa				
Population				
Aramoun	2 661	2 868	3 092	3 332
Bezhel	1 149	1 238	1 335	1 439
Dlebta	1 709	1 842	1 986	2 140
Eghbeh	45	49	52	56
El-Abri et Chouan	173	186	201	217
El-Azra	-	-	-	-
El-Ghuiné	3 253	3 506	3 779	4 074
El-Hossein	485	523	563	607
El-Kfour	5 230	5 637	6 076	6 550
El-Mouaïra	1 589	1 713	1 846	1 990
El-Mradiyah	603	650	701	755
Fatka	4 441	4 787	5 160	5 562
Ghbélé	3 461	3 731	4 021	4 334
Ghodrace	1 435	1 547	1 667	1 797
Herhaya et Kattine	-	-	-	-
Jdeidet Ghazir	2 398	2 585	2 786	3 003
Jouret Bedrane	2 198	2 369	2 554	2 753
Jouret Termos	1 761	1 898	2 046	2 205
Nahr El-Dahab	349	376	405	437
Nammoura et Kfar Jerif	1 520	1 638	1 766	1 904
Yahchouche	2 983	3 215	3 466	3 736
Zaaitré	1 402	1 511	1 629	1 756
Zeitoune	1 084	1 168	1 259	1 358
Total Population	39 929	43 039	46 391	50 004
Water demand (m³/d)	11 979	8 608	9 278	10 001
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	4 800	4 800	4 800	4 800
Dams (m ³ /d)	6 000	10 000	10 000	10 000
Total (m³/d)	10 800	14 800	14 800	14 800
Water balance	- 1 179	6 192	5 522	4 799



DISTRICT OF KESEROUANE

sheet 3 of 5

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Distribution system Chabrouh-Assal				
Population				
Achkoute	12 232	13 185	14 212	15 318
Aïn El-Delbé	753	812	875	943
Aïn El-Rihané	3 779	4 073	4 391	4 733
Aïntoura	3 907	4 211	4 539	4 893
Ajeltoun	17 582	18 951	20 427	22 018
Ballouné	14 005	15 096	16 271	17 539
Batha	4 758	5 129	5 528	5 959
Bekaatet-Achkoute	1 994	2 149	2 317	2 497
Bzoumar	1 424	1 535	1 654	1 783
Daraoun	4 542	4 896	5 277	5 688
Daraya	1 567	1 689	1 821	1 962
El-Kleiyate	16 745	18 049	19 455	20 970
Faïtroun	17 719	19 099	20 587	22 190
Ghosta	5 236	5 644	6 083	6 557
Harissa	-	-	-	-
Hrajel	10 703	11 537	12 435	13 404
Jeita	5 364	5 782	6 232	6 717
Maarab	1 298	1 399	1 508	1 626
Mayrouba	5 063	5 457	5 882	6 341
Mazraet El-Ras	1 070	1 153	1 243	1 340
Mazraet Mrah el-Mir	-	-	-	-
Raachine	2 052	2 212	2 384	2 570
Rayfoun	5 305	5 718	6 164	6 644
Souhailet El-Faouka	8 198	8 836	9 525	10 267
Wata-El-Jaouz	1 221	1 316	1 419	1 529
Total Population	146 517	157 928	170 228	183 487
Water demand (m³/d)	29 303	31 586	34 046	36 697
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	22 516	22 516	22 516	22 516
Dams (m ³ /d)	33 500	29 500	29 500	29 500
Total (m³/d)	56 016	52 016	52 016	52 016
Water balance	26 713	20 430	17 970	15 319



DISTRICT OF KESEROUANE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Chahtoul				
Population				
Chahtoul	1 697	1 829	1 972	2 125
Total Population	1 697	1 829	1 972	2 125
Water demand (m³/d)	339	366	394	425
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	840	840	840	840
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	840	840	840	840
Water balance	501	474	446	415

Local distribution system-Chenanhir				
Population				
Chenanhir	1 186	1 278	1 378	1 485
Total Population	1 186	1 278	1 378	1 485
Water demand (m³/d)	237	256	276	297
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 680	1 680	1 680	1 680
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 680	1 680	1 680	1 680
Water balance	1 443	1 424	1 404	1 383



DISTRICT OF KESEROUANE

Water demand = 200 l/d/cap

Village Name	2020	2025	2030	2035
Local distribution system-Ghazir				
Population				
Ghazir	10 434	10 833	11 247	11 676
Total Population	10 434	10 833	11 247	11 676
Water demand (m³/d)	2 087	2 167	2 249	2 335
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	2 500	2 500	2 500	2 500
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	2 500	2 500	2 500	2 500
Water balance	413	333	251	165

Local distribution system-Hayata				
Population				
Hayata	1 312	1 414	1 524	1 643
Total Population	1 312	1 414	1 524	1 643
Water demand (m³/d)	262	283	305	329
Existing Water Sources				
Springs (m ³ /d)	-	-	-	-
Wells (m ³ /d)	1 104	1 104	1 104	1 104
Dams (m ³ /d)	-	-	-	-
Total (m³/d)	1 104	1 104	1 104	1 104
Water balance	842	821	799	775