

Litani River Authority

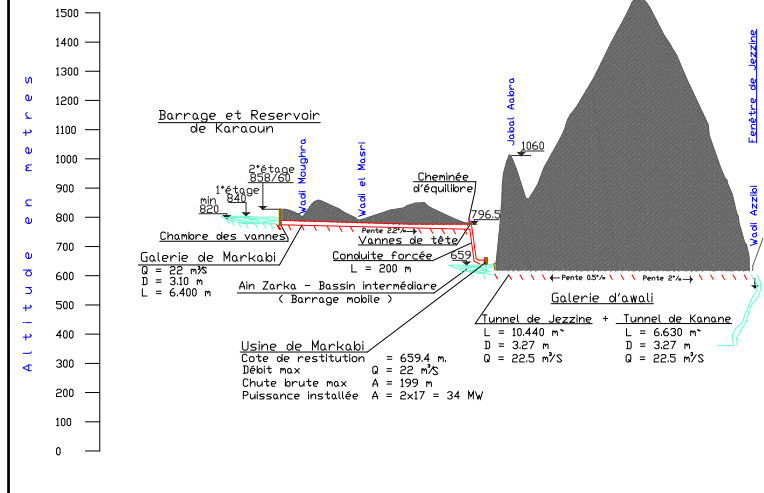
Recently:

- law 221 (water authorities Law) adds to its responsibilities all irrigation schemes in South Bekaa and South Lebanon Regions.

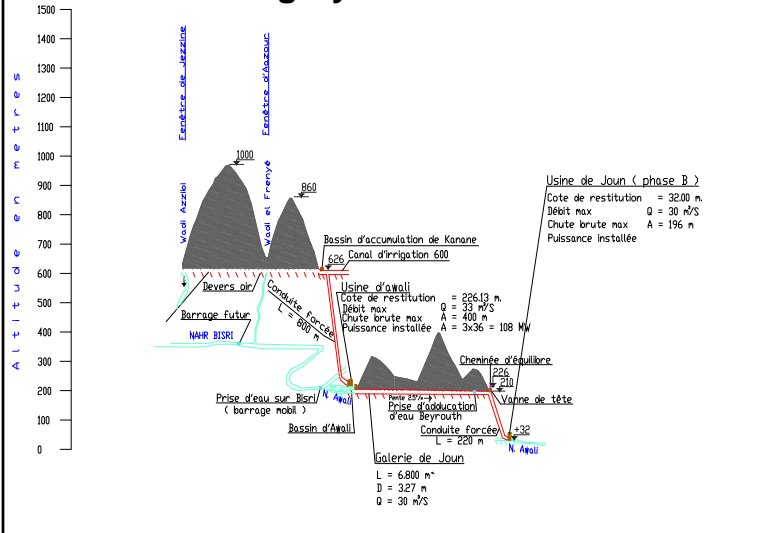
- A new Environmental department was created in 2006 to assess the water quality of Litani River & tributaries



Existing Hydraulic Structures 1



Existing Hydraulic Structures 2



Qaraoun Dam Characteristics

Designation	Value
Total Length	1090 meters
Height (From ground level)	62 meters
Altitude Water level surface	858 meters
Useful Volume of the Lake	220 MCM
Area width at Top	12.3 Km ²
width at Bottom	6 meters
Concrete mask area	162 meters
	50.000 m ²

Water Tunnel Characteristics


	Markabi	Awali	Joun
Length in meters	6400	17.070	6984
Diameter in meters	3.1	3.27	3.4
Useful cross section in square Meters	7.55	8.35	9.52
Flow Cubic Meters per Second	25	25	30
Slope (per Thousand)	2.2	-0.5 &+ 2.2	3
Head loss friction in meters	9.7	35	

Electrical Plants Power

–**Markabi** (2 X 21250 KVA) 2X17 MW - Waterfall (chute) 199 m

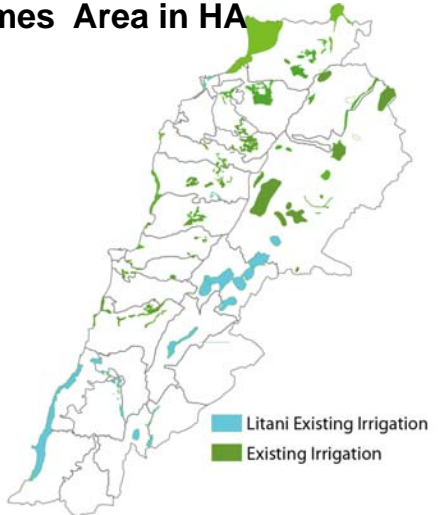
–**Awali** (3 X 45625 KVA) 3X36 MW: Waterfall 400 m

–**Joun** (2 X 30000 KVA) 2X24 MW: Waterfall 196 m



LRA Existing Schemes Area in HA


South Bekaa	
Phase One	2000
Small and medium Schemes	8090
Total	10090
South Lebanon	
Qasmieh	4000
Pilot Sector	350
Small and medium Schemes	2090
Total	6440
Grand Total	16530



Existing Irrigations schemes

LRA Ongoing & Future Projects in HA

South Bekaa			
Project	Ongoing	Future	Total
South Bekaa	6700	14800	21500
South Dam	980		980
Total	7680	14800	22480
South Lebanon			
Project	Ongoing	Future	Total
South Lebanon	15000	20000	35000
Qasmieh		2000	2000
Pilot Sector	850		850
Total	15850	22000	37850
Grand Total	23530	36800	60330



Ongoing and Future Irrigation Schemes

Irrigation Schemes (Lebanon Vs LRA)			
AREA IN Ha			
	Irrigated	Ongoing & Proposed	Total
Total Lebanon Schemes	60,900	82,000	142,900
LRA Schemes	16,530	60,330	76,860
LRA IN % OF LEBANON	27.14	73.75	53.79

Cooperation with Foreign Projects

•Partnership

- Water Saving in Mediterranean Area "WASAMED" (EU , IAM-Bari, LARI)
- Improvement of Irrigation Water Management in Lebanon and Jordan "IRWA" (EU, AVSI, ICU, CESAL, NCARTT)
- Towards an ecosystem approach to the sustainable management of the Litani Watershed (IDRC, CNRS,DSA)
- Sustainable Organic Agriculture in South Lebanon (USAid, World Vision)
- Litani Water Quality Management Project "LWQM" (USAid)

Cooperation with Foreign Projects

• Partnership

- Science-Policy Interfacing in support of the Water Framework Directive implementation "SPI-Water" (EU)
- Mediterranean Dialogue on Framing Sustainability in Water Policy Evaluation "SWAP" (EU , CIHEAM Barri)
- Mediterranean dialogue on integrated water management "MELIA" (EU, CSIC)
- Sustainable orchard irrigation for improving fruit quality and safety " IRRQUAL" (EU, CSIC.INRA)

Cooperation with Foreign Projects

• Collaboration

- Institutional and Social Innovation in Irrigation Mediterranean Management "ISIIM" (EU, Agropolis, Chambre d'agriculture de Zahleh)

