

Basin short profile

Name	Jordan River Basin	Country	Jordan																																																																	
Area	6,833 km ²	Altitude	From +1,000 m to – 410 m																																																																	
Rainfall/Evapo	<p>Average rainfall: 0,266 m/y Max: >0,600 mm Min: 0,050 mm: Modal/bimodal: Modal Crop reference ETo: min 1.288mm/year max 1.635 mm/year</p> <p>North JV climate (Baqura station) Rain, temperature and banana + citrus water requirements</p>	<table border="1"> <caption>Climate and water requirements Baqura station 71 87</caption> <thead> <tr> <th>Month</th> <th>Rain fall (mm/Day)</th> <th>Temperatures (°C)</th> <th>Banana requirements (mm/Day)</th> <th>Citrus requirements (mm/Day)</th> </tr> </thead> <tbody> <tr><td>Jan</td><td>3.5</td><td>10</td><td>1.5</td><td>1.0</td></tr> <tr><td>Feb</td><td>2.5</td><td>12</td><td>2.0</td><td>1.5</td></tr> <tr><td>Mar</td><td>1.5</td><td>15</td><td>3.0</td><td>2.5</td></tr> <tr><td>Apr</td><td>1.0</td><td>20</td><td>4.0</td><td>3.5</td></tr> <tr><td>May</td><td>0.5</td><td>25</td><td>5.0</td><td>4.0</td></tr> <tr><td>Jun</td><td>0.2</td><td>30</td><td>6.0</td><td>4.0</td></tr> <tr><td>Jul</td><td>0.1</td><td>32</td><td>6.5</td><td>4.0</td></tr> <tr><td>Aug</td><td>0.1</td><td>30</td><td>6.0</td><td>3.5</td></tr> <tr><td>Sept</td><td>0.1</td><td>25</td><td>5.0</td><td>3.0</td></tr> <tr><td>Oct</td><td>0.2</td><td>20</td><td>4.0</td><td>2.5</td></tr> <tr><td>Nov</td><td>0.5</td><td>15</td><td>3.0</td><td>2.0</td></tr> <tr><td>Dec</td><td>1.0</td><td>10</td><td>2.0</td><td>1.5</td></tr> </tbody> </table>		Month	Rain fall (mm/Day)	Temperatures (°C)	Banana requirements (mm/Day)	Citrus requirements (mm/Day)	Jan	3.5	10	1.5	1.0	Feb	2.5	12	2.0	1.5	Mar	1.5	15	3.0	2.5	Apr	1.0	20	4.0	3.5	May	0.5	25	5.0	4.0	Jun	0.2	30	6.0	4.0	Jul	0.1	32	6.5	4.0	Aug	0.1	30	6.0	3.5	Sept	0.1	25	5.0	3.0	Oct	0.2	20	4.0	2.5	Nov	0.5	15	3.0	2.0	Dec	1.0	10	2.0	1.5
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Landuse (2002)	Fruit trees 10,8 % ; cereals 13,2%; vegetables 3,2%, range land 72.8 % (10% registered by MoA as forestland).																																																																			
Irrigation	Total ≈ 59,000 ha (26,000 ha of 8,000 farms in the Jordan Valley public irrigation projects, 33,000 ha in the private farms using deep wells in the high lands).																																																																			
Water Indicators	Runoff coefficient: 18 % Renewable water available: 104,4 m ³ /year/pers Regulated water (% rainfall and % run-off): 21% and 114% Ground water basins depletion/safe yield: 149% (Committed) outflow to the dead sea: ≈ 10-15% of total studied basin runoff Water diverted per person: ≈ 264,6 l/day/capita Water use per sector (depletion): Agriculture 64 %, Industry 2%, Domestic 34%																																																																			
Drinking water	Mostly from deep wells (64%), + the treated and piped canal water. The average drinking water consumption 134 l/day/pers is still very low.																																																																			
Main crop(s)/yield	Olives (rainfed 3,5 t/ha, irrig 5-6 t/ha), citrus (20-25 t/ha) stone fruits (10 - 30 t/ha) vegetables (40-50 t/ha 2 crops/y), banana (20-30t/ha); wheat-barley (2-3 t/ha).																																																																			
Population	4.680.000 people (87% of Jordan); Pop. Density: 684 ha/km² . Sex ratio M/F: 1,109; % Population under 18: 48.8 % / Religion (Jordan): Sunni Muslim 92%, Christian 6 % / Population growth (1997-2002): 3,02 % per annum.																																																																			
Floods	Out of Yarmouk river, the dams control the floods. Once every +/-10 years (1992, 2003) bigger floods inundate the river banks but without major drainage problems.																																																																			
Groundwater	50 % of withdrawals in the basin come from groundwater. The main aquifer (AZB) is severely overexploited (179% of the safe yield). Groundwater levels are severely dropping (0,5 m/year). Springs discharges are decreasing, affecting the base flow of the rivers. AZB Groundwater salinity is quickly increasing.																																																																			
Environmental and health issues	<p>Due to the decrease in inflow (2/3) and Potash extraction (1/3), the Dead Sea level is decreasing very quickly (15 m in last 30 years) and it may disappear in 50 years.</p> <p>For the population living above the main aquifers, pollution risks are serious. Although 80% of the population is connected to the wastewater networks severe pollutions are still registered (leaking septic tanks, cesspits, industrial pollution,..).</p> <p>Wetlands have been severely damaged (Azraq oasis, Jordan river banks).</p> <p>Salinization of irrigated land is limited to some poorly drained areas. However high ET, brackish treated wastewater, lack of rainfall and insufficient irrigation water for drainage create severe salinization risks in the South of the Jordan Valley.</p>																																																																			

Protected areas	No officially protected area. Inside the basin, only Dibeen forest near Jerash (800 ha of preserved pine trees forest) is being currently transformed in a regional park.	
Land/labour	Average farm size in JV 3,5 ha (irrig) and 34 ha in the highlands (irrig)	Rural daily wage: 4 JD = 5,6 USD/day (\$) 0,7 USD/h
Land tenure	All irrigated lands privately farmed. In the Jordan valley irrigated plots have been distributed by the state to the farmers. Selling farm units was not allowed until the last 2001 JVA law and no part of a farm unit can be sold. Rain fed crops on private lands; rangeland belong to the state but traditional grazing rights often still in use.	
Water Management	The Jordan Valley scheme is managed by the Jordan Valley Authority; all the private agricultural wells are authorized and monitored by the Water Authority of Jordan (WAJ) with some control of the Ministry of Agriculture (MoA). Some traditional irrigated areas based on springs/small wadis managed by the farmers.	
Allocation rules	JVA, needing to severely restrict water use imposes allocation based on licensed crops. WAJ has defined a maximum discharge for each agricultural well in the highlands, but only recently a law has defined penalties for non-respect.	
Hydropower	Small 8 Megawatt plant on King Tala Dam (+smaller one on Wadi Arab Dam)	
Legal framework	A new law has allowed Private Sector Participation in the management of the Jordan Valley scheme.	
Politics, Civil Society	Stakeholders participation in natural resource management is only developing recently. A few NGOs are working in Jordan on social, development and cultural issues. No presence of NGOs on institutional issues. The Royal Society of Sciences is an important NGO monitoring environmental problems. With 90% of the population in the basin, the state transfers water resources from the neighboring basins to the main cities (no basin water management).	
Future developments	<p>100 Mcm/y will come to Amman from a fossil aquifer in the Disi southern desert area (600 MUSD investment, 0,8 - 1 USD/m3 operation cost).</p> <p>27 Mcm/y will come to Amman from a new dam on a Dead Sea“side wadi”(Mujib)</p> <p>80 Mcm/y are expected for irrigation and municipal uses of cities in the North from new the new Syrian Jordanian Wehdah Dam (110 Mcm storage, 85 MUSD)</p> <p>50 Mcm/y may be desalinated from JV underground brackish water</p> <p>800 Mcm/ year of Red Sea water may stabilize the Dead Sea, if 1 to 1.5 billion USD funds are released for such a huge environmental regional project.</p>	

General basin layout map

