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MINISTRY OF WATER AND IRRIGATION

Impact of Syrian Crisis Water Sector in Jordan

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Pre-Syrian crisis Situation

- 2010: the available water was (899)MCM for all purposes, for Domestic (352) MCM forming (39.1%)
- Per Capita share for all purposes was (147) MCM = 15% of international recognized poverty line (pop = 6113K)
- Municipal supply was (158) l/c/d with NRW of (41%)
- O&M cost recovery was 108%
- In northern Governorates the total supplied water was (73) MCM while the revenue water was (40) MCM. Against demand of (56) MCM
- Citizens receive water by roof tanks on intermittent basis. (once every 1-3 weeks)

After crisis Situation (2014)

- Demand increased by 21% over and above the increase due to natural growth.
- Northern Governorates demand increased by 35%
- Disi water increased the water budget by 107 MCM, 2014 budget is 1000 MCM. Municipal uses 450 MCM forming 45% of the budget
- Water for agriculture decreased to 51% including using 110 MCM TWW.
- Despite the increase water budget quantity, the available water for all uses dropped by 16.5% to 123 MCM (pop in K = 6704 Jor + 1400 Syr.)
- Despite the increase of Domestic water share and quantity, the per capita dropped to (142) l/c/d (decreased by 10%) and the NRW increased to 47%.
- O&M Cost recovery dropped to 96% (by 11%)

Ministry Plans

Prepared in coordination with UN agencies, Other Gov. Institutions, and NGO's

- **National Resilience Plan (2014 – 2016) WASH Section:**
 - Total projects value 725 MUSD
 - high priority investments in response to Syrian crisis
- Specific objectives: 1- Improving quantity, quality and efficiency of safe drinking water delivery, 2- Expanding and improving sanitation services, 3- Addressing cross cutting water and sanitation
- Dec 2013: a donors workshop organized by MWI to explain both the plan and the MWI plan to reduce water Sector Losses as part of the Economic reform program.
- Total cost on the sector during 2013-2014 was 490 MUSD including 218 MUSD direct cost
- 180 MUSD has been secured to finance (2013-2014) Plans

Jordan Response Plan 2015

- Comprehensive national document providing a one response to the Syrian crisis in Jordan.
- Bring together humanitarian and resilience programming as mutually reinforcing aspects of a one response plan.
- Builds on pre-existing planning exercises, particularly the NRP and RRP.

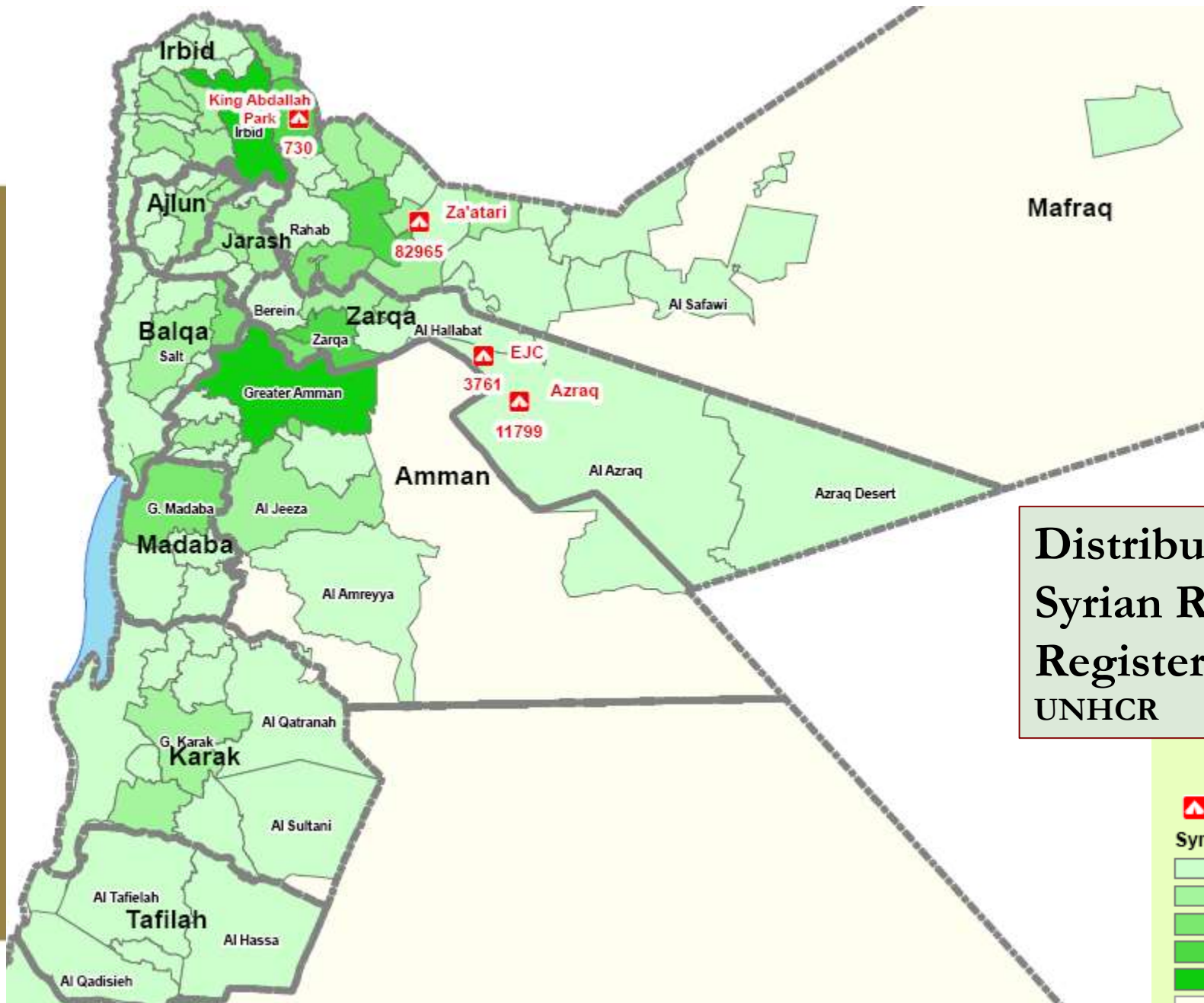
	Water	Wastewater	Acc. measures	Total
Resilience/Host Communities	87.2	109.8	22.5	219.5
Humanitarian/Refugees	32.7	47	7.7	87.4
Total	119.9	156.8	30.2	307

- Pledged 8.7% to Wash against 5% to other sectors

Municipalities Priority Criteria and Water Supply Vulnerability

- The percent of the Refugees numbers against the population of host communities.
- The Demand against the average consumption figures.
- Poverty index within the Jordanian population based on the DOS figures 2010.
- Projects Prioritization Criteria included
 - Directly alleviates stresses, Swift implementation,
 - Demonstrable impact, Cost/ benefit ratio
 - Contributes to medium-long term gains and sustainable solutions, and

Water Supply Vulnerability is based on this criteria (Put in GIS distributed to Municipalities)



Distribution of Syrian Refugees Registered - UNHCR

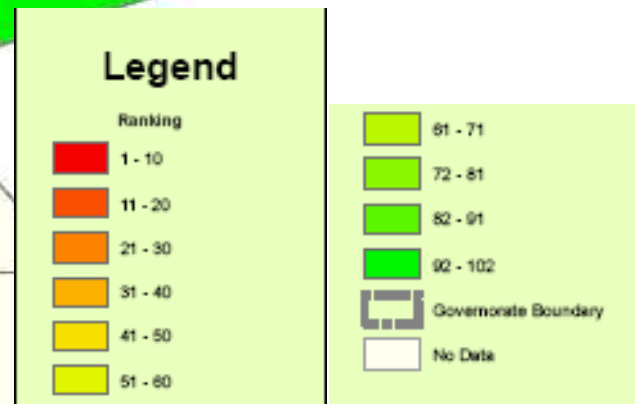
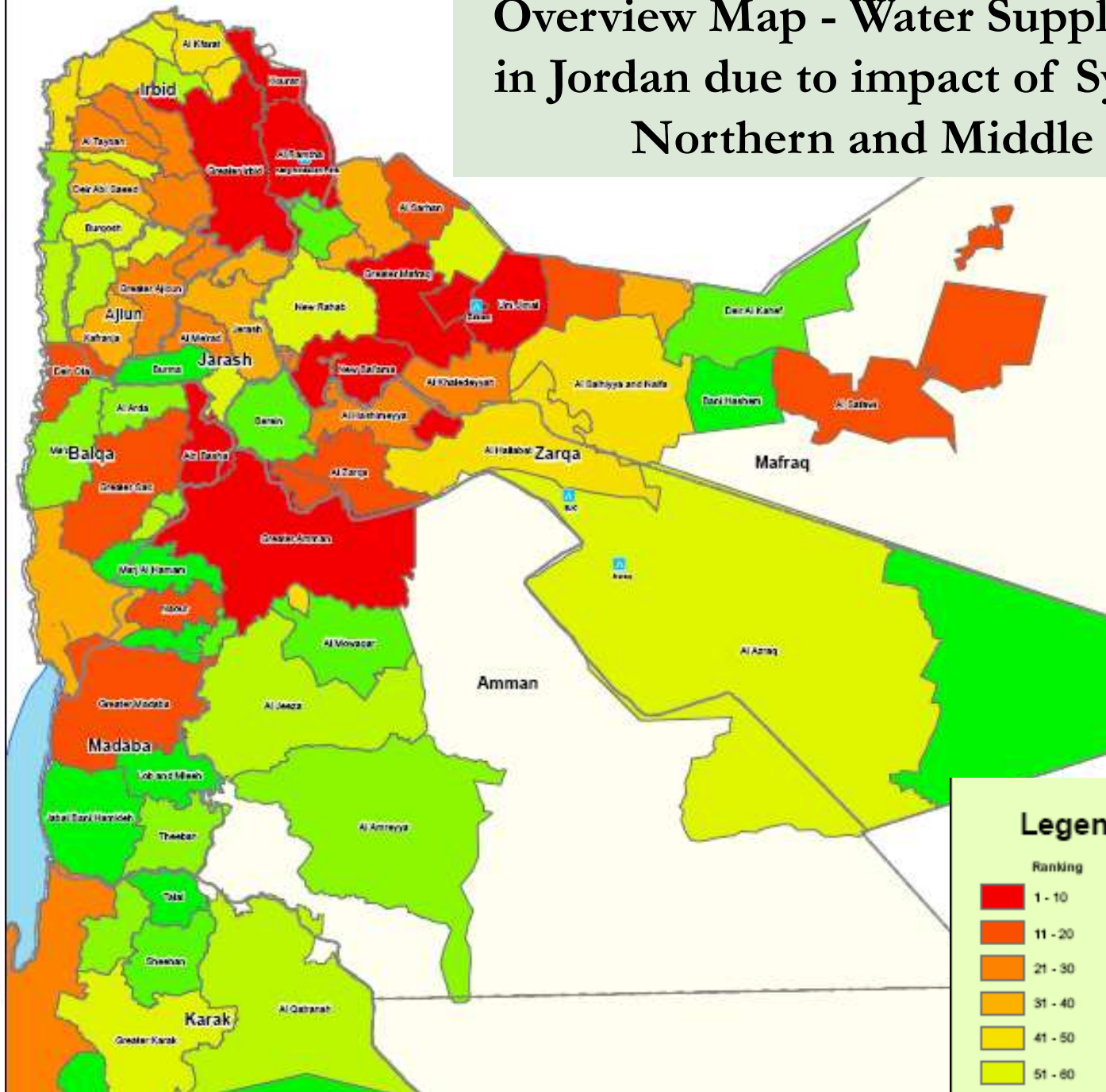
Legend

- Syrian Refugees Camps

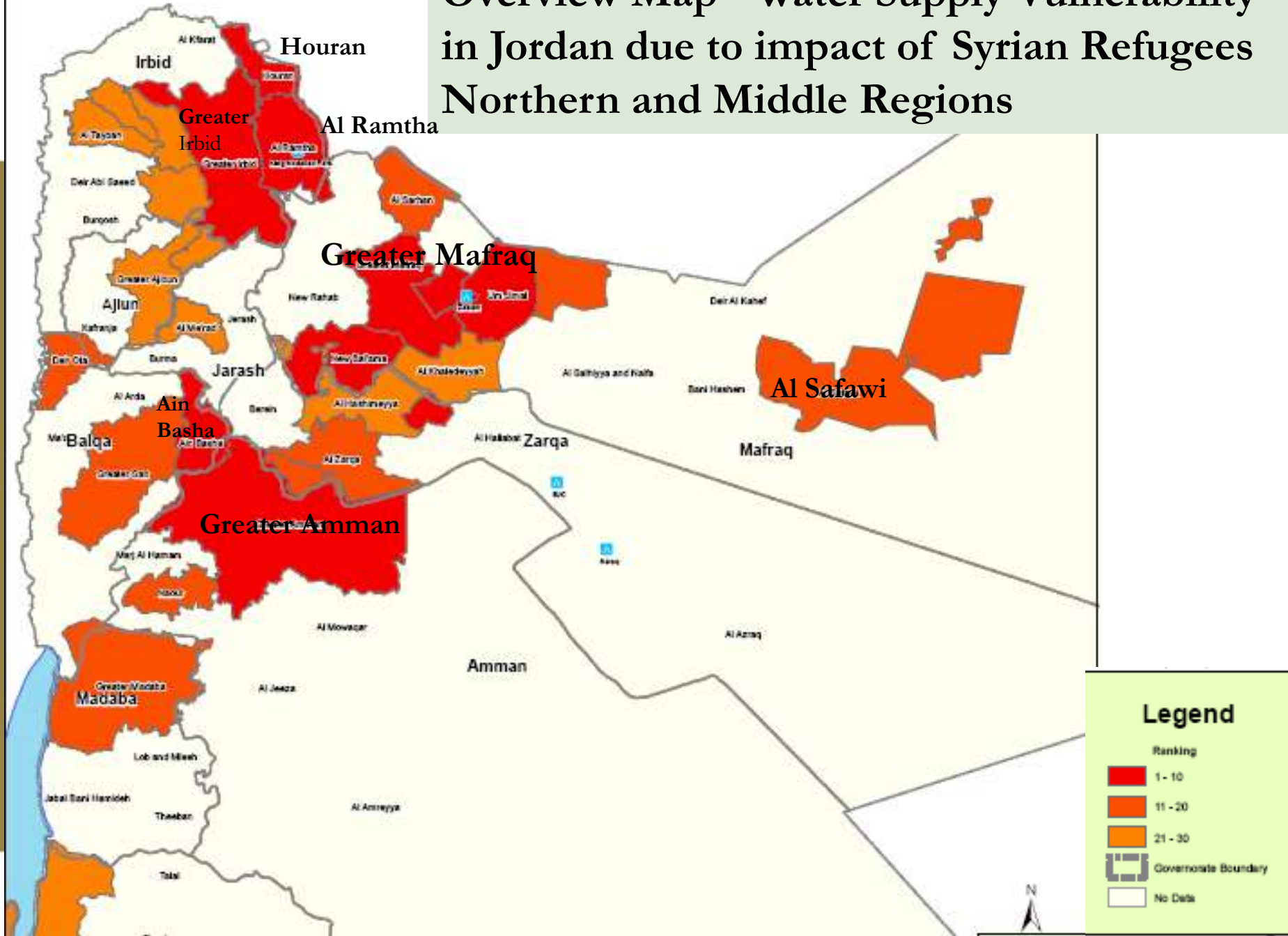
Syrian Refugees

- 0 - 2046
- 2047 - 5341
- 5342 - 10804
- 10805 - 32579
- 32580 - 142360
- No Data

Overview Map - Water Supply Vulnerability in Jordan due to impact of Syrian Refugees Northern and Middle Regions



Overview Map - Water Supply Vulnerability in Jordan due to impact of Syrian Refugees Northern and Middle Regions



Water and region instability (terror acts)

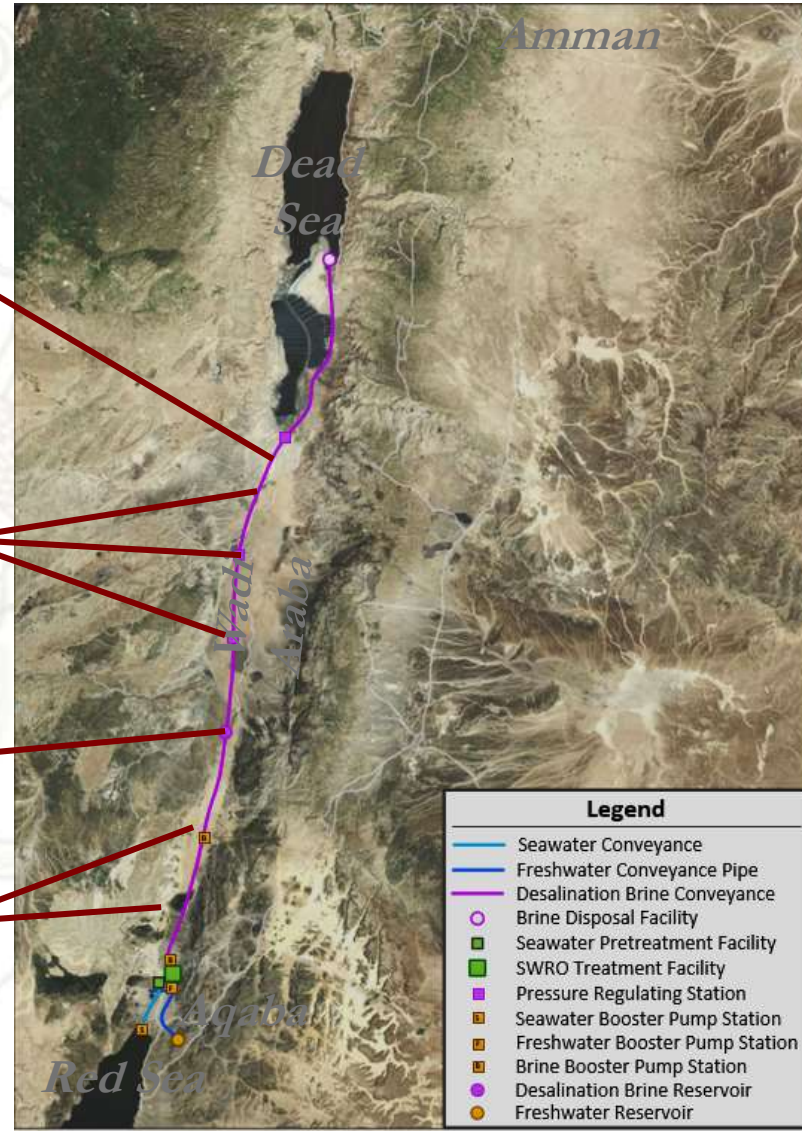
- An increase in refugees to Jordan will diversely affect the sector: sector may not afford extra or long stay as the effect build up sharply.
- Terrorism (ISIS) may target water resources in Jordan
- Sector is paying for security measures of water resources against terror acts

Read Dead Project (RDSP)

- Dec 2013 MOU was signed in Washington (three parties)
- February 2015: Bilateral MOU to start implementation of RDSP was signed with consent from Palestinians.
- Tender Documents for implementation contract will start
- Tenders will be announced in 2015
- BOT and brine line

The Plan for Phase I of RSDS: Desalinate Red Sea Water

- Desalination Brine Conveyance (200 km of 1.4 to 1.8m Pipeline)
- Desalination Brine Pressure Regulation (3-Pressure Reducing Stations; With the potential to be replaced by Hydropower Generation Stations)
- 1- (Reservoir) at high point
- Two desalination Brine Booster Pump Station



Summary of Water Allocation to RSDS0- Phase I Beneficial Parties

<i>Water Supplies</i>	<i>Recipient Beneficial Parties</i>		
	<i>Government of Jordan</i> (mcm/yr)	<i>Government of Israel</i> (mcm/yr)	<i>Palestinian Authority</i> (mcm/yr)
1 <i>Red Sea Desalination Water</i> (80-100 mcm/yr) <i>Delivered by Phase I - RSDS Project</i>	30-50	50	-
2 <i>Lake Tiberias Transfer Water</i> (50 mcm/yr) <i>Delivered by Beit Zera - KAC Pipeline</i>	50	-	-
3 <i>Med. Sea Desalination Water</i> (20-30 mcm/yr) <i>Delivered through Israel's National Carrier</i>	-	-	20-30
<i>Potential Total Annual Water Supply</i>	80-100	50	20-30

The shrinking of the Dead Sea

1960



- 390 m

~1020 km²

2006



- 420 m

~ 635 km²

2050



Computer
projection

- 550 m

~ 520 km²

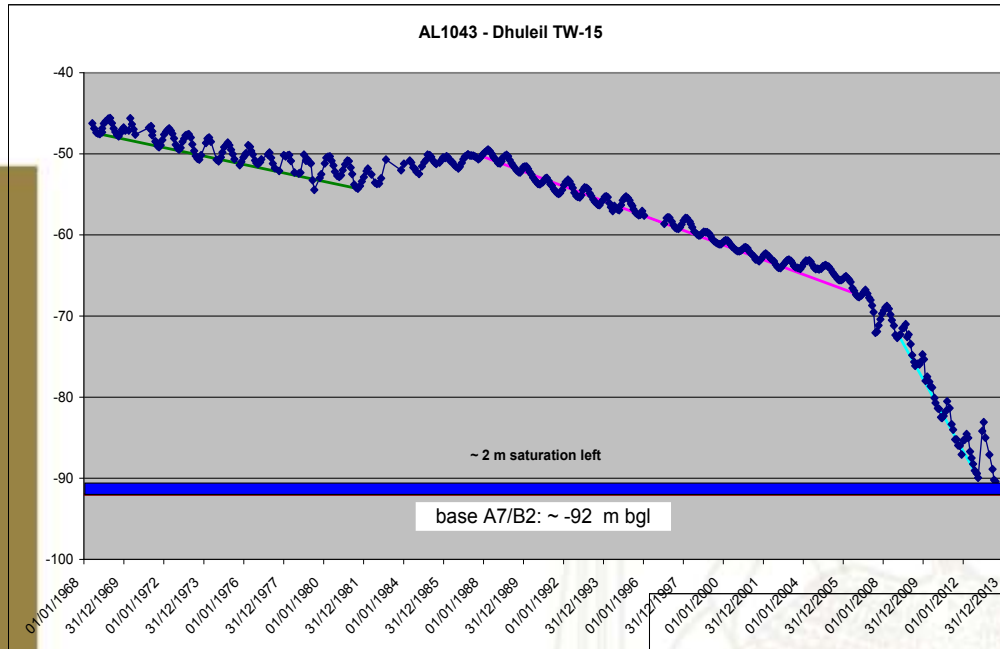


Thank You

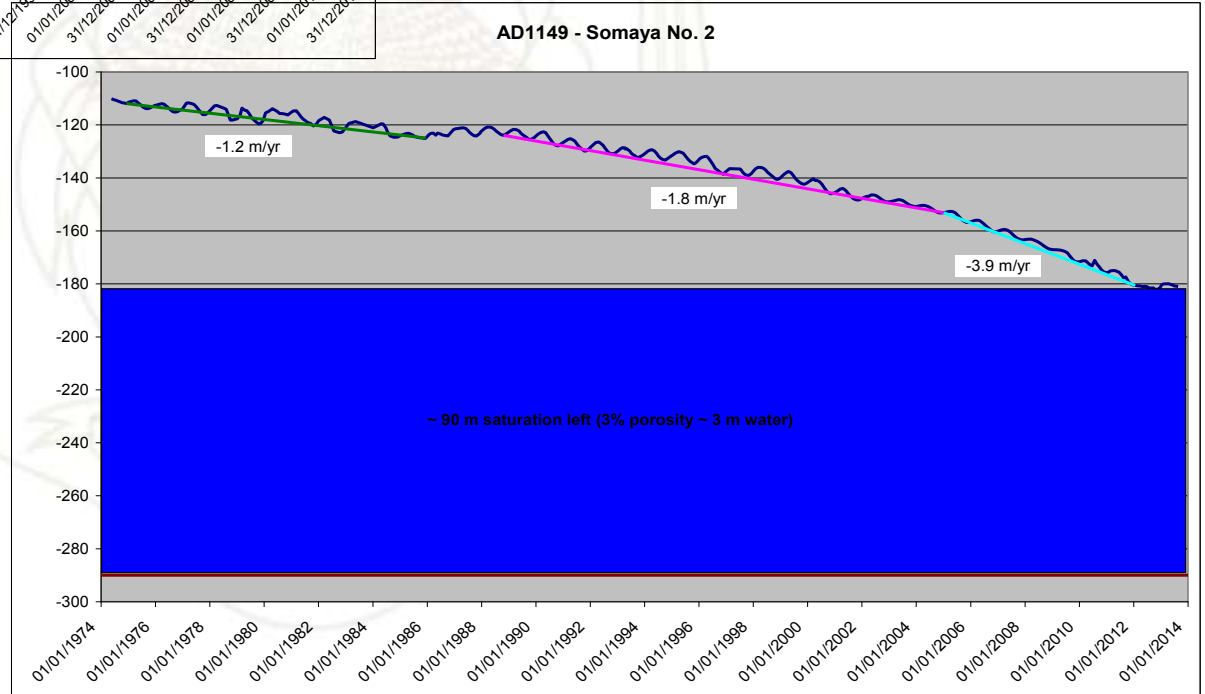
Fiscal and Economic Cost in the Water/Waste Sector for Syrian Refugees

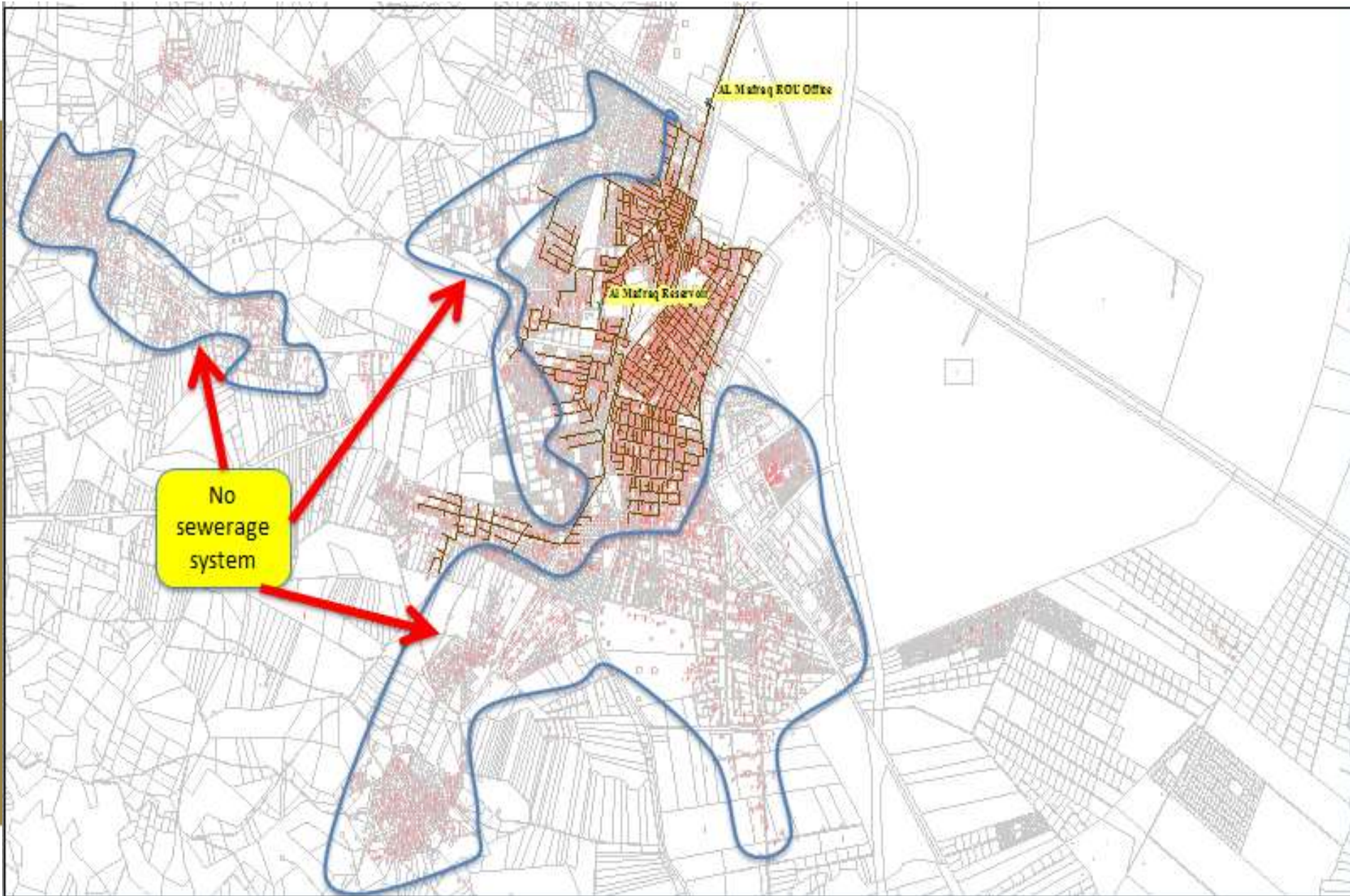
Item		2014	2015
Financial Cost Outside Camps	O&M	32.7	38.0
	Capital Cost	96.4	100.9
	Total direct Cost	129.1	138.9
	Water Subsidies	24.4	25.6
	Electricity subsidies	25.2	26.4
	Crisis Management Subsidy	16.1	17.4
	Total subsidies	65.8	69.3
	Subsidies Per capita/per year	119	120
	Financial Cost Per capita/year	309	316
	Financial cost (direct + subsidies)	170.5	182.6
Other Economic Cost Outside	Over-pumping	36.3	38.0
	Opportunity Cost	96.8	101.3
	Other ECONOMIC COSTS	149.2	156.6
Revenues		8.3	8.7
Total Net cost of Syrians outside		311.4	330.5
Per capita/per year		338	343
Cost inside Camps		33.0	35.0
Total Economic Cost Per capita/per year		530	537
Total Net Economic Cost of Syrians		344.3	365.5

Ground water level



Ground water level (location 2)





No sewerage system

Al Matraq ROU Office

Al Matraq Reservoir