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MINISTRY OF WATER AND IRRIGATION

Ministry of Water and Irrigation

Jordan Water Strategy and the Jordan Response Plan to the Refugee Crisis

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Jordan

1.4 million refugees

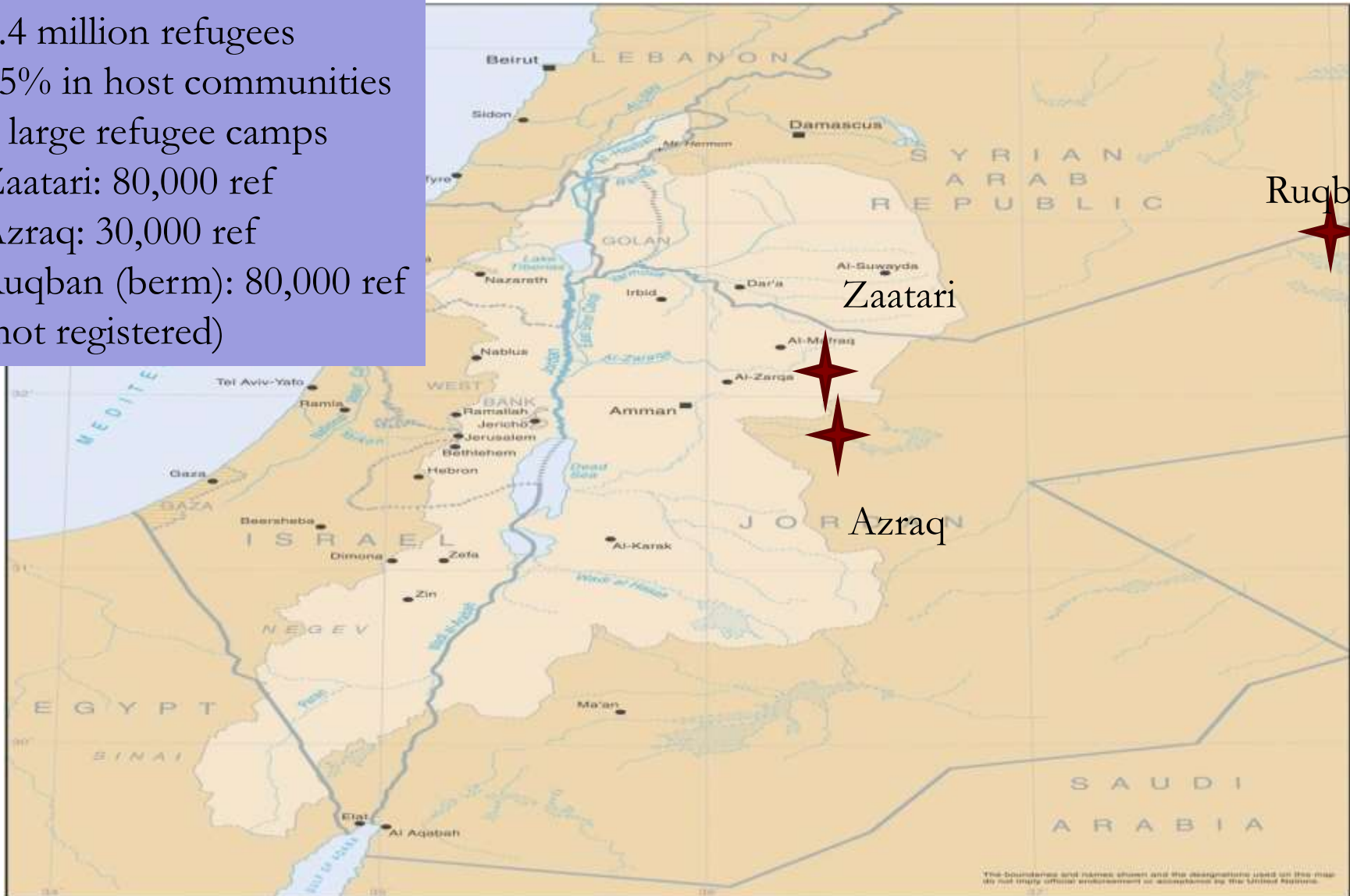
85% in host communities

3 large refugee camps

Zaatari: 80,000 ref

Azraq: 30,000 ref

Ruqban (berm): 80,000 ref
(not registered)





- **Jordan Water Strategy**

New development

- 2015-2025 Vision: Upon His Majesty's King Abdullah the II Vision, Jordan has embarked in preparing the 2025 economic vision where water is a primary component in this vision.
- Syrian Refugees: A new external factor that increasing water demand
 - demand increased by 21% and 40% in northern governorates.
 - WW increased; most WWTP needed expansion and upgrading.
 - Unified response approach for resilience (JRSB)
- Economic reform (IMF Structural BM):
 - MWI has prepared the Action Plan to Reduce Water Sector Losses and the plan has been approved by the Cabinet,
 - The implementation of the IMF plan

New development

- Specific issues that have been introduced to MWI strategy including climate change, water-energy-food nexus, focus on water economics, refugees, and financing including EE and RE.
- Development in strategic projects like Nuclear Power plan, Oil-shale and Red –Dead.
- MWI is developing and updating its polices to cope up with new demand and requirements e.g renewable energy.
- Legislations has changed including introducing the Water Council.
- Amendments to WAJ's Law to increase penalties on illegal uses.

National Water Strategy (2016-2025)

Objectives

- Sustainable water resources
- Improve the service levels for water, wastewater and irrigation
- Improve the financial status of the water sector
- Build a resilient water sector capable to respond to challenges, new developments, water needs as well as dynamic changes
- Adoption of Integrated Water Resources Management (IWRM) principles through a new set of policies, the capital investment program (CIP) and related action plans
- Achieving the Sustainable Development Goals (SDG) for the water sector
- Sector alignment and synergy with relevant national priorities and development plans such as (Jordan 2025) and achieve the water security goals.

Policies and Capital Investment Program

1. Water Substitution and Re-use Policy
2. Surface Water Utilization Policy
3. Water Reallocation Policy
4. Groundwater Sustainable Policy
5. Energy Efficiency & Renewable Energy in the Water Sector Policy
6. Water Demand Management Policy
7. National Framework of Decentralized Waste Water Management in Jordan
8. Climate Change Policy for a Resilient Sector

Water Sector Capital Investment Program (2016-2025)



- **Jordan Response Plan to the Refugee Crisis**

Syrian Refugees in Numbers

- About 140,000 inside Camps (5, UNHCR)
- About 515,000 outside Camps (UNHCR)
- About 750,000 Residents in Jordan before and after Crisis (Gov. of Jordan)
- Total about 1.4 million people
- Like Canada moving to the US with all associated economical, social, political and environmental impacts.

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) CM** = 15% of international recognized poverty line being 1000 CM/capita/yr (pop = 6113K)
- Municipal **supply** was **(158) l/c/d** with NRW of (41%)
- O&M cost recovery was 110%
- 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 1-2 wks)

Impact of crisis Situation (2015)

- Demand increased by 21% over and above the increase due to natural growth.
- Northern Governorates demand increased by 40%
- Disi water increased the water budget by 100 MCM, 2015 budget is 1000 MCM. Municipal uses 450 MCM forming 45% of the budget
- Water for agriculture decreased to 51% including using 133 MCM TWW.
- Despite the increase water budget quantity, the available water for all uses dropped to less than 100 CM per capita per yr (pop in K = 9500 including Syrians), with a reduction of 39%
- Despite the increase of Domestic water share and quantity, the per capita dropped to (126) l/c/d and the NRW increased to 52%.
- O&M Cost recovery dropped to 78% (by 30%)

Gov./Ministry Response Plans

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

- **National Resilience Plan (2014 – 2016) WASH Section:**
 - Total projects value 724 M USD
 - high priority investments in response to Syrian crisis
- **Specific objectives:**
 - 1- Enhancing the GOJ water and sanitation management and implementation capacity
 - 2 - Improving quantity, quality and efficiency of water delivery
 - 3- Expanding and improving sanitation services
 - 4 - Addressing cross cutting water and sanitation issues
- Total cost on the sector during 2013-2014 was 490 M USD including 218 M USD direct cost
- Only 35% of the financial needs have been secured (Mainly Germany, US, EU, Japan and UN Organizations)

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.

JRP 2015 (Million Dollar)

	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

Jordan Response Plan 2016-2018

- Three-year programme of high priority interventions to enable Jordan to respond to the effects of the Syria crisis.
- Critical humanitarian measures and medium-term interventions are better integrated, sequenced and complemented.
- Builds on previous planning exercises, JRP 2015 and 3RP

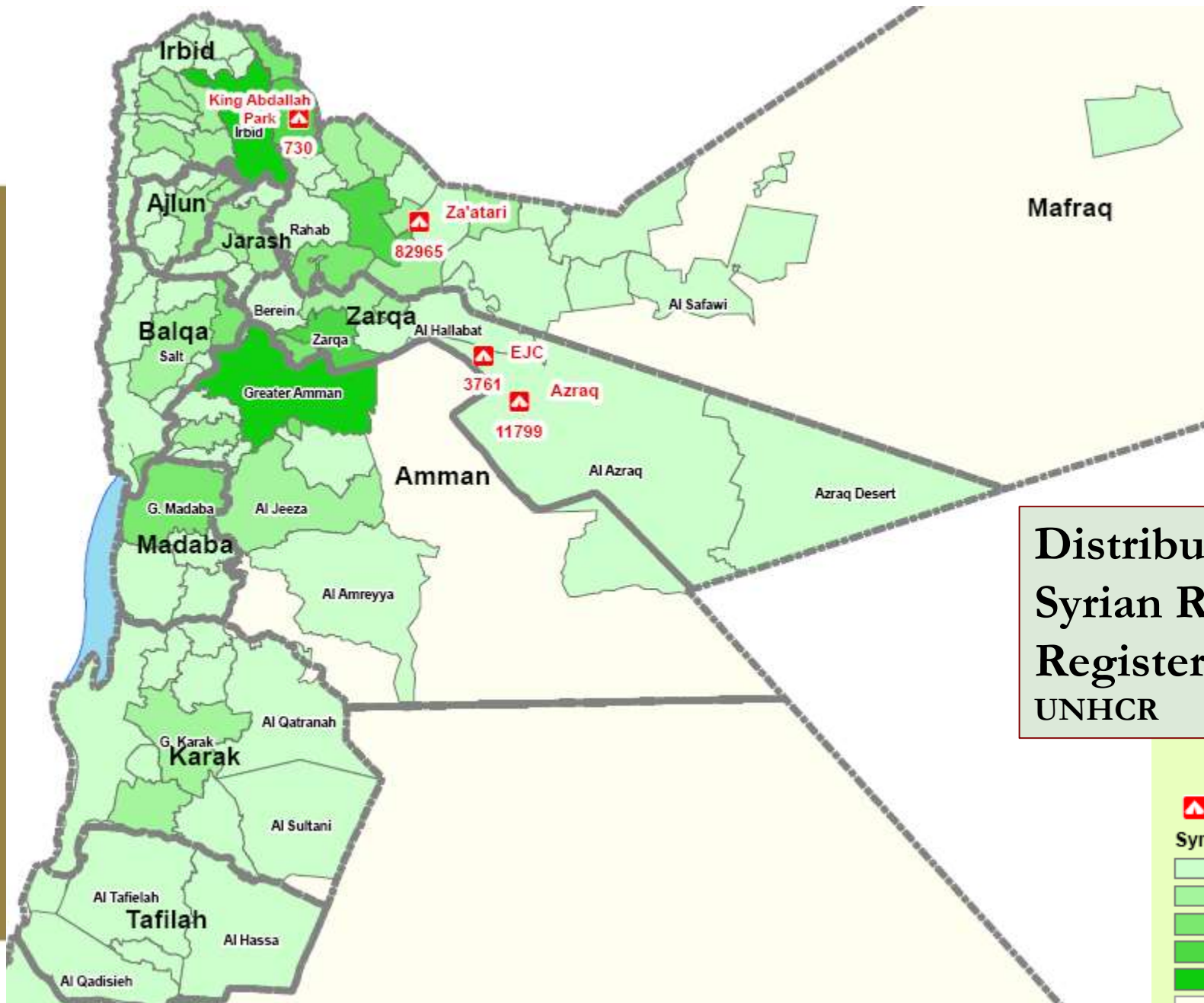
JRP 2016-2018 (Million Dollar)				
	2016	2017	2018	TOTAL
Resilience	166.5	213.7	206.3	586.5
Refugees	72.3	49.8	40.3	162.4
Total	238.8	263.5	246.6	748.9

- During the period 2012 till mid-2016, support to the Syria crisis have reached an amount of 193.5 MUSD against a total appeal of 684 MUSD (**28%**) for the three plans (NRP, JRP 2015, JRP 2016)

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.

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



Distribution of Syrian Refugees Registered - UNHCR

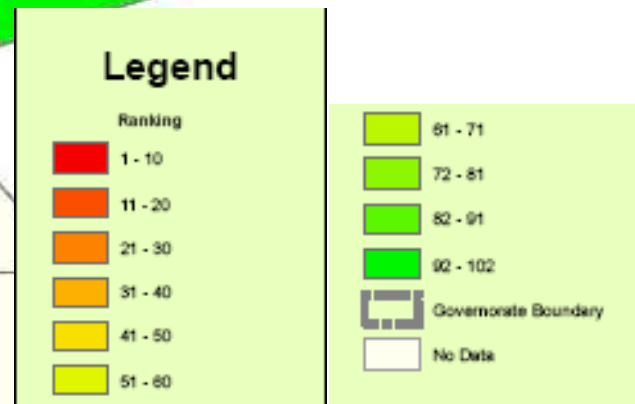
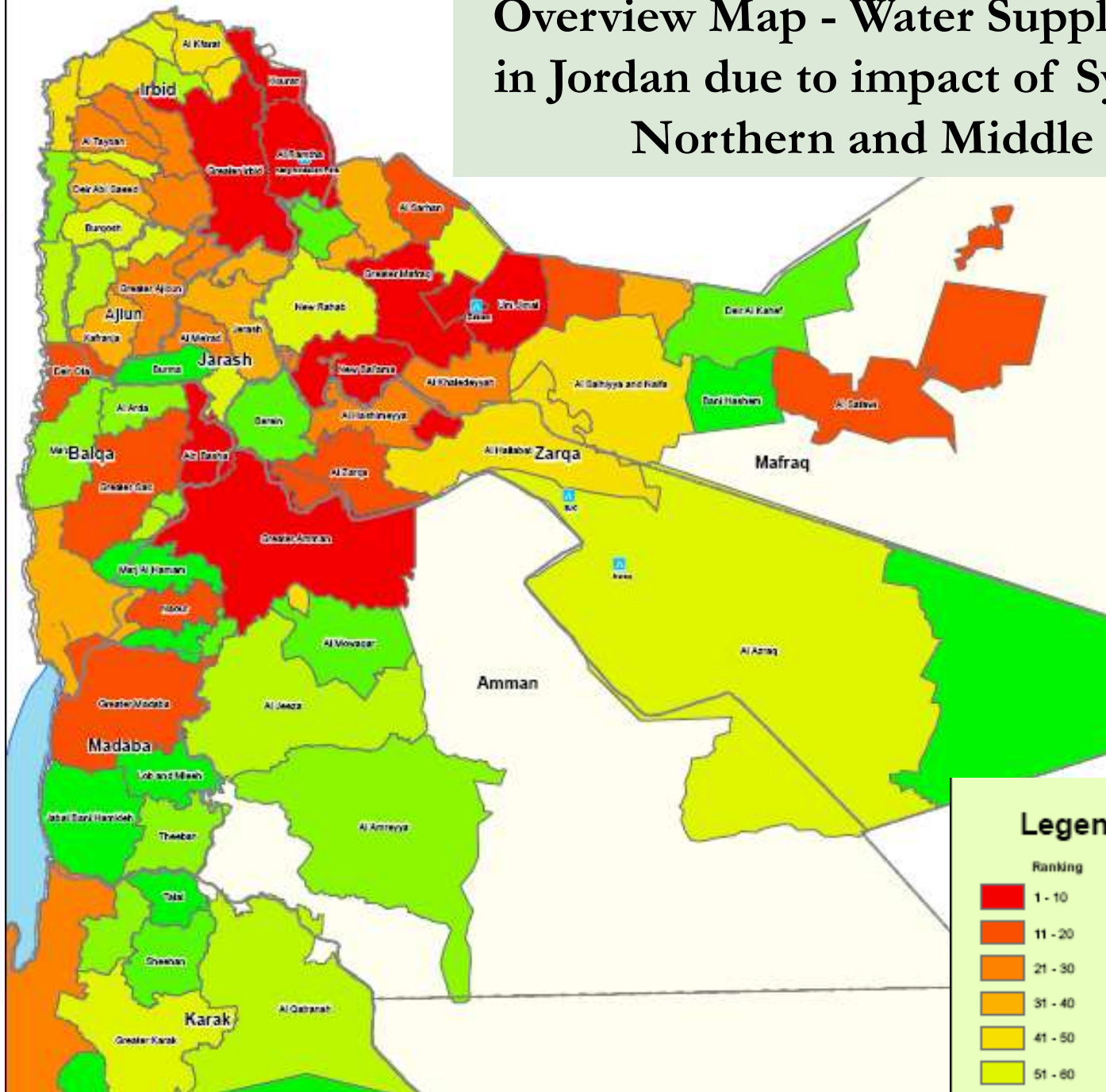
Legend

- 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



Water and Regional Stability

- 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.
- Jordan has to move forward with expensive regional options both financially and politically
i.e.

The Red-Dead Conveyance Project

The Red Sea-Dead Sea project as a non conventional water supply option

- As Jordan developed all of its potential water resources within its national boundaries including over pumping of precious groundwater resources,
- Because regional cooperation and economies of scale will reduce unit cost through innovative initiatives,
- And the need by the international community to protect the environment of the Dead Sea from further degradation,

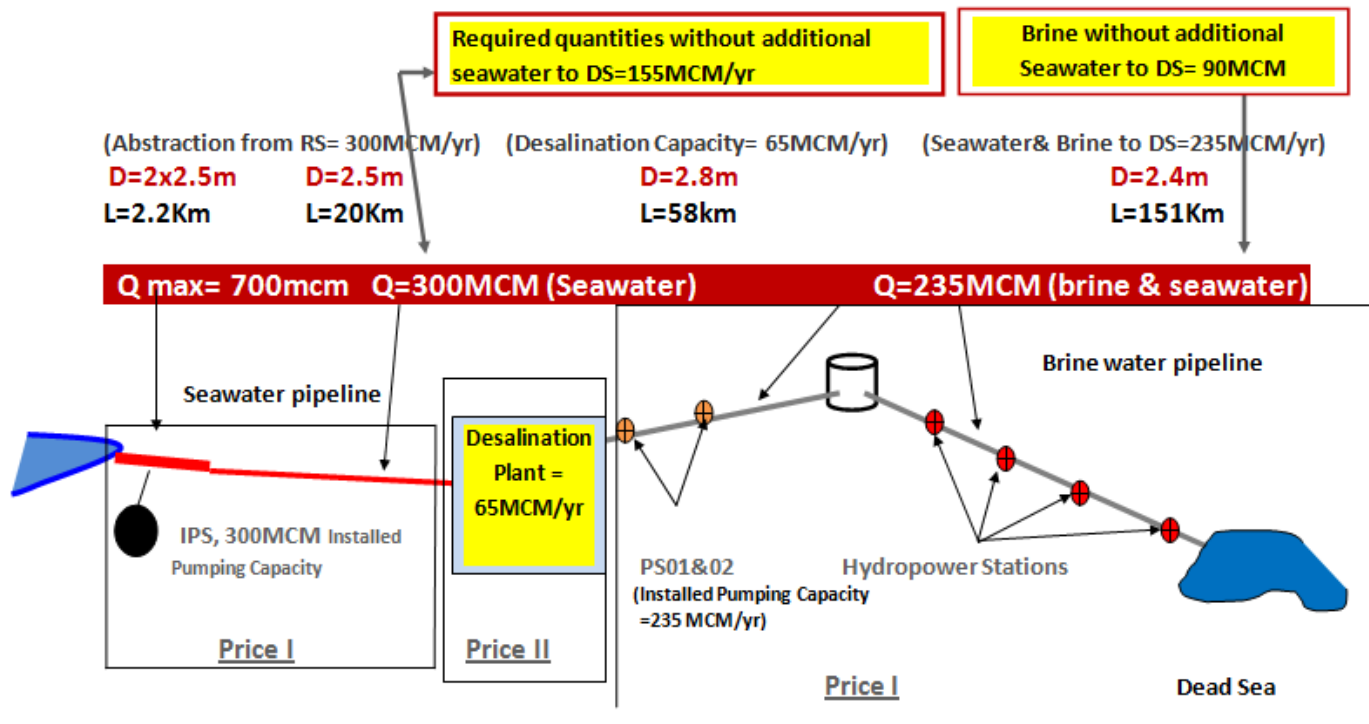
The Government of Jordan, Israel and Palestine agreed to develop this non-conventional project or what is called the Red Sea – Dead Sea project.

Red Sea - Dead Sea Project: Importance to Jordan

- **Establish a Secure and Affordable Water Supply for Jordan while Saving the Dead Sea from Extinction**
(65 MCM potable water, 235 MCM brine and sea water)
- **Support Widespread Economic Growth in Jordan**
- **Provide for Potential Regional Water Sharing**
(30 MCM to Aqaba, 35 MCM to Israel (Swap), 30 MCM to Palestine from Israel resources)
- **Facilitate Private and Public Partnership through a (BOT) project**

Phase I of RSDS: Definition of the Project Concept

Phase I Components



Result: reduce water level decline to 0.5 m/yr

The shrinking of the Dead Sea

1960



- 390 m

~1020 km²

2006



- 420 m

~ 635 km²

2050



Computer
projection

- 550 m

~ 520 km²

The Way Forward

- Decrease overuse of groundwater and increase share of water supply from desalination using innovative solutions.
- More investment in non-conventional water resources as the future global solution for the sustainable fresh water supply.
- Economically feasible and environmentally safe power sources relying more on sustainable renewable energy.
- Training and human resources development.
- Decrease financing gaps for JRP (only 8.9% of the JRP 2016 has been funded as of mid-August 2016).



Thanks you for your
attention