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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

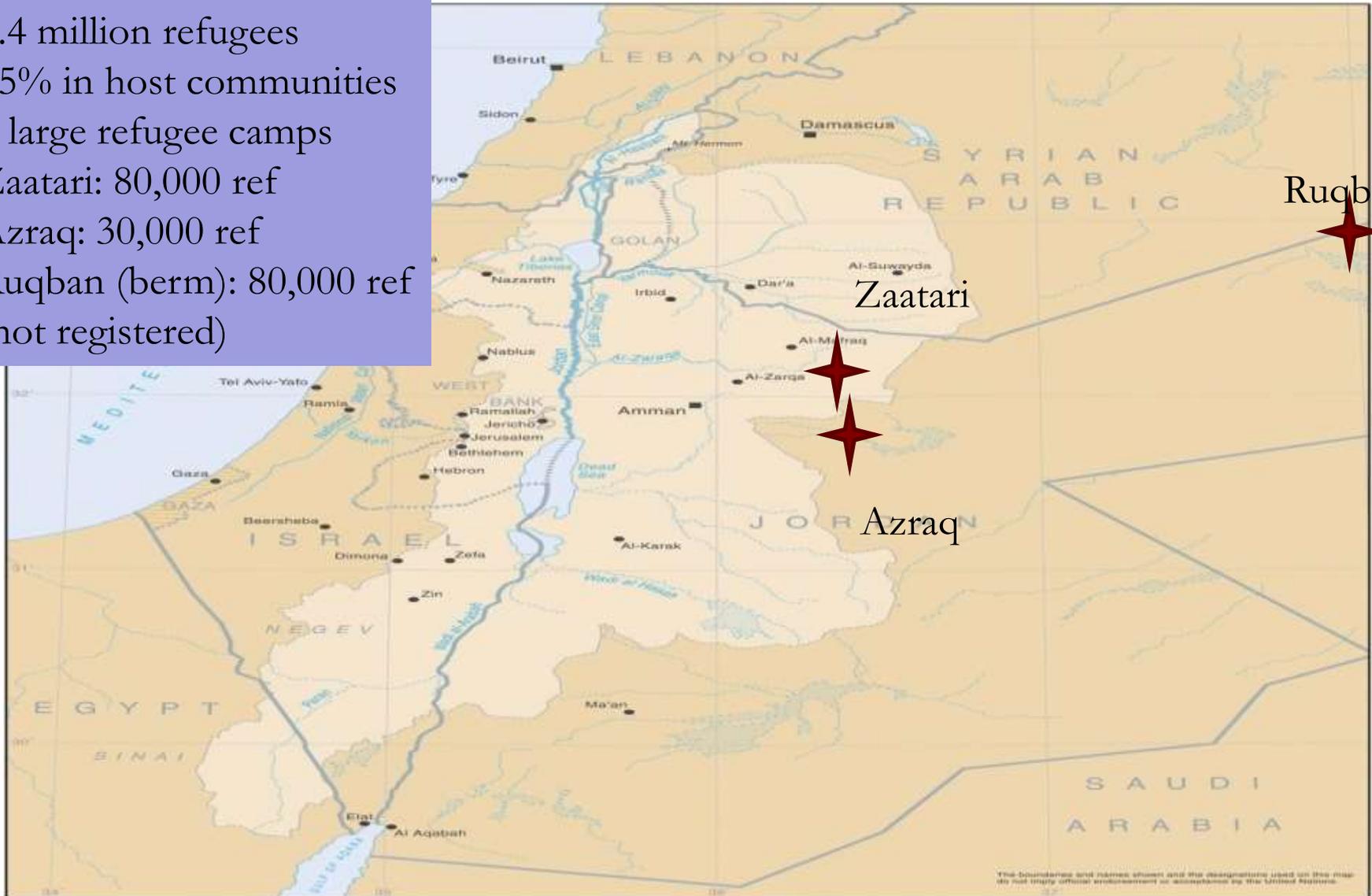
85% in host communities

3 large refugee camps

Zaatari: 80,000 ref

Azraq: 30,000 ref

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



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.



- **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
<b>Resilience/Host Communities</b>	87.2	109.8	22.5	219.5
<b>Humanitarian/Refugees</b>	32.7	47	7.7	87.4
<b>Total</b>	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

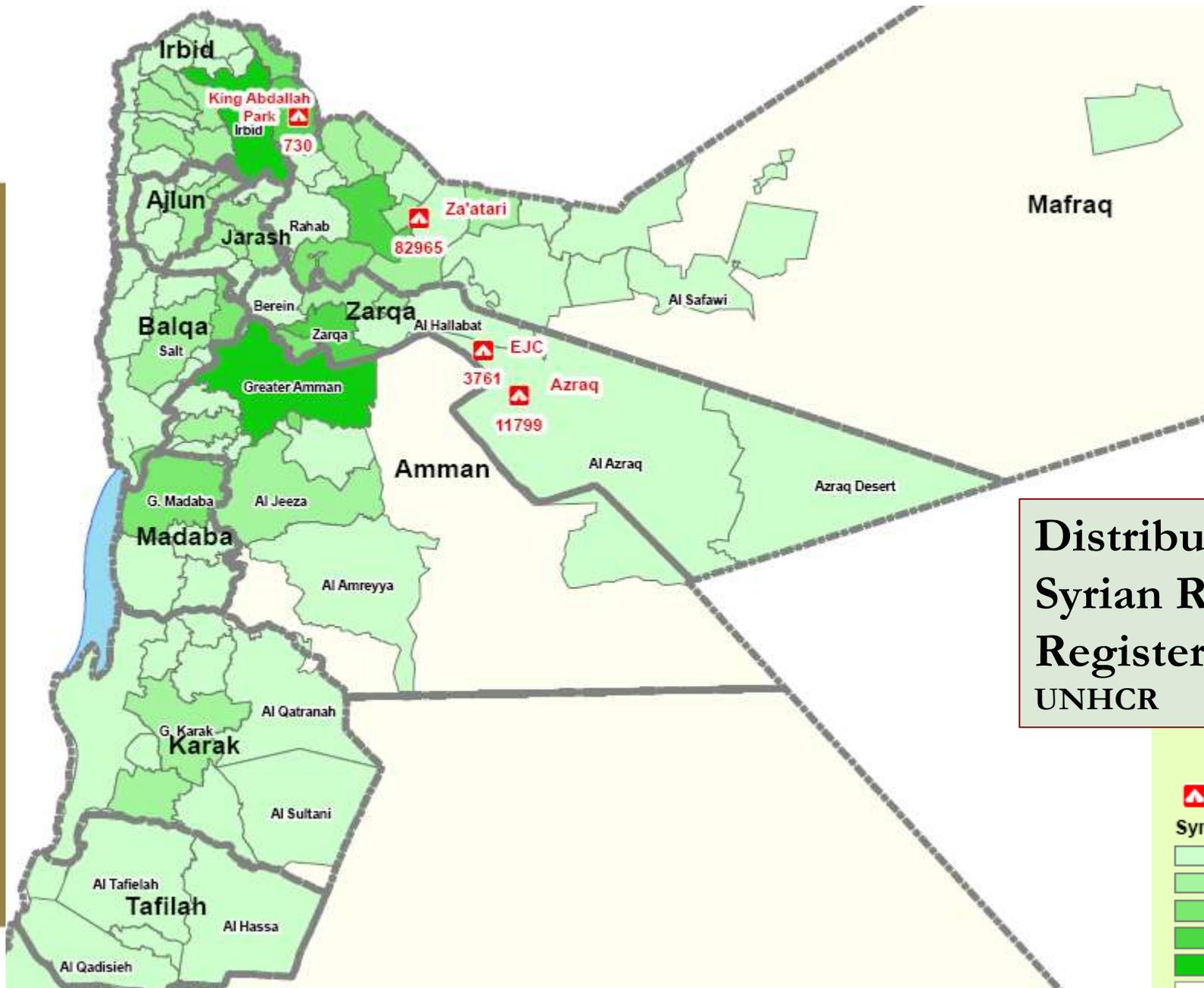
JRP 2016-2018 (Million Dollar)				
	2016	2017	2018	TOTAL
Resilience	166.5	213.7	206.3	586.5
Refugees	72.3	49.8	40.3	162.4
Total	238.8	263.5	246.6	748.9

- 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.

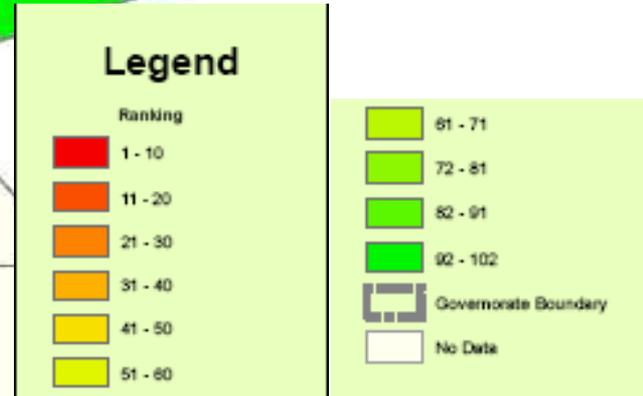
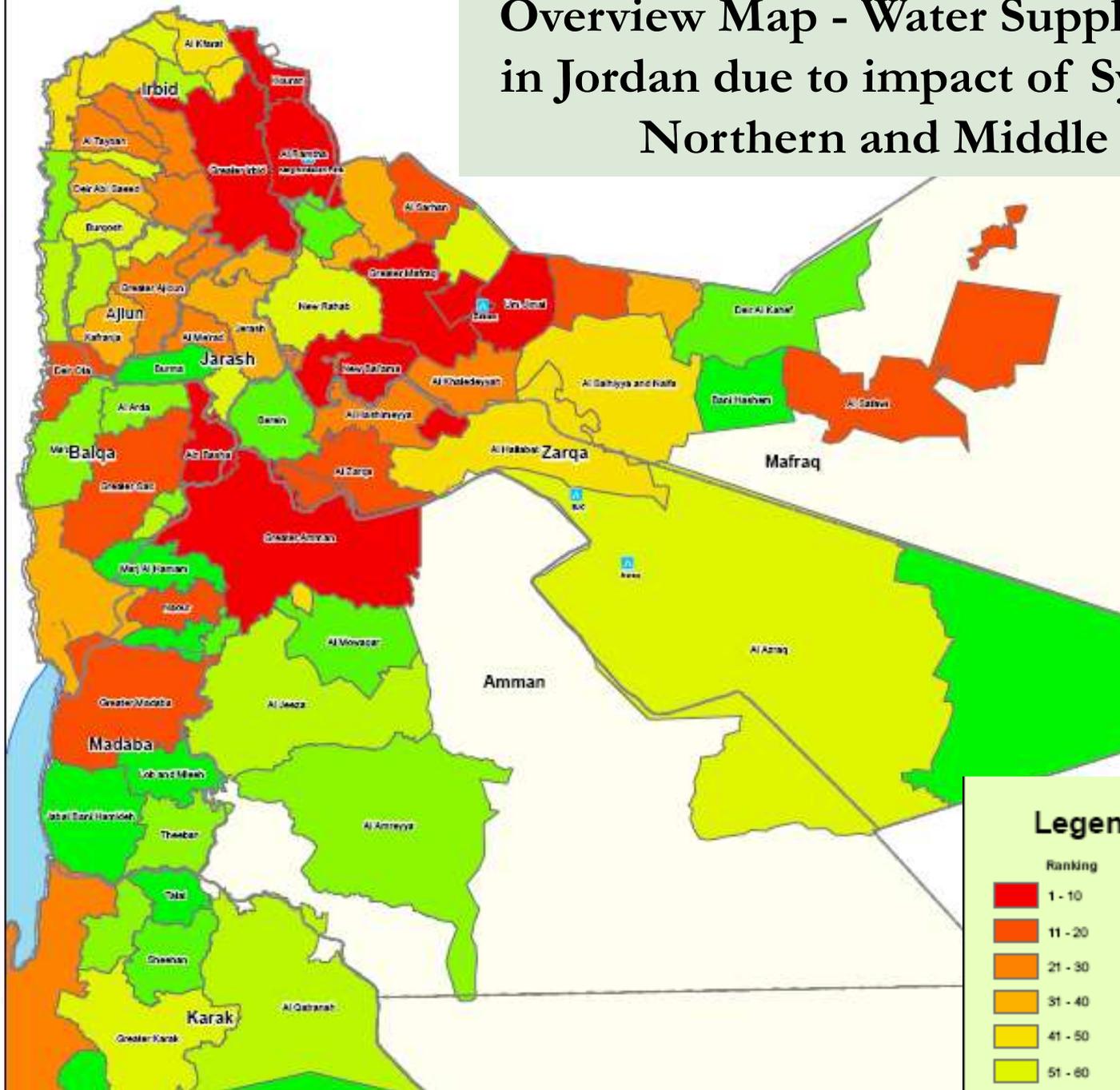
**Water Supply Vulnerability is based on this criteria (Put in GIS distributed to Municipalities)**



# Distribution of Syrian Refugees Registered - UNHCR



# 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,**

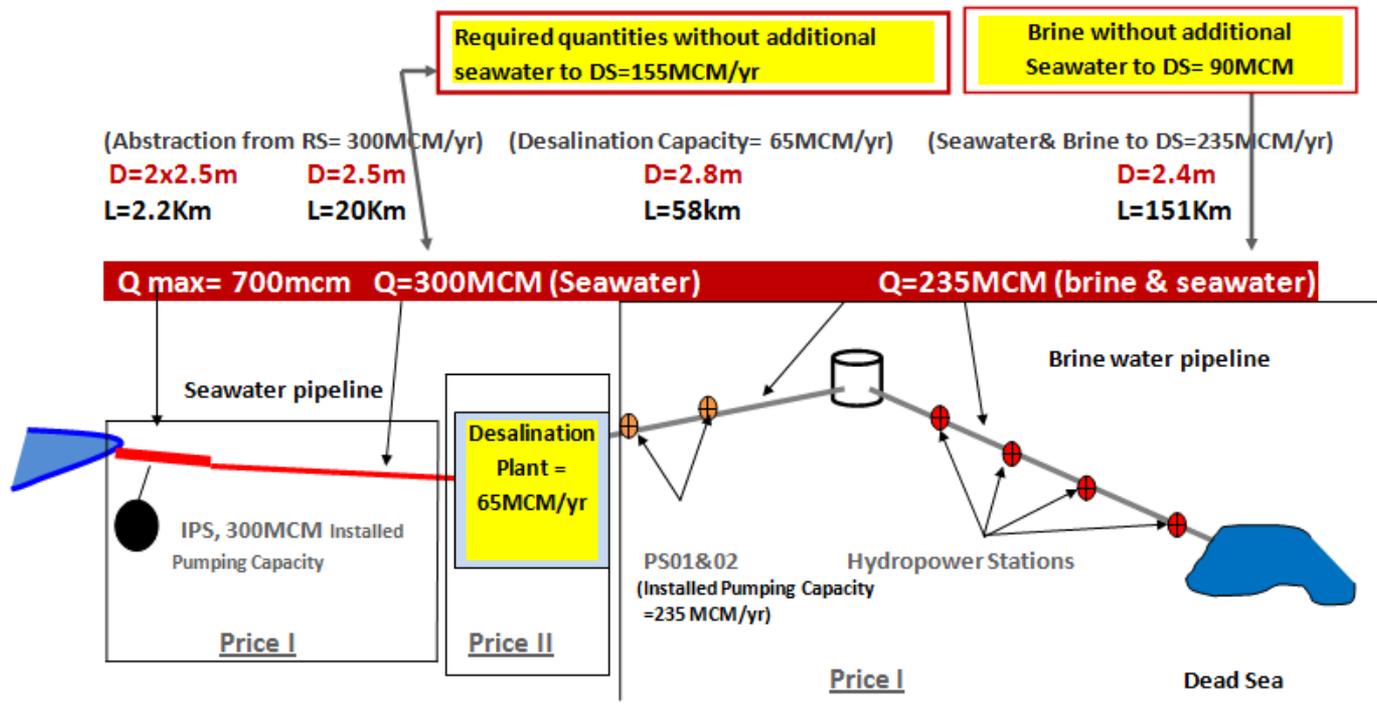
**The Government of Jordan, Israel and Palestine agreed to develop this non-conventional project or what is called the Red Sea – Dead Sea project.**

# **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 km<sup>2</sup>

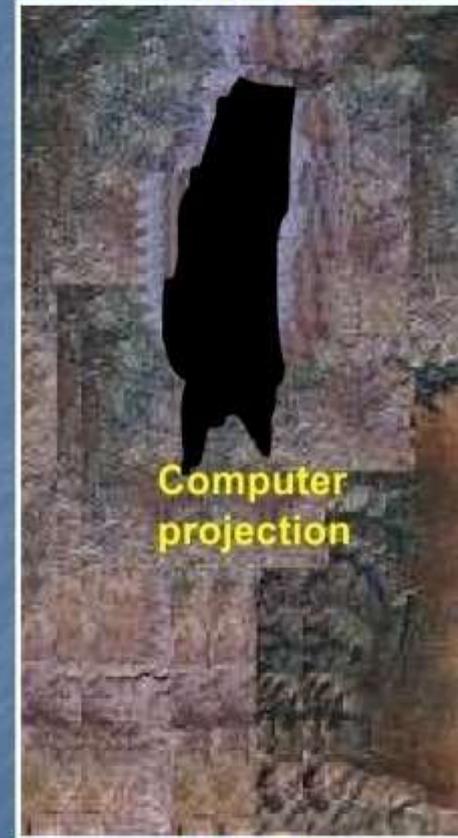
2006



- 420 m

~ 635 km<sup>2</sup>

2050



Computer  
projection

- 550 m

~ 520 km<sup>2</sup>

# 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