

# Water Diplomacy in Scarce Water Countries

By  
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## Are We Too Busy to Look after Water Challenges ?

The world is busy with a series of significant international crises, and despite of their importance, it would be a vital mistake to ignore regional challenges –such as shared water basins – that could become the real challenge in the near future, The Nile River is an example.



Water diplomacy can be defined as: A branch of diplomacy, applied to bilateral and multilateral negotiations on water issues between and among states. Water diplomacy is about dialogue, negotiation and reconciling conflicting interests among riparian states, as it involves the institutional capacity and power politics of states.

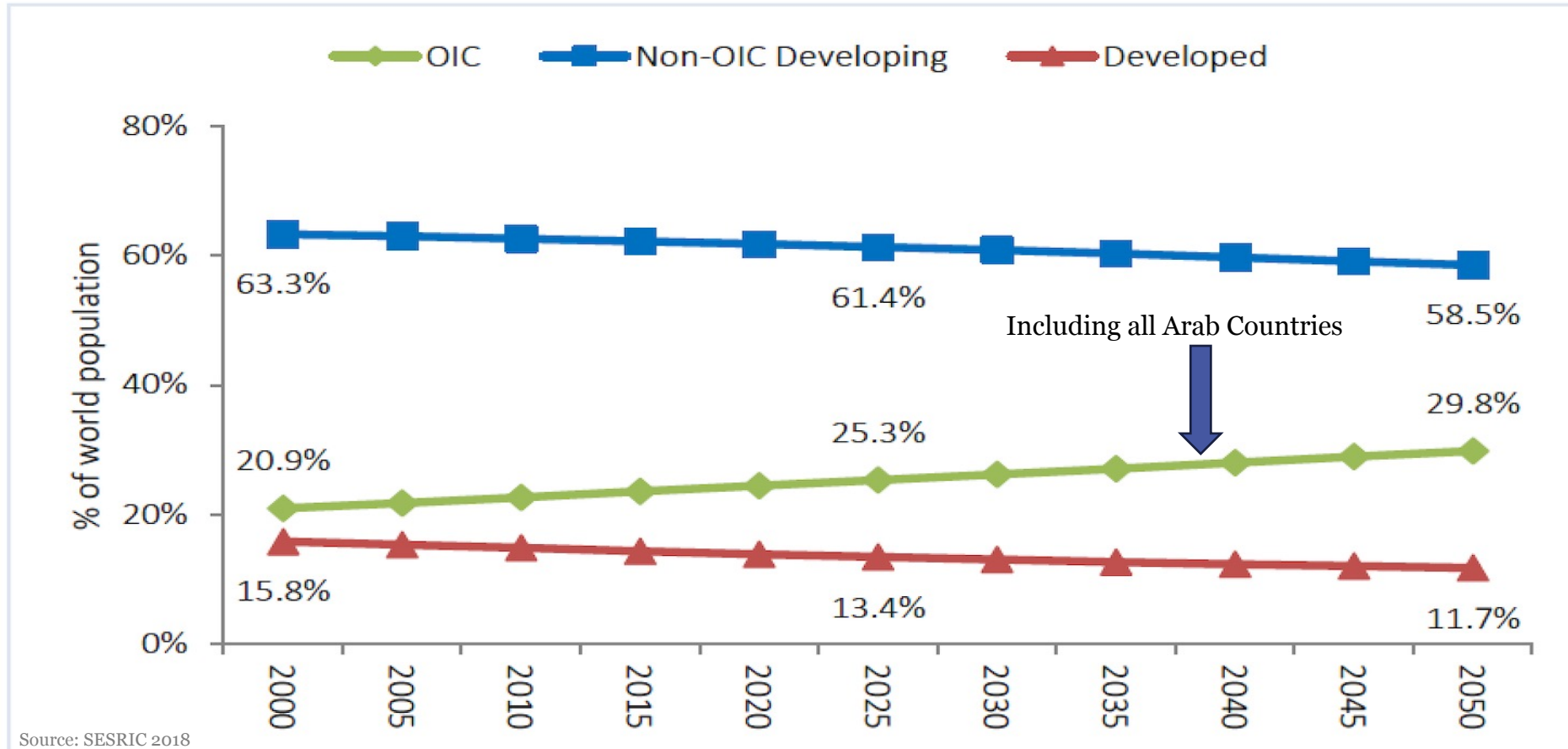
(UNESCO 2011)



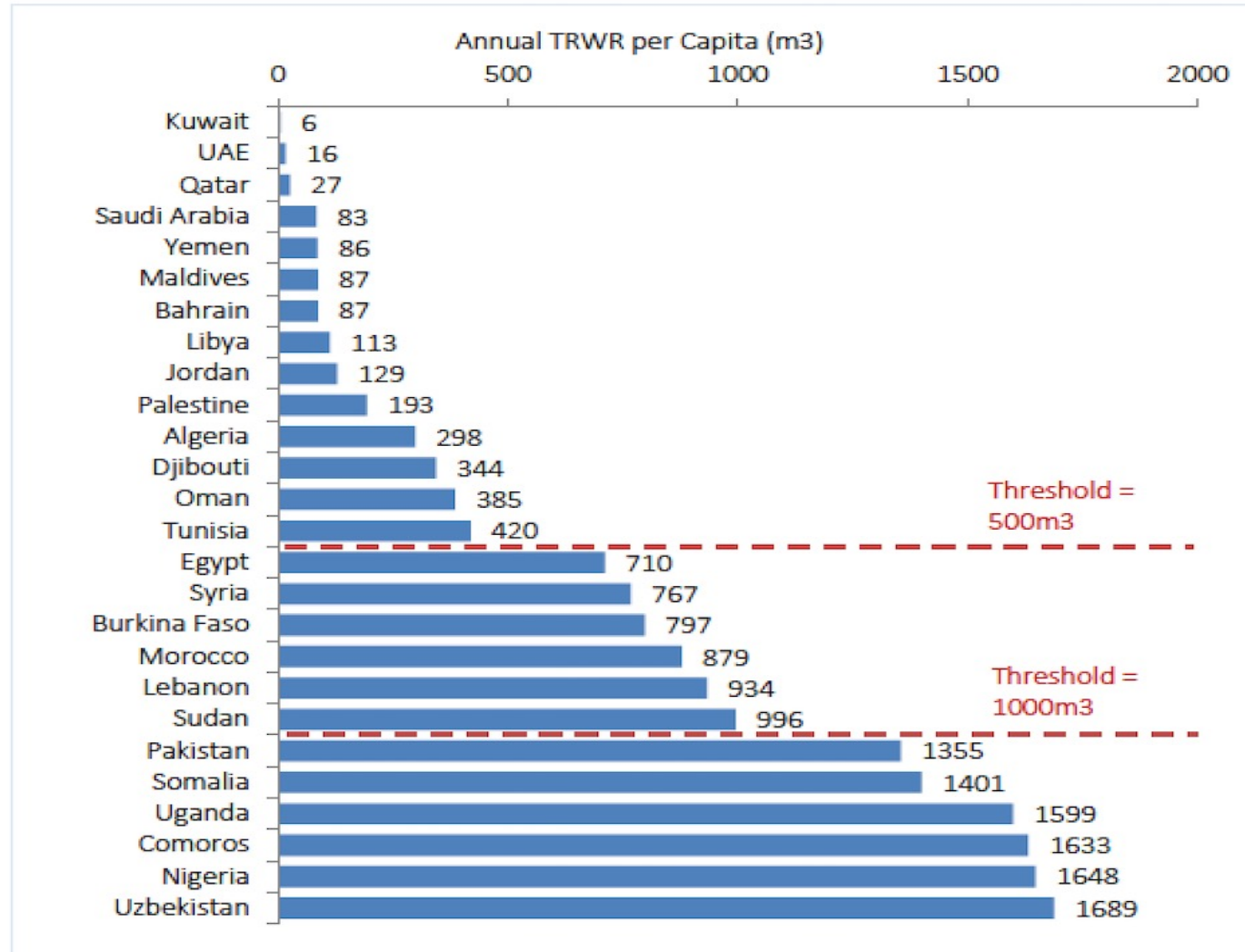
## Why MENA Countries Need to Work on Water Related Disputes ?

- Trends in population increase 2000-2050
- Countries suffering from water scarcity
- Total renewable water resources are decreasing due to climate change (TRWR)
- No. Of conflicts over fresh water is a concern to the stability of the MENA (the Nile, Euphrates, etc.)

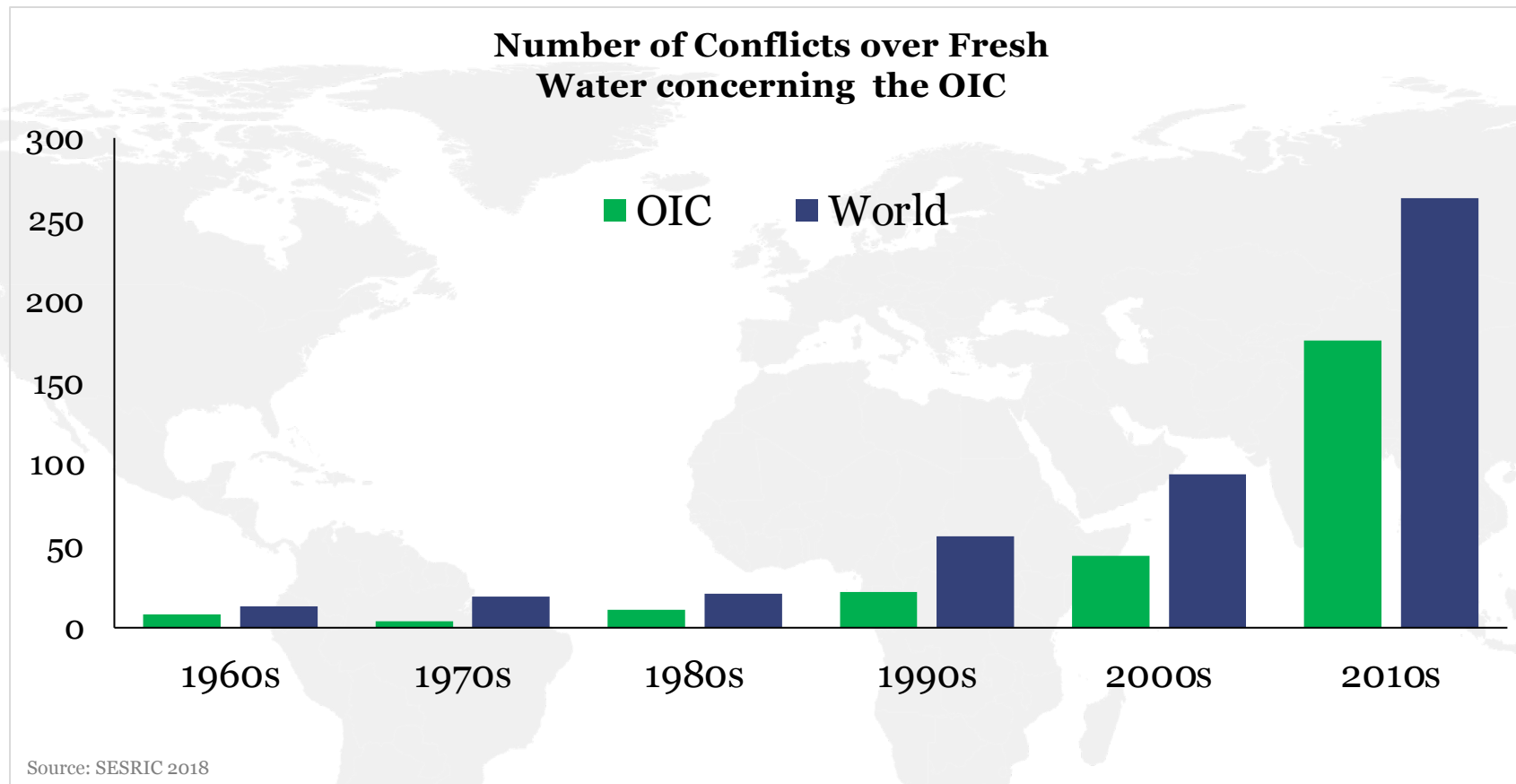
# Trends in Population 2000-2050



# Countries Suffering from Water Scarcity



# No. of Conflicts Over Fresh Water



# Factors Contributing to Water Conflicts

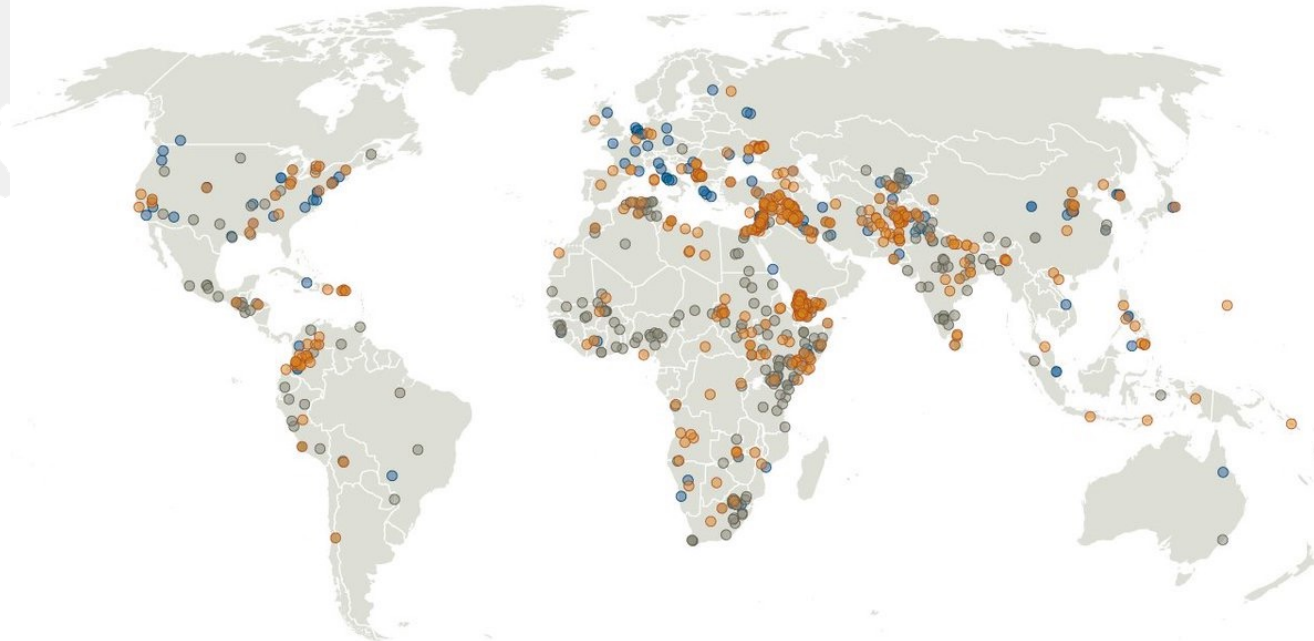
- High population growth rates and the need for food security
- International laws and conventions are not appropriate for scarce water countries
- Water availability at country level is problematic
- Public awareness about water importance and wise uses still below expectations

Water conflict, 3000BC - 2019AD

● Water resources or water systems  
as a **casualty** of conflict

● Water as a **trigger** or  
root cause of conflict

● Water as a **weapon**  
of conflict



Source: Pacific Institute, Water Conflict Chronology



# Facts led to current situation in MENA

- Most troubled Water Basins involve MENA Countries: Euphrates, Tigris, Jordan River and The Nile
- MENA countries shares vital groundwater aquifers.
- Shared water resources are a recurring point of discussion between riparian countries.
- No single river basin commission like Danube for example.
- Long-standing political instability in the regions has hampered regional cooperation on water.

# Facts led to current water situation!

- It is already too late to save some shared waters. Man-made diversions of upstream surface waters, dams and intensive irrigated agriculture , have already led to disappearance of major surface water flows. More cooperative action and dialogue is needed to sustain the remaining resources.
- Countries are more intent on dividing the shared water resources than on sharing them or the potential benefits derived from their 1shared use.
- Water remains a sensitive topic in the Arab region and data sharing between riparian countries is limited. As a result, there is no common understanding of the state and development of water availability, use and trends. On a national level, data is often lacking, incomplete or inaccessible, particularly when it comes to water use, which is rarely measured. Regionally, data from different countries can be contradictory, often because there are no unified standards for measuring hydrological changes. The fact that cooperation between riparian countries is limited further impedes the development of a common vision on shared water resources management.

## Role of Hydro-Diplomacy in Easing Disputes Among Riparian Countries

Foreign policy can help improve transboundary water governance and give policy makers a platform for making progress on crucial foreign policy interests.

**In particular, foreign policy makers must:**

- Encourage political leadership in supporting cooperation and conflict resolution,
- Impose needed institutional structures for comprehensive engagement;
- Strengthen the diplomatic track of transboundary cooperation by investing more in training and capacity-building and expanding efforts to build confidence in shared basins

## **Examples of Cooperation on Other Water Related Matters that can Facilitate Water Agreements Among Riparian Countries.**

- 
- Climate change and regional adaptation measures
  - Weather forecasting and monitoring.
  - Environmental protection along the basin boundaries
  - Combating desertification
  - Promote water-energy-food-environment nexus
  - Exchange of scientific cooperation and visit within the academia
  - Collection and exchange of water data and related information

## Can Hydro-Diplomacy be effective?

Yes, but it needs time and a lot of efforts, water-related conflict prevention and resolution is largely the outcome of processes of research and investigations, negotiation, mediation and understanding of issues.

It requires profound understanding of politics, the social, cultural, economic and environmental conditions, supported by a sound assessment while promoting the Integrated Water Resources Management (IWRM) principles.

# The Case of Jordan

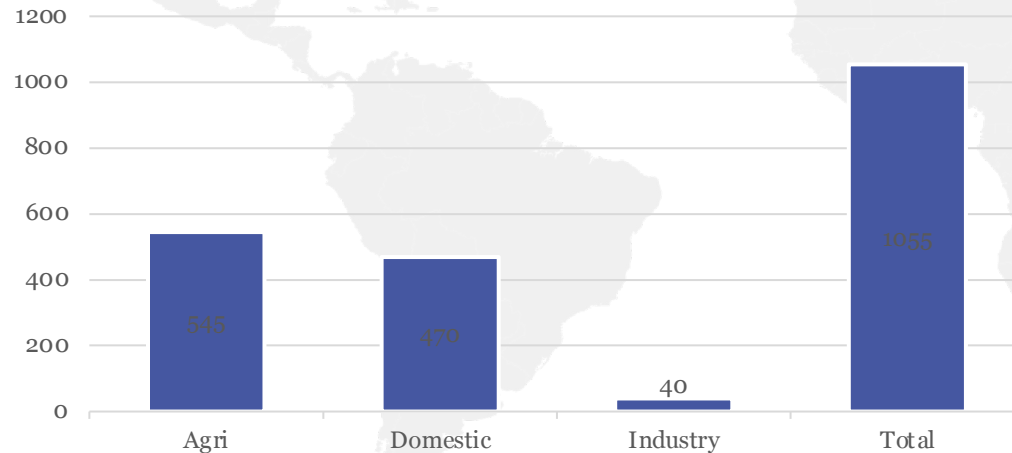


**OVERALL PICTURE OF THE WATER SITUATION IN  
THE COUNTRY**

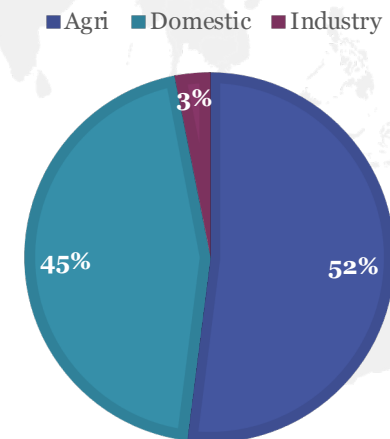
# The Case of Jordan

Jordan is one of the scarcest countries in the world with less than 100 m<sup>3</sup>/capita /yr. in 2022 vs 3600 m<sup>3</sup>/c/yr. before 1948.

**TOTAL AMOUNT OF WATER USE IN MCM-2020**



**WATER USES IN JORDAN 2020**



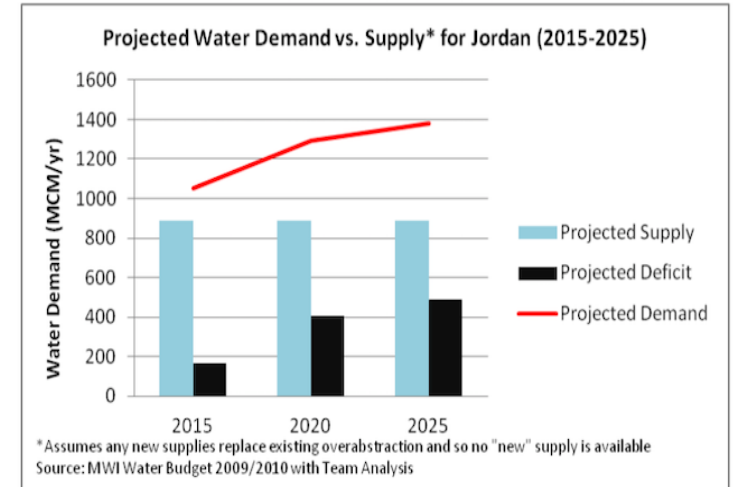
# The Case of Jordan

What is the problem? **Demand exceeds supply with limited supply options!**

What does it mean? **Citizens do not have enough water and must live under rationing programs.**

**The challenge** is how to satisfy demand with sustainable supply in an integrated manner at an affordable price, while achieving SDGS no. 6 & 13.

**For that**, the sector needs huge capital and resources investments which are not available.

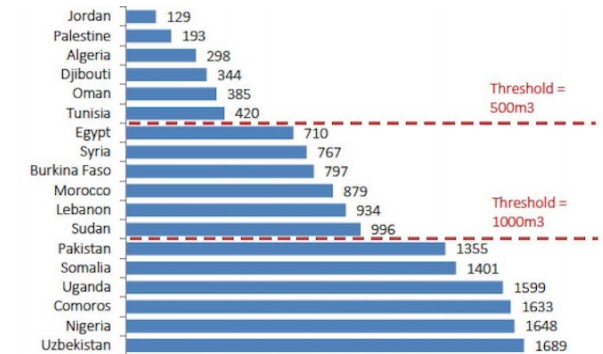




# The Case of Jordan

## Major Challenges

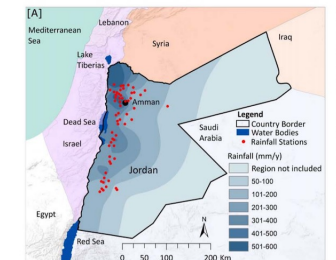
- Limited water resources enough for 2.5 million with current population of 11 million.
- Per capita water availability is less than 100 m<sup>3</sup>/yr..
- 92% of Country's area is desert with less than 50mm/yr
- Population growth rate is relatively high about 2.5%
- Waves of refugees ruined long-term planning.
- Public expenditure on the water sector has ranged between 3% and 6% of GDP, among the highest worldwide.
- The gap between current tariff and cost recovery is too big to be bridged.
- Groundwater over-pumping 100% beyond safe yield



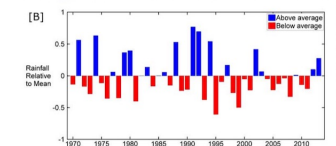
# The Case of Jordan

## Major Challenges

- Shared water basins are politically and technically complicated, where 40 percent of Jordan's water resources is shared
- Climate change threatening resources sustainability. Studies showed 0.41 to 1.2 mm/yr. decrease especially in East and Southwest of the country for the last 44 years.
- Demand exceed supply by 50% at least for the last 20 years with limited sustainable water supply options



trends and found an average decrease of 0.11 mm/yr, with four stations showing a statistically significant ( $p < 0.10$ ) decrease of 0.61 mm/yr. Overall, these studies analyzed data from a limited number of stations and the few reported statistically significant declines in annual rainfall were in the range of 0.18–0.61 mm/yr. In addition, prior studies have shown either no trend or an overall decreasing rainfall trend ranging from 0.11 to 0.40 mm/yr but they were not statistically significant. No trends in rainfall variance over time were reported.



In this work, we use a comprehensive 44 year daily rainfall data set from 58 stations covering 1970–2013 to assess the interannual trends and spatial patterns in rainfall, variability of daily rainfall, and maximum daily rainfall. Our results focus on 58 stations covering the urbanized and agricultural western portion of the country, as rainfall data were not available in the very arid, low-population eastern portion of Jordan. We use nonpara-

# The Case of Jordan

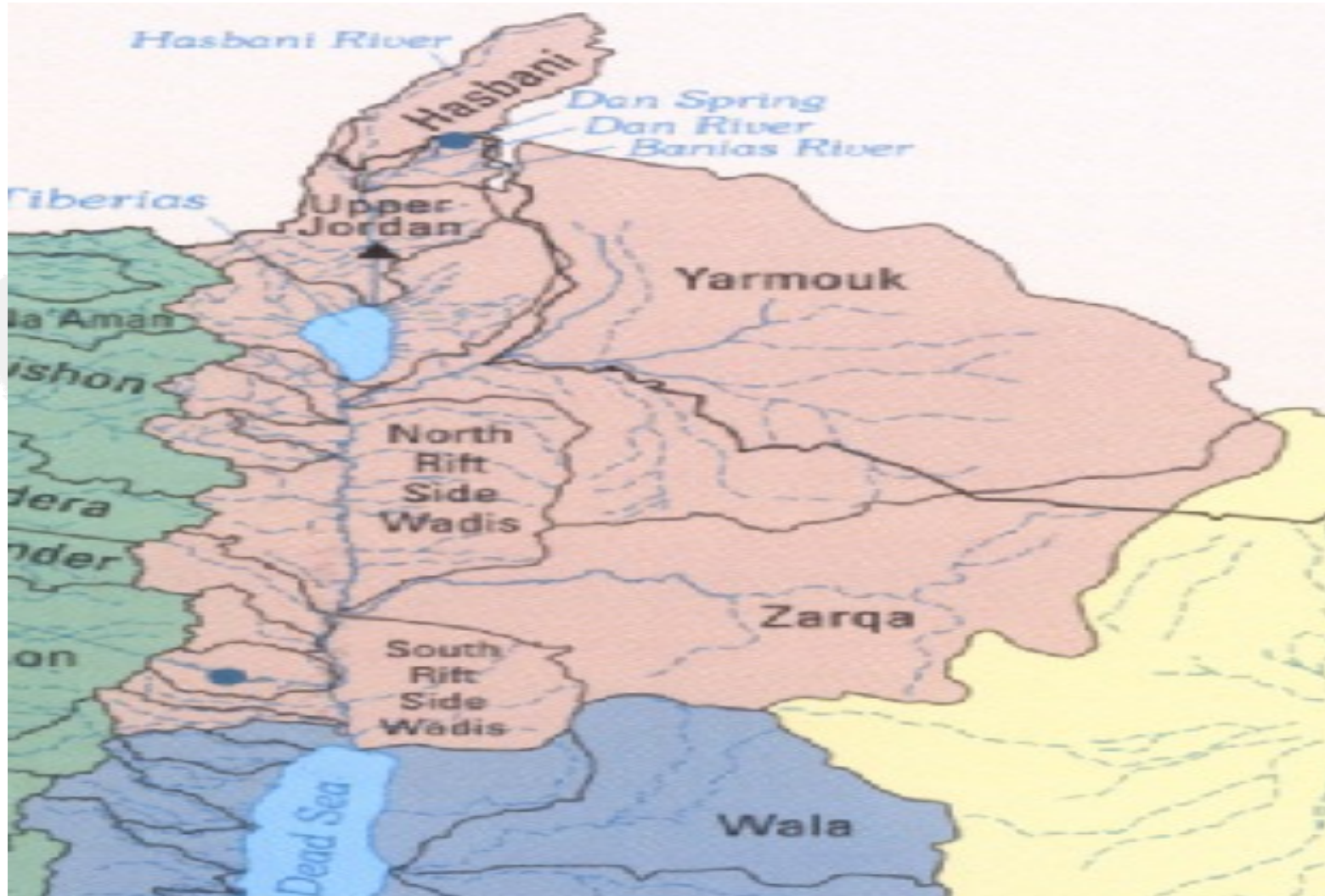


DESPITE OF ALL CHALLENGES, WATER  
SCARCITY, INFLUX OF REFUGEES &  
CLIMATE CHANGE, THE SECTOR  
DEMONSTRATED GOOD RESILIENCE  
DURING THE SYRIAN REFUGEE'S CRISIS

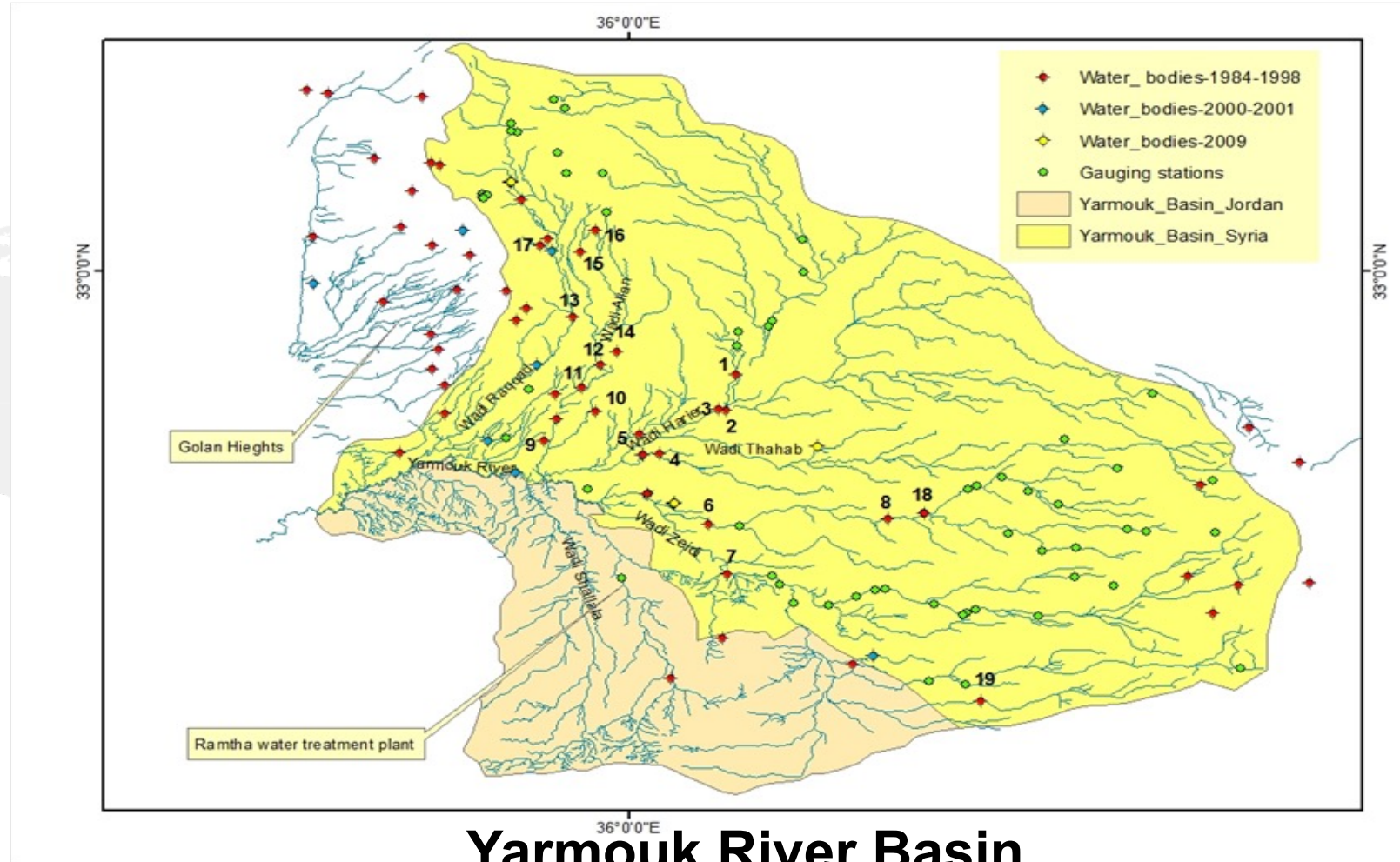
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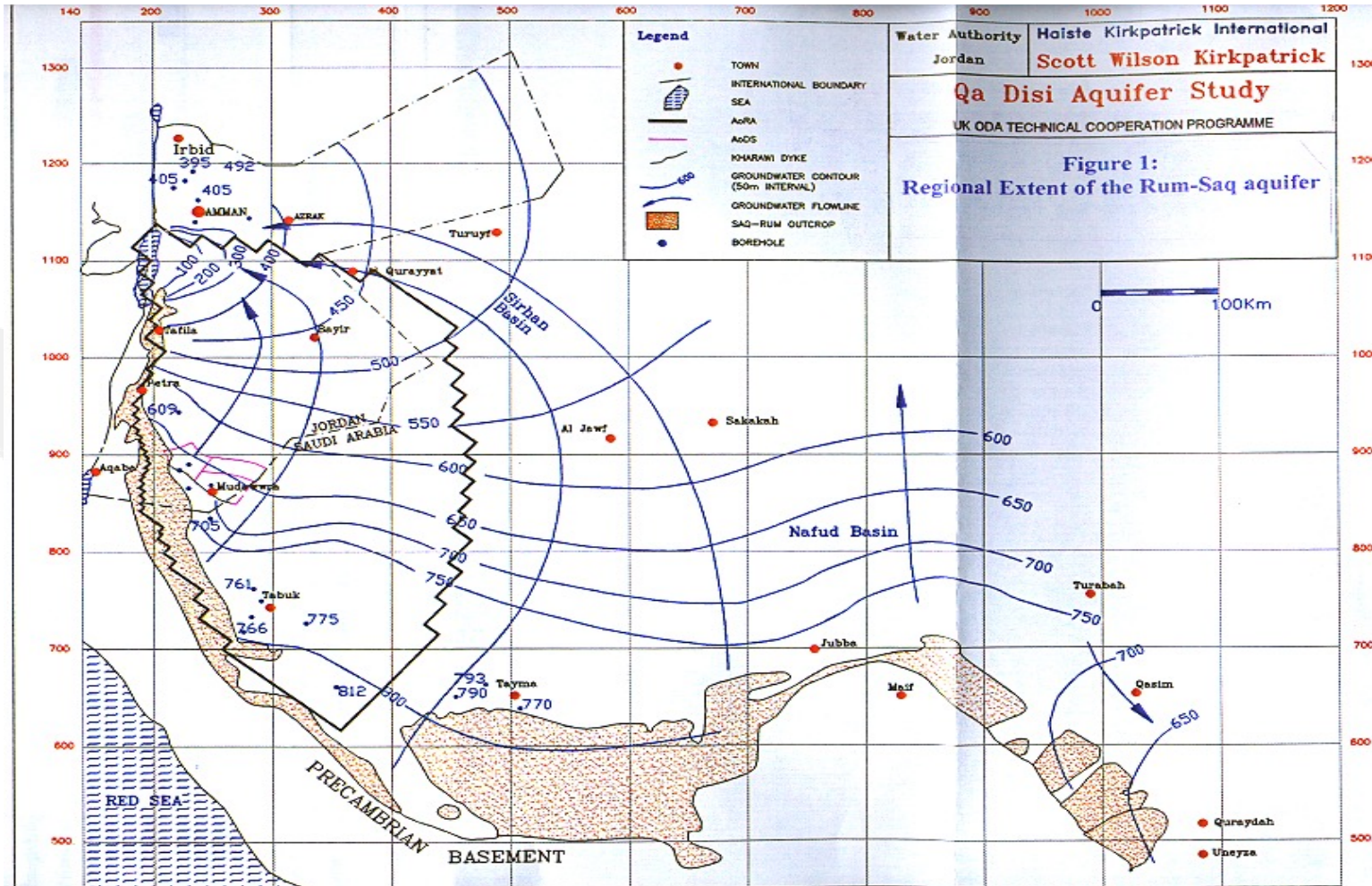
## Jordan shared water resources

- The Jordan River (Jordan, Palestine, Syria, Lebanon and Israel).
- The Yarmouk River (Jordan, Syria and Israel)
- The Underground water aquifer in South Jordan (KSA and Jordan).
- Jordan has bilateral agreements with all these countries, namely, Syria, Israel and KSA. In addition, Jordan signed agreements for regional projects e.g. Red Sea-dead Sea Project



**The Jordan River Basin**





**Disi groundwater Basin**

The Dead Sea is Drying Up





International & Regional  
Cooperation is needed  
to save it

# The shrinking of the Dead Sea

1960



- 390 m

~1020 km<sup>2</sup>

2006



- 420 m

~ 635 km<sup>2</sup>

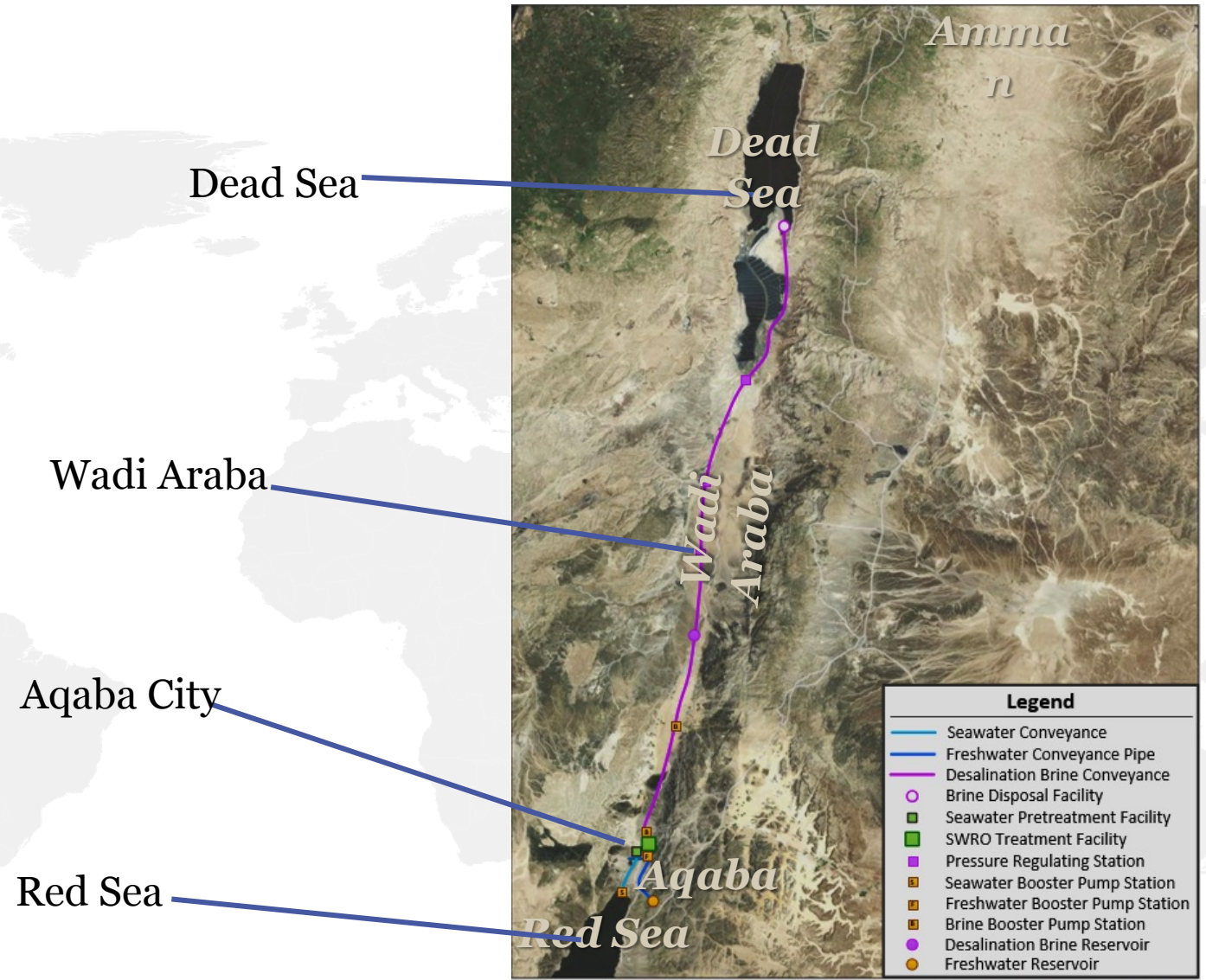
2050



- 550 m

~ 520 km<sup>2</sup>

# Dead Sea-Red Sea Project



# The Case of Jordan

## The Way Forward : No Magic Solution

- Public awareness and demand management is a major element towards water use efficiency
- Rehabilitation of networks and reduction of NRW.
- Water tariff continues to be an efficient tool for efficient utilization of water resources
- Energy efficiency and renewable energy should continue to be a major policy to reduce cost and save the environment
- Continue in developing and upgrading wastewater reuse for Agri and Industry
- Water harvesting at all levels of use
- Eliminate gradually groundwater over pumping
- Supply options need to be selected carefully including regional ones.
- Public private partnership to enhance water and sanitation management and operations
- Digital transformation of the water sector as a game changer
- Adopt smart technology, knowledge transfer and innovation solutions to leverage water efficiency for domestic and irrigated agriculture
- Continue working on achieving SDGs (no. 6).

Thank you

