



Empowering Water Reuse in The Arab Region

What Should Be Done?

Dr. Youssef Brouziyne

Head of MENA Office

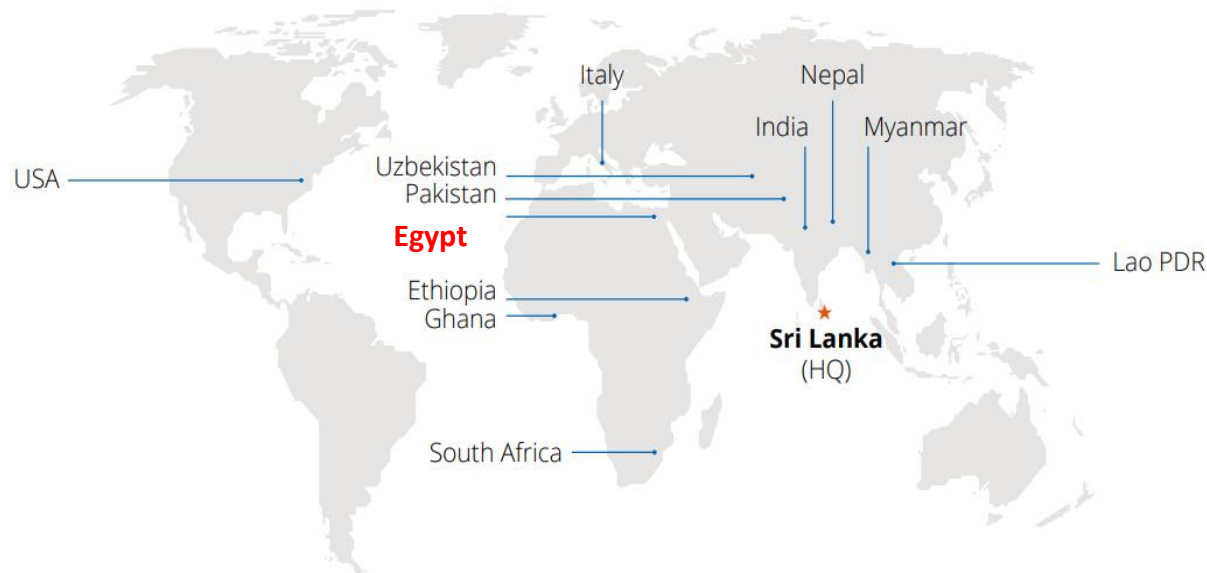
International Water Management Institute (IWMI)

تنظيم



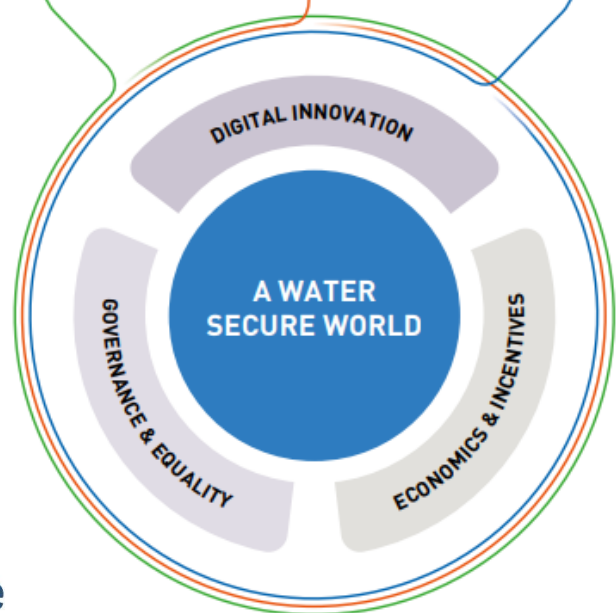
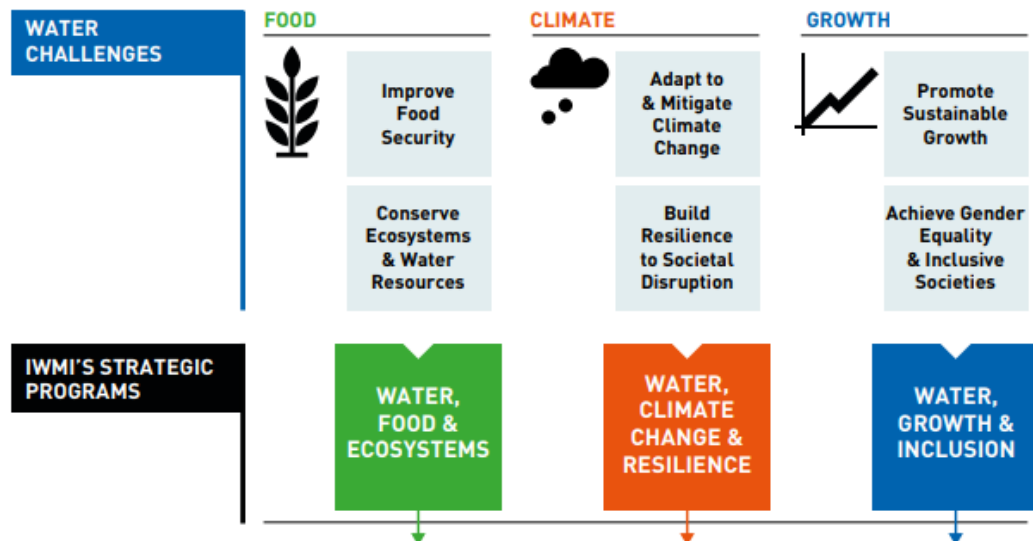


IWMI Offices



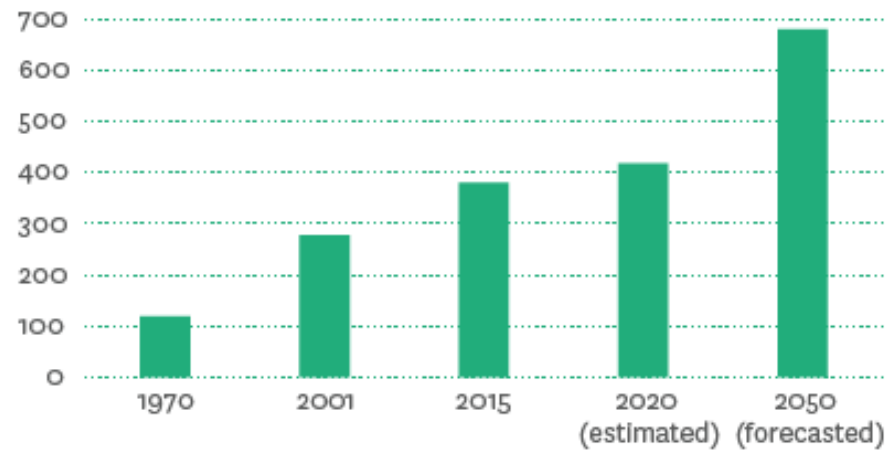
IWMI is an international, research-for-development organization, with offices in **15 countries** and a global network of scientists operating in more than **55 countries**. For over three decades, our research results have led to **changes in water management** that have contributed to social and economic development.

IWMI's Strategy

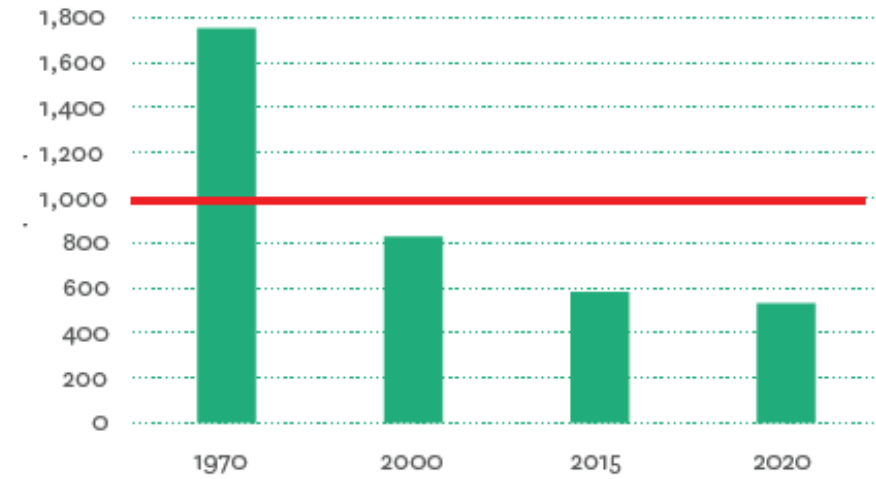


IWMI Response to Water Systems challenges
Including in MENA





Population in the region (millions of inhabitants).
Source: UN 2019; UN 2018.

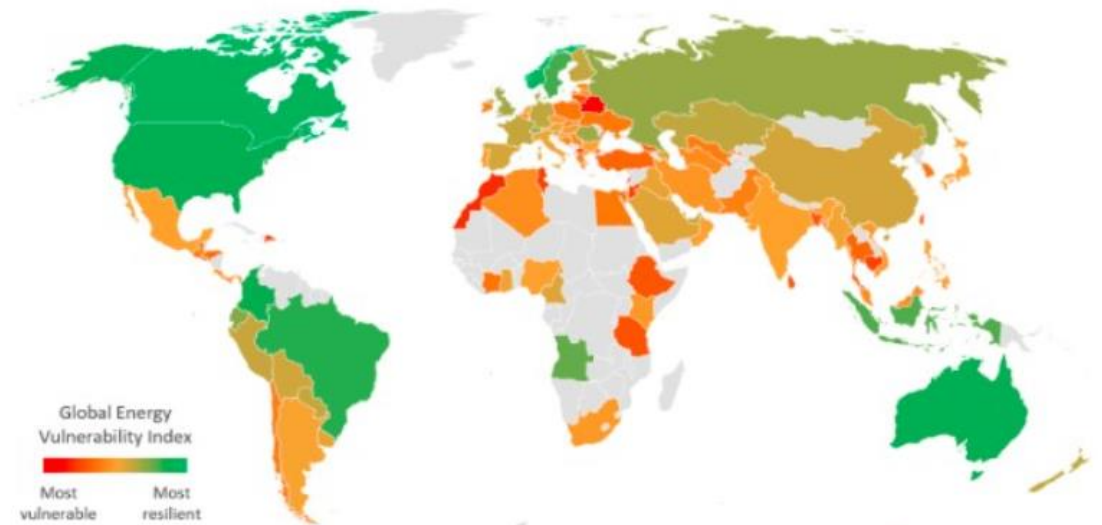


Water resources per capita in the region; red line shows threshold for water scarcity. Source: FAO 2022



Yield gap for a combination of major crops (FAO,2011)

EUROMONITOR
INTERNATIONAL



Note: The Index ranks the performance of 100 economies by evaluating their vulnerability to global energy pressures and potential energy market shocks

Passport
EUROMONITOR
INTERNATIONAL

Global Energy Vulnerability Index, (EUROMONITOR, 2023)



Challenges.....and Opportunities

Water Scarcity

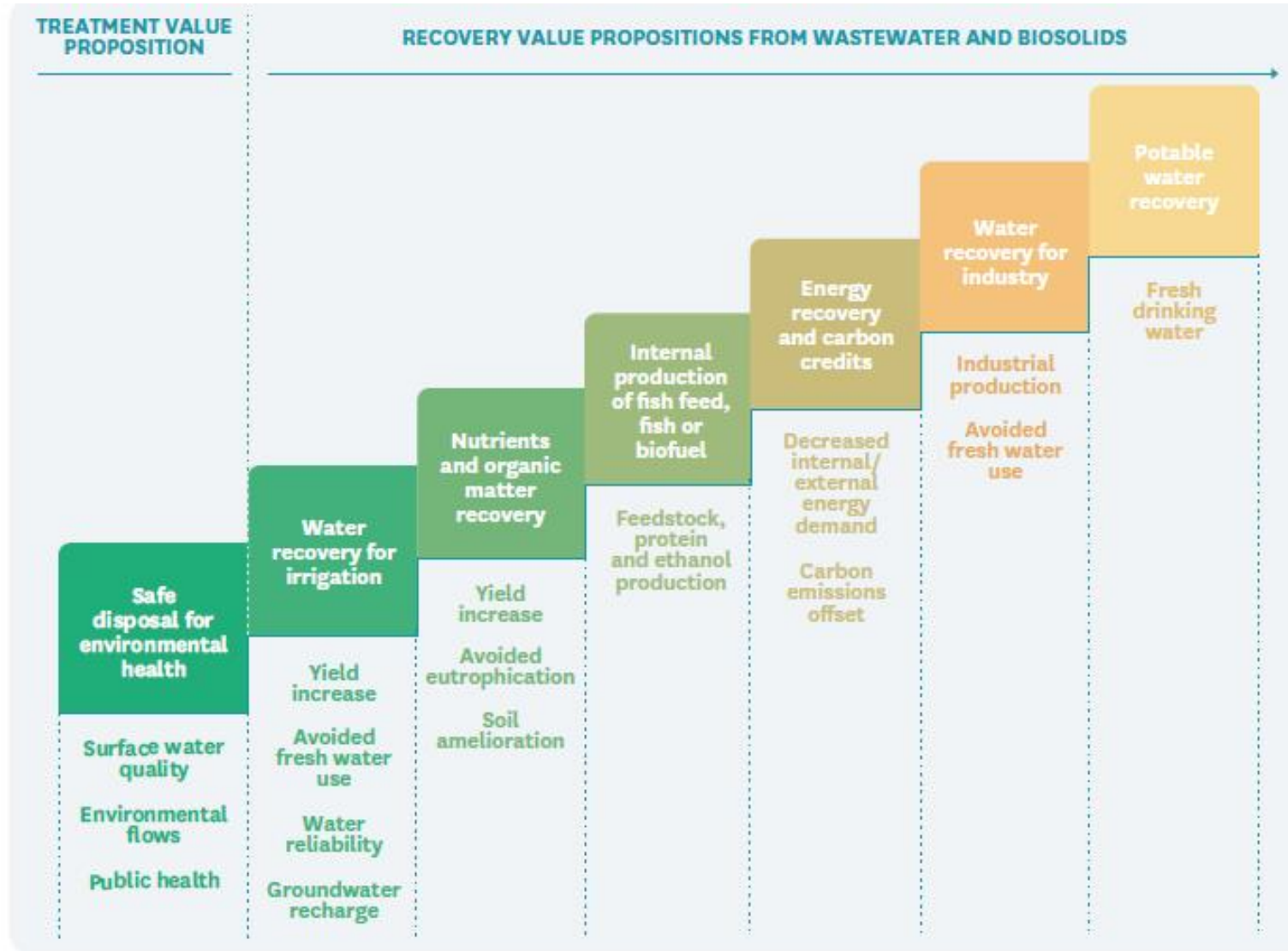
Pollution

Food Security

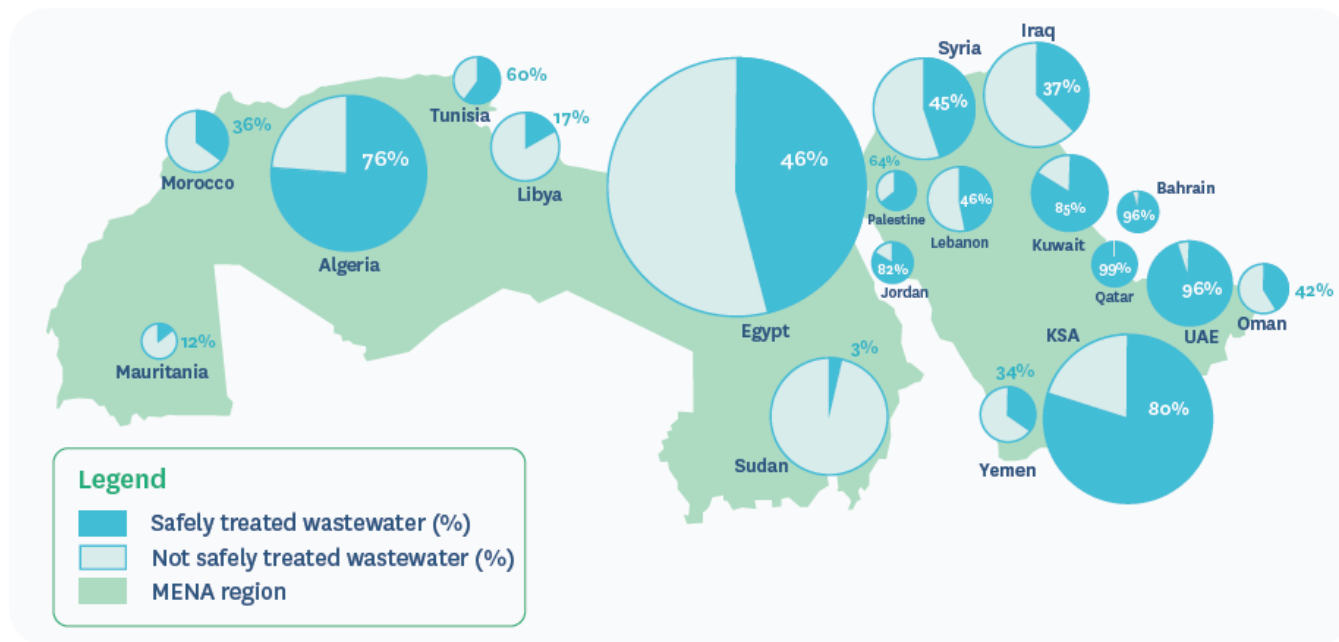
Energy Security



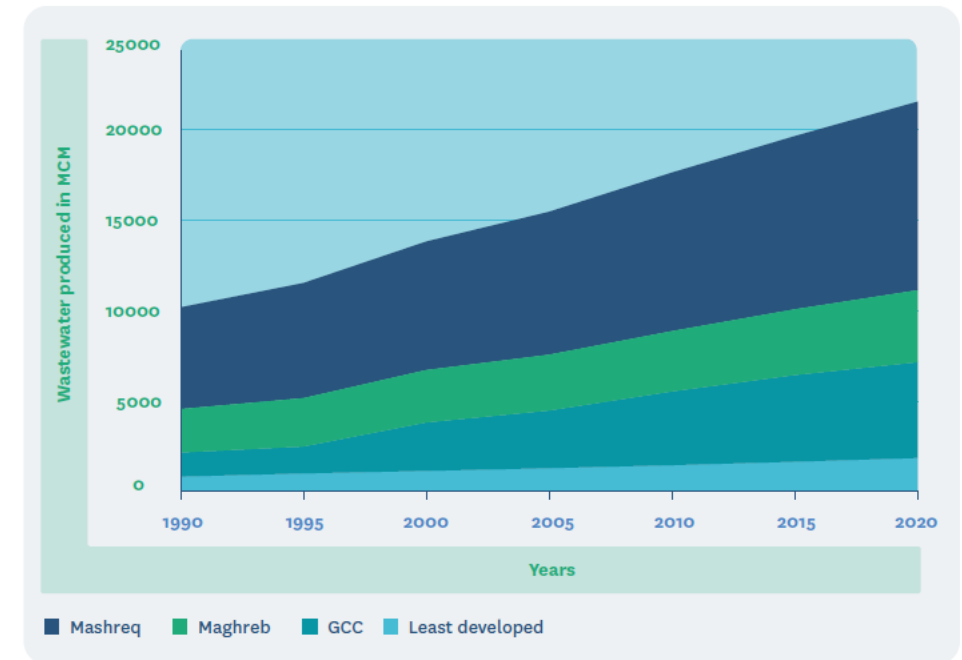
Water Reuse



Ladder of increasing value propositions related to water reuse based on increasing investments in water quality and/or the value chain. Source: Drechsel et al. 2015



Proportion of domestic wastewater safely treated in 2020. Source: WHO 2021.



Trends in municipal wastewater generation in selected MENA countries.



Challenges in the face of Reuse expansion

**low social
acceptance**

**Incomplete
economic analysis
& limited
financial
sustainability**

**Unclear
regulations and
ineffective
implementation**

**Fragmented and
partial planning
and governance**



The large array of stakeholders involved in the governance of agricultural water reuse systems.
Source: Nassif and Tawfik 2022

Other Learnings about Policy and Institutional barriers against Reuse development



Wastewater management and reuse are a second priority

Lack or absence of policy enforcement and implementation

Policy and institutional measures to regulate wastewater reuse often over-stringent

The overlapping roles and responsibilities, and the absence of specialized institutions to monitor water reuse in the different sectors

Centralization and increased regulation of water quality and water flows

Low private sector participation



Some recommendations



Creating spaces for local stakeholders to participate in policy and institutional development that concern their localities.

Entrenching the concepts of transparency and collaboration between the different institutions to develop a multi-sectoral water policy that is inclusive of their various needs.



Creating an enabling environment to encourage private sector involvement. This includes clear roles and responsibilities for the various institutions in the sector, policy incentives, and long-term concession contracts.



Ensuring that each policy item must have a corresponding institutional action to avoid overlapping of responsibilities.

Expanding water reuse in the Middle East and North Africa

Policy Report

Javler Mateo-Sagasta, Marle Helene Nassif,
Mohamed Tawfik, Solomie Gebrezgabher,
Everisto Mapedza, Nisreen Lahham and
Mohamed Al-Hamdi



Water reuse in the Middle East and North Africa

A sourcebook

Edited by:
Javier Mateo-Sagasta (IWMI)
Mohamed Al-Hamdi (FAO)
Khaled AbuZeid (AWC)



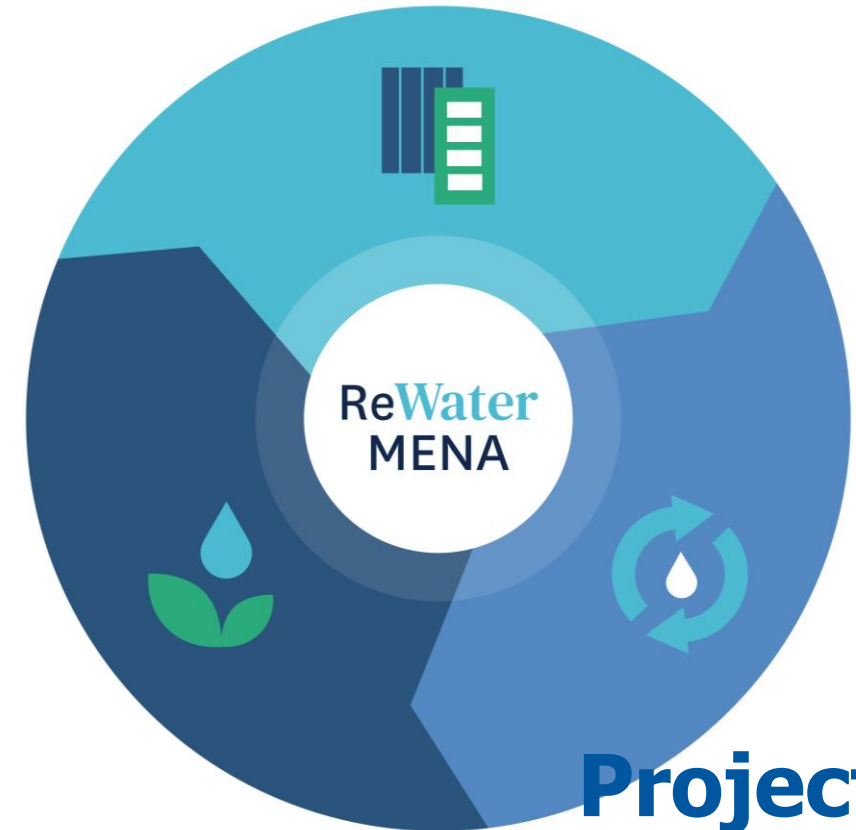
إعادة استخدام المياه في الشرق الأوسط وشمال أفريقيا كتاب مرجعي

تحرير:
خافيير ماتيو ساغاستا
(المعهد الدولي لإدارة المياه)
محمد الحمدي
(منظمة الأغذية والزراعة)
خالد أبو زيد
(المجلس العربي للمياه)



Project Coordinator: Mr. Javier Mateo-Sagasta

Senior researcher and coordinator-Water Quality (IWMI)



Project
2018 - 2022

<https://rewater-mena.iwmi.org/>



E-ReWATER Project

2023 - 2025

AI and Earth Observation data-based tool to enhance wastewater reuse in MENA



Project Coordinator: Dr. Naga Velpuri
Senior researcher in Digital Innovation (IWMI)



Thank You!

شكرا لكم!

Youssef.brouziyne@cgiar.org

تنظيم

