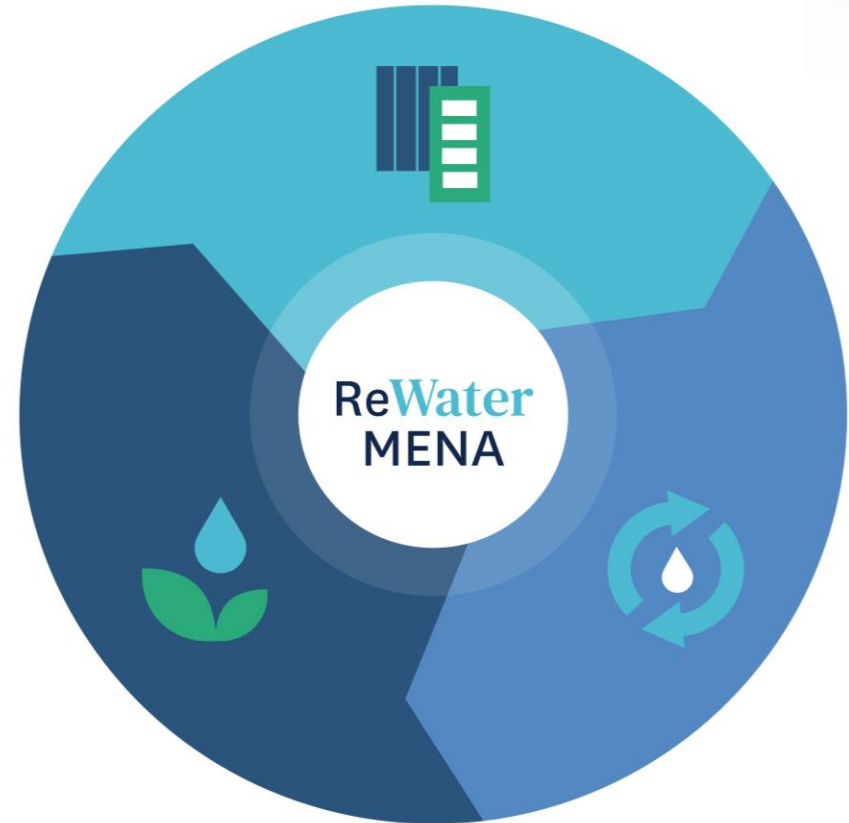




More and safer water reuse in the Arab region

Javier Mateo-Sagasta

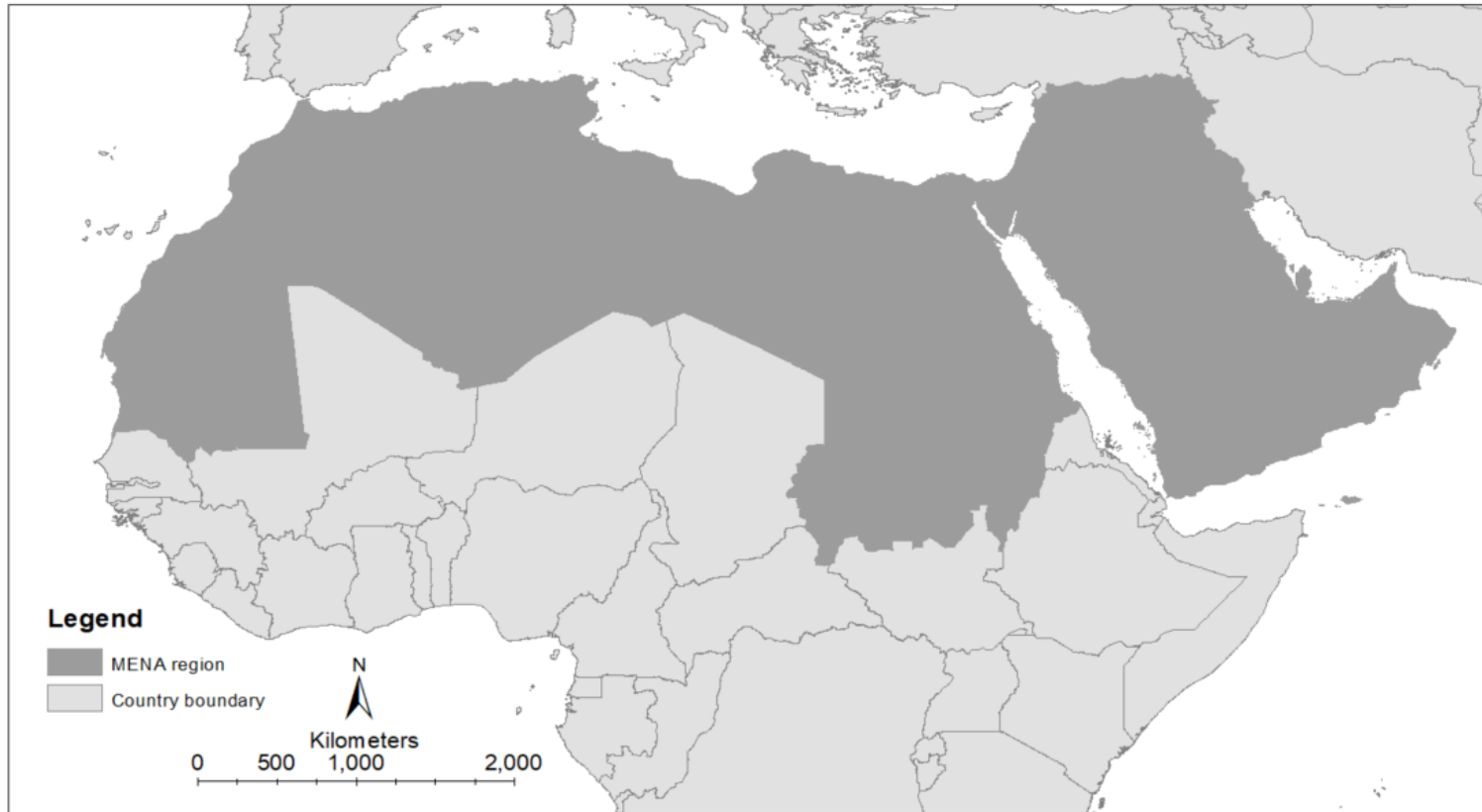
Senior researcher and coordinator –Water Quality
International Water Management Institute (IWMI)



Food and Agriculture
Organization of the
United Nations

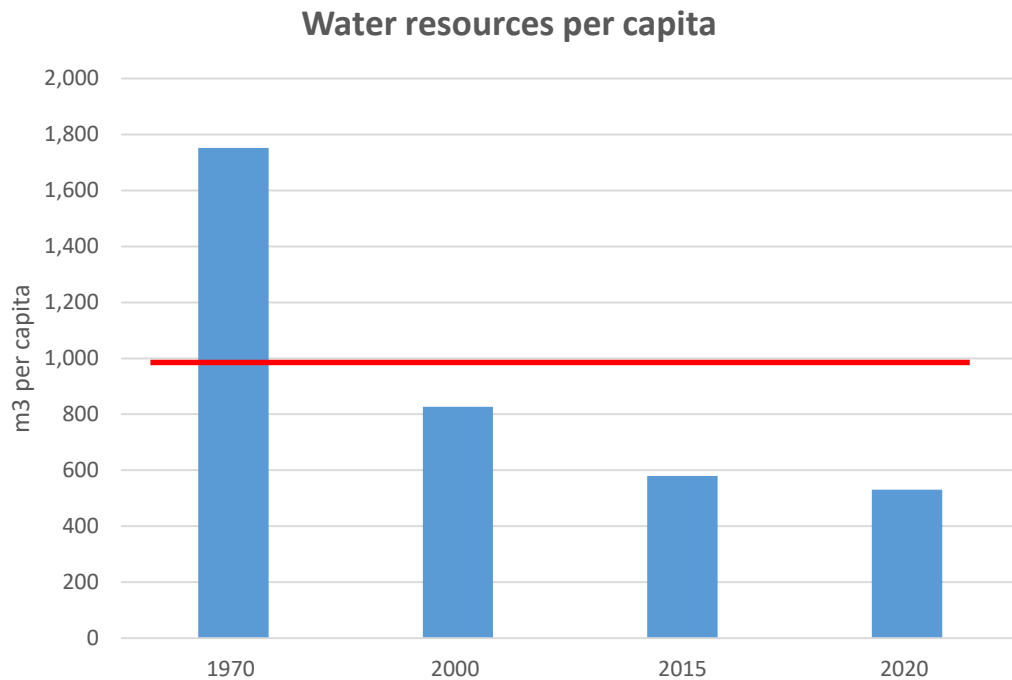


Arab countries in MENA Region



19 countries: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates and Yemen.

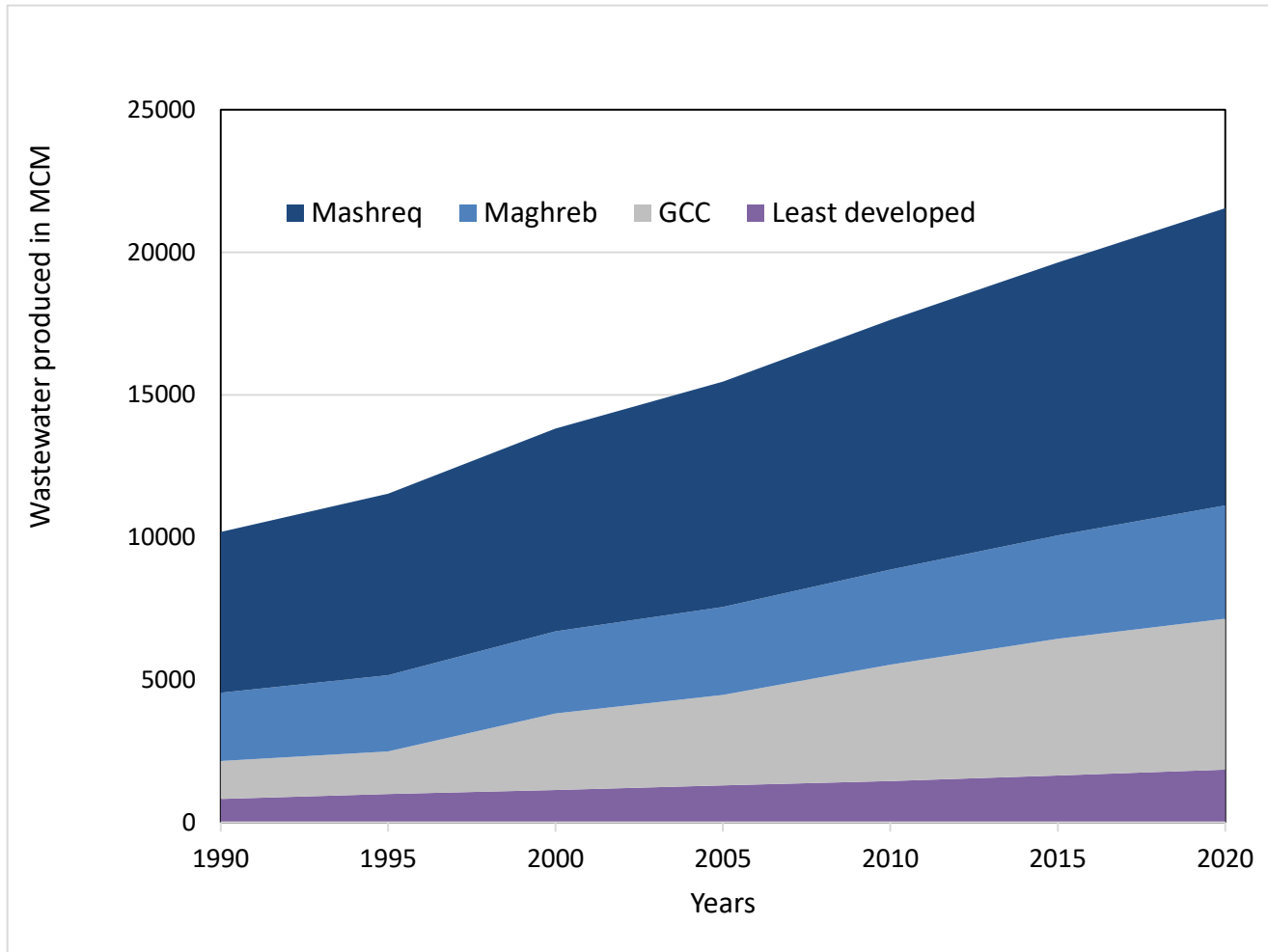
1-The water challenge in the Arab region



2-Wastewater is part of the problem and part of the solution



Wastewater production grows as population, urbanization and income per capita grow

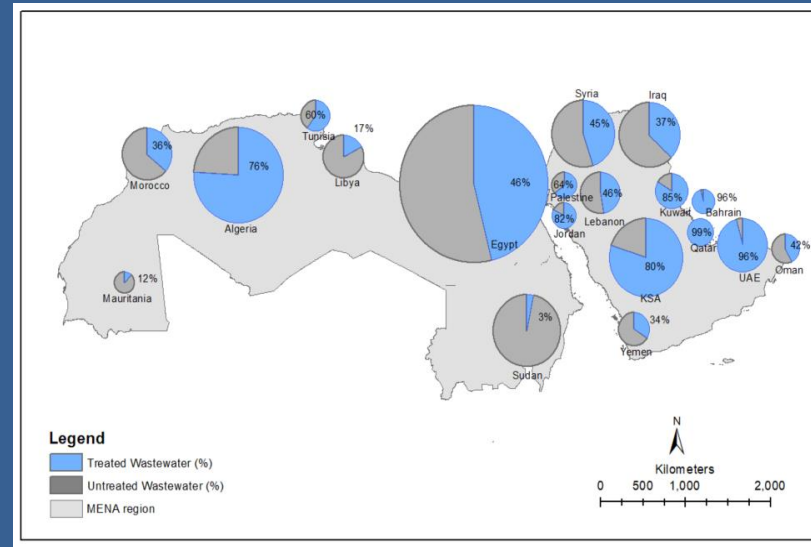


Note: Mashreq includes: Iraq, Jordan, Lebanon, Palestine, Syria and Egypt; Maghreb includes: Algeria, Libya, Mauritania, Morocco and Tunisia; GCC (Gulf Cooperation Countries) includes: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates), Least developed countries include: Sudan and Yemen

Still a long way to go in wastewater treatment to catch up with population growth

Municipal wastewater produced
21.5 km³

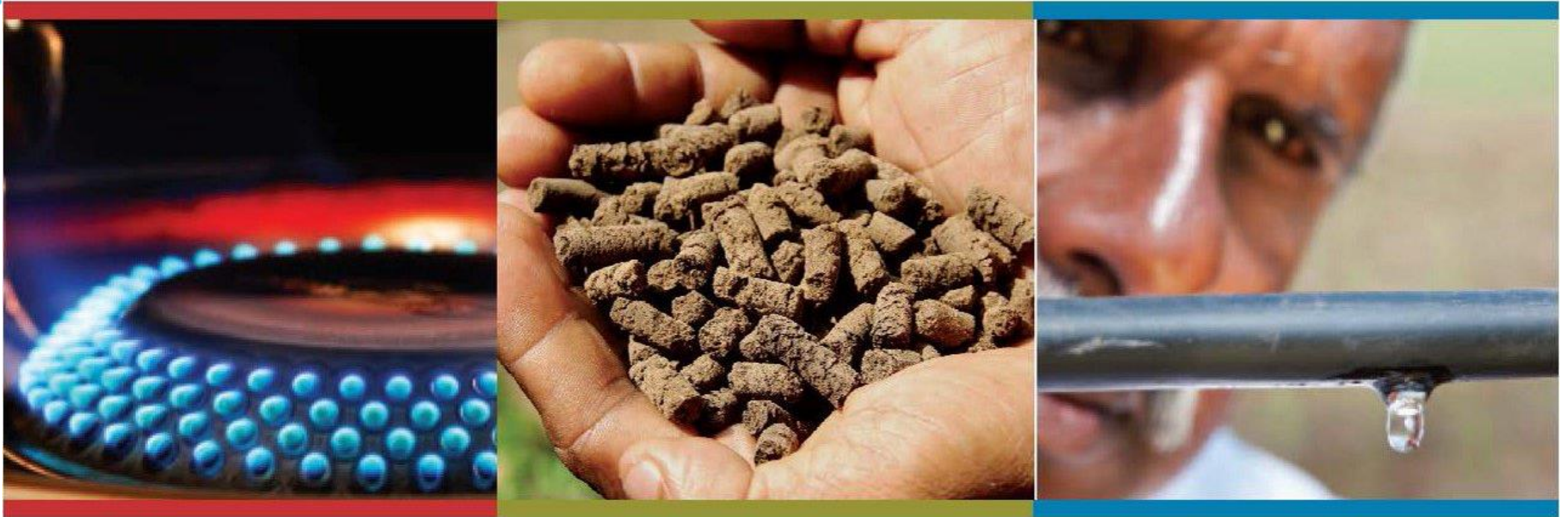
Safely treated
60%



Source: AQUASTAT, AWC 2029, GWI, WHO 2021

Even with wastewater treatment some pollutants are poorly removed

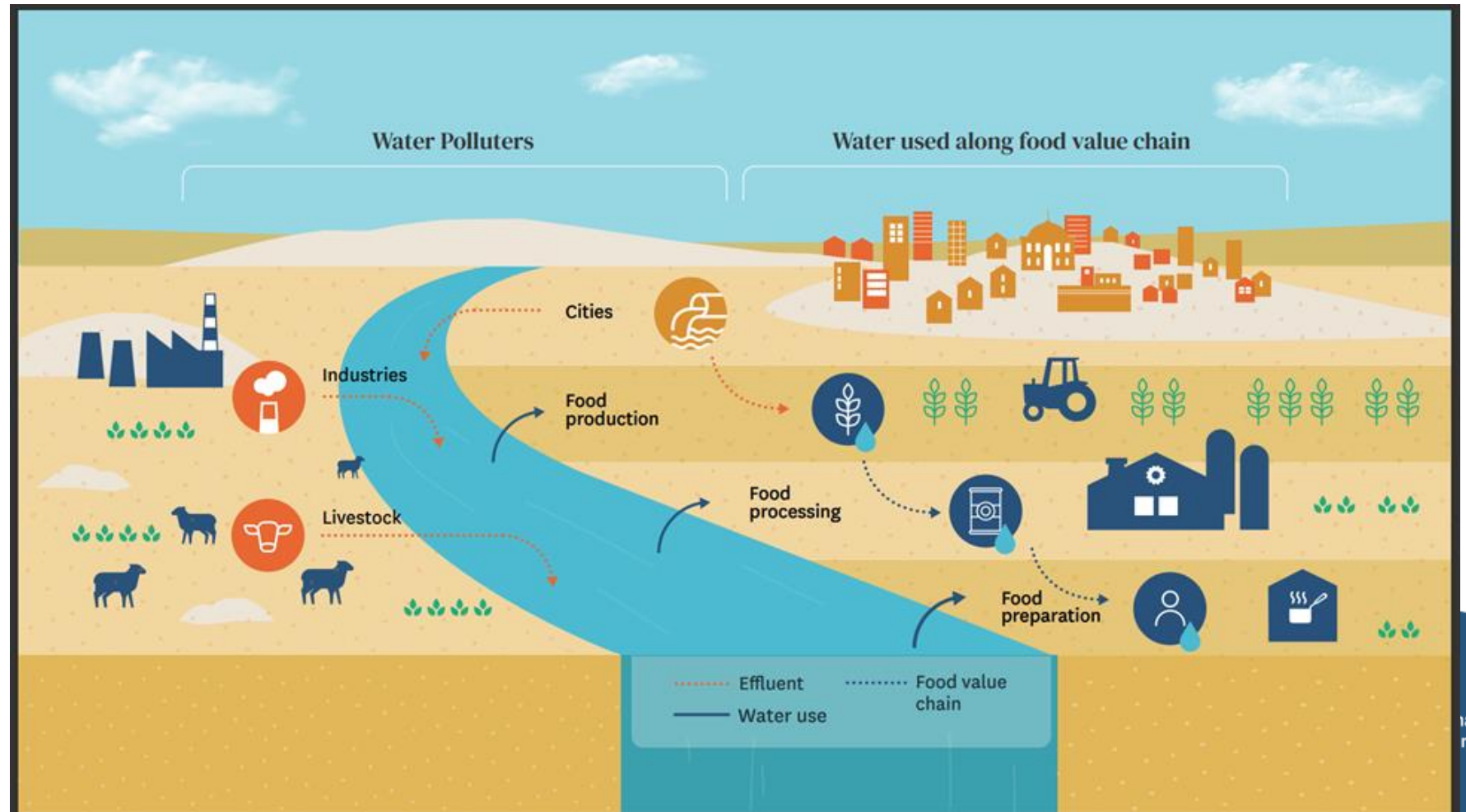
Opportunity: resources embedded in wastewater



Water and nutrients to irrigate and fertilize more than 2.6 million hectares.

Carbon to produce methane with a caloric value to provide electricity to millions of households.

3-Indirect use of untreated wastewater is a common reality in the region

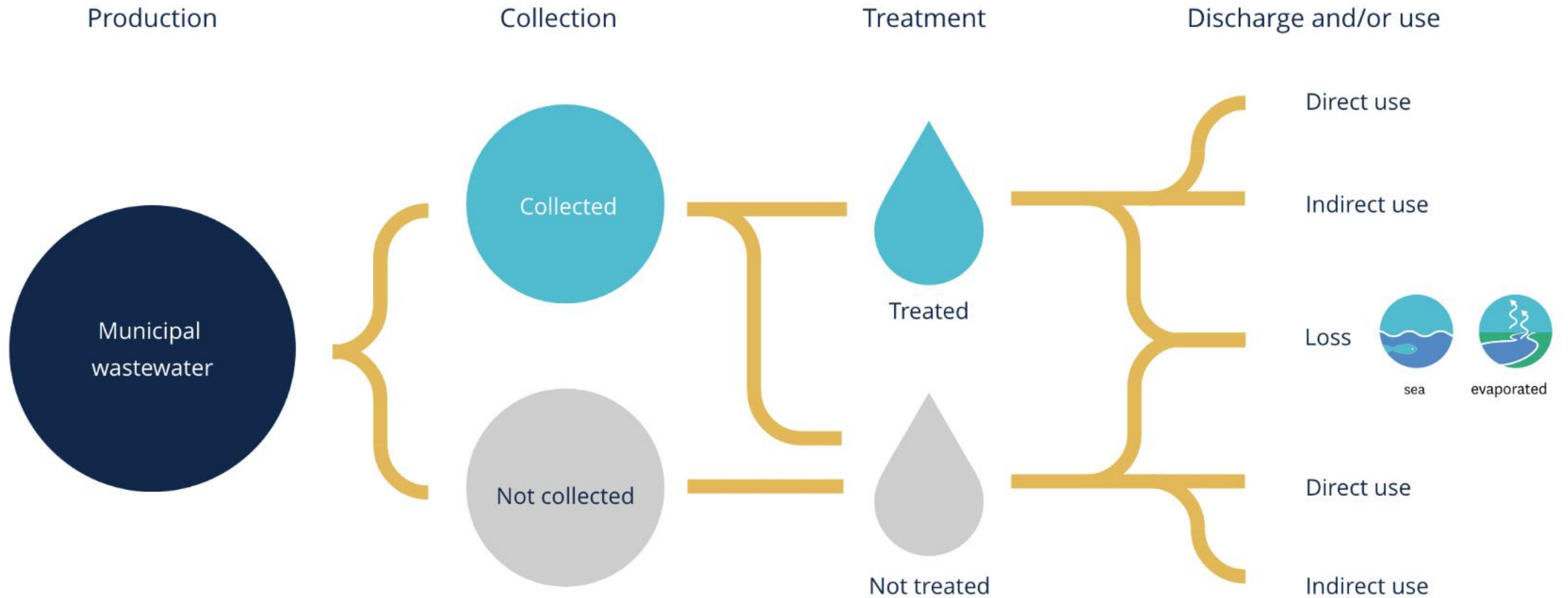




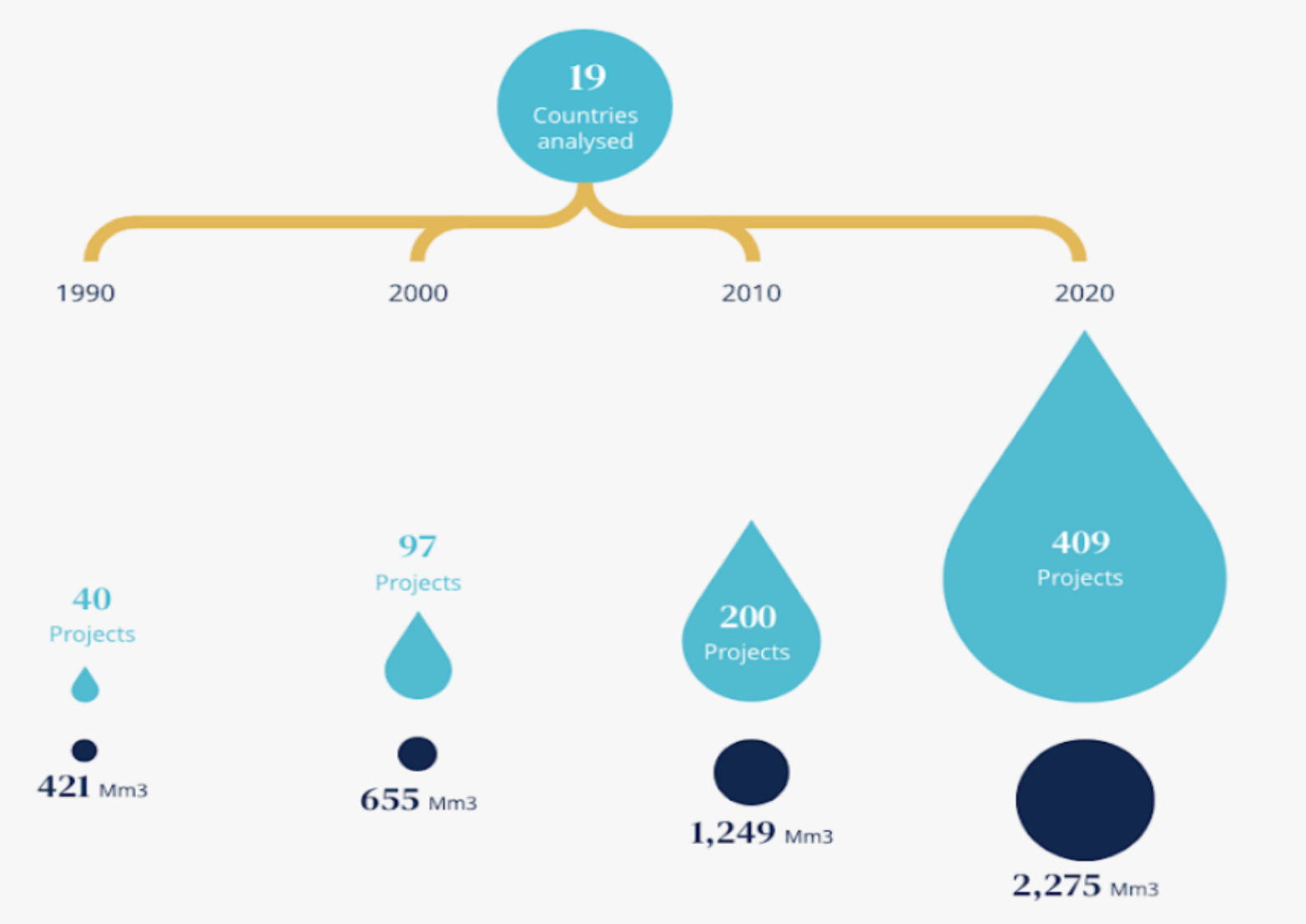
4-Wastewater is only a waste if we decide to waste it:

The potential for resource recovery from municipal wastewater in the region is still untapped

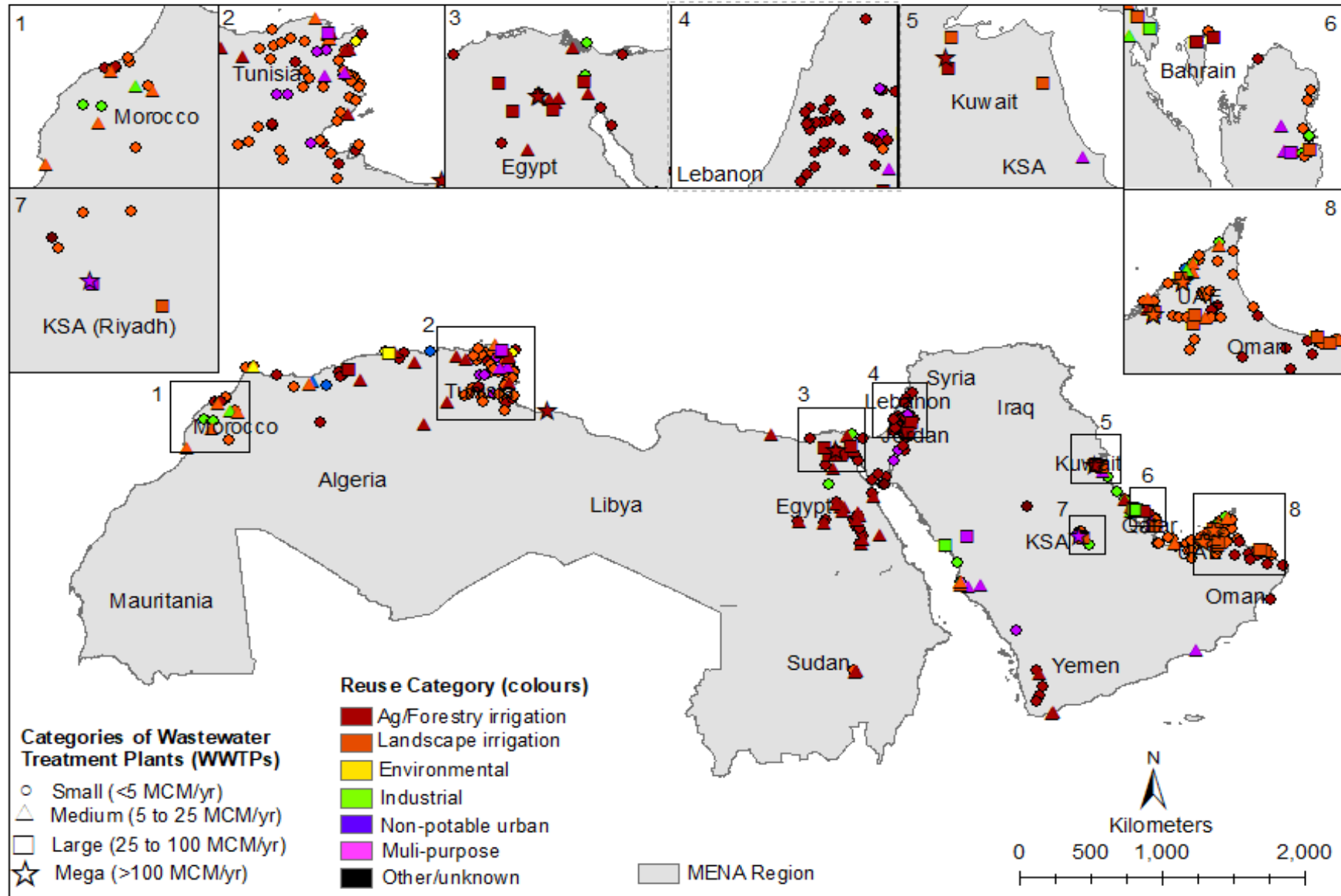
Wastewater fate



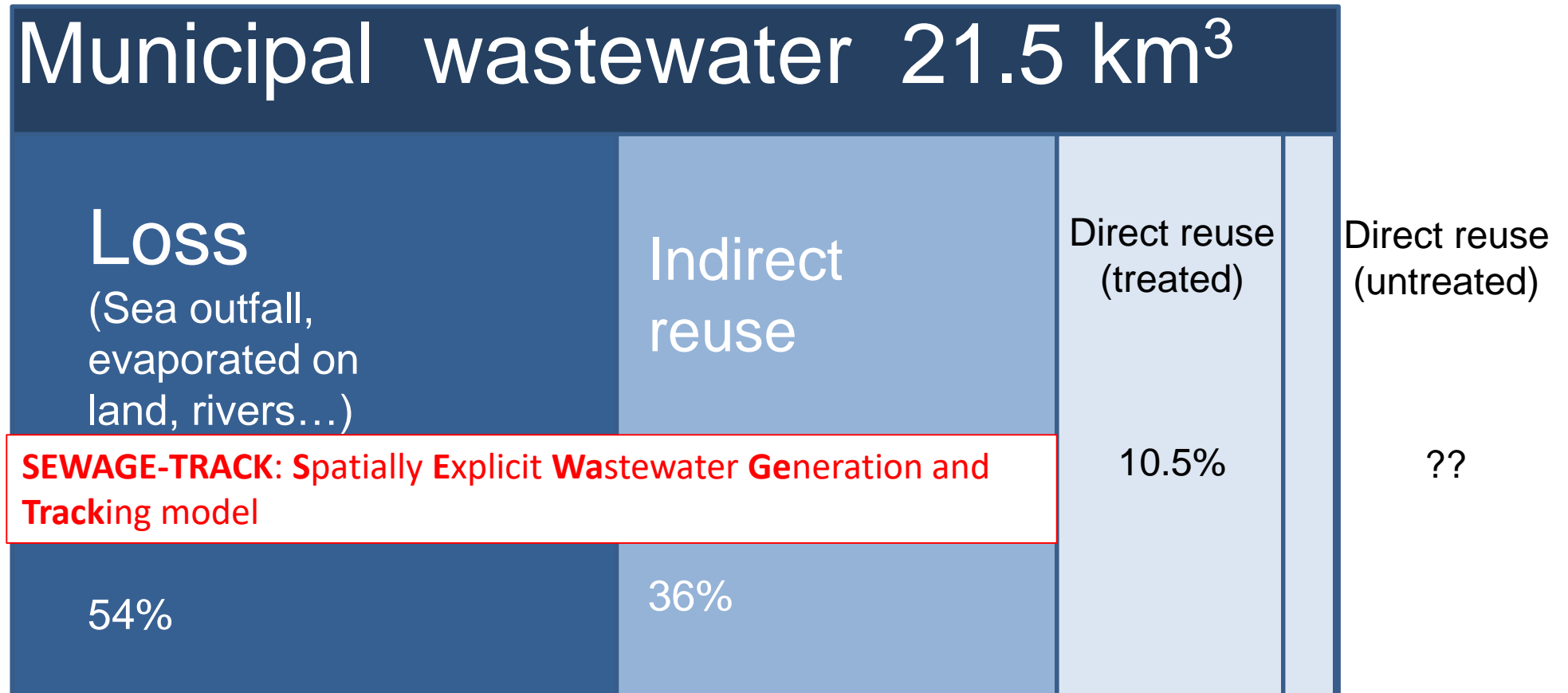
The number of reuse project has doubled every decade since 1990



Water reuse projects in as of 2020



Wastewater production and fate in the region



Sources: IWMI 2022, Velpuri and Mateo-Sagasta 2022 forthcoming

Wastedwater

Missed
opportunities



5-The region needs to:

- Recover and reuse loss wastewater
- Make indirect and informal reuse safer



Recommendations for safer water reuse

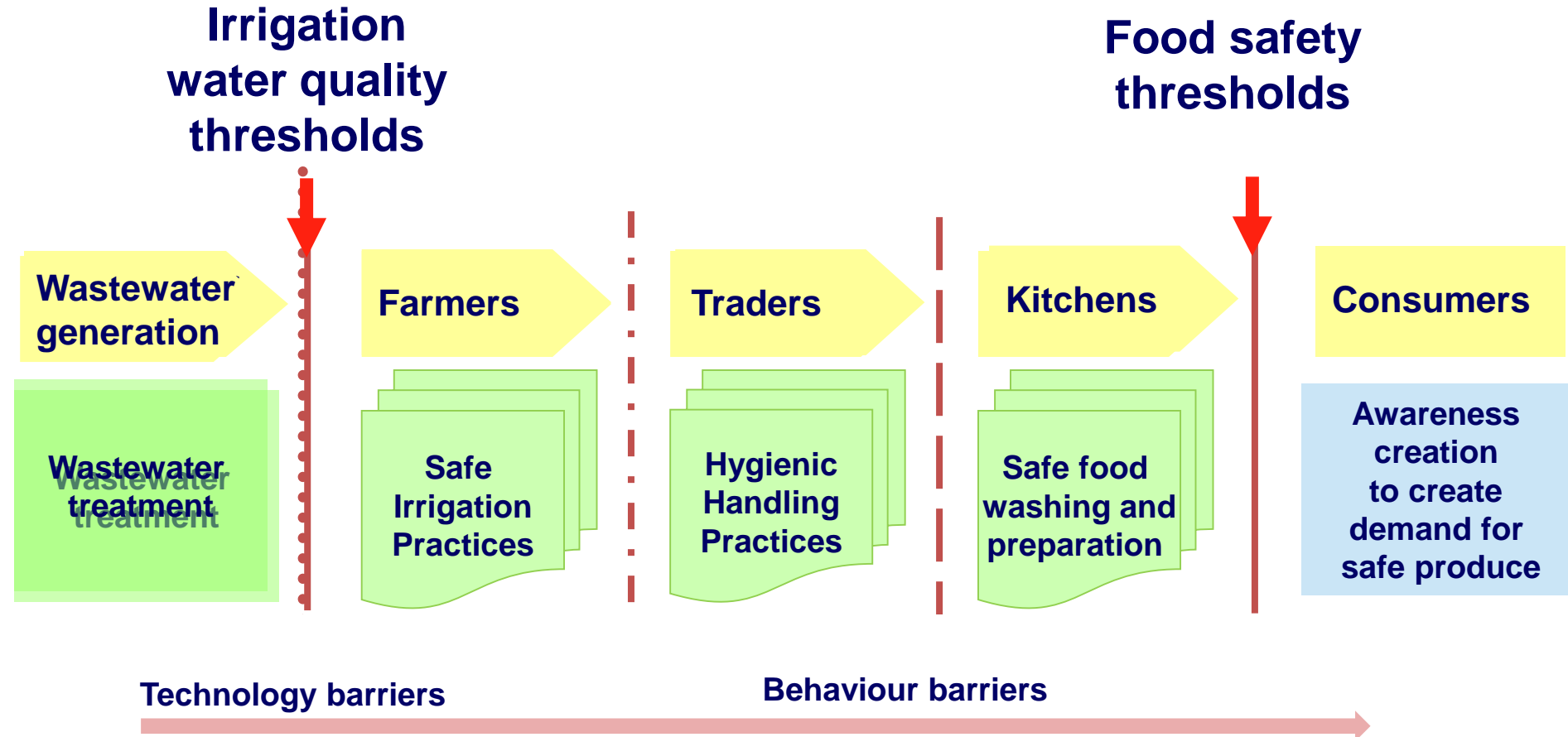
Assess health risks
in informal and
indirect water reuse



Mitigate health risks
in informal and
indirect water reuse

- Accelerate wastewater treatment to cope with wastewater production growth
- Incentivize the adoption of on-farm practices for safe water reuse

2006 WHO Guidelines



Recommendations for greater water reuse

Develop bankable projects

- Reduce costs and improve cost recovery
- Conduct CBA
- Who will pay for the costs?



Gain wider public acceptance

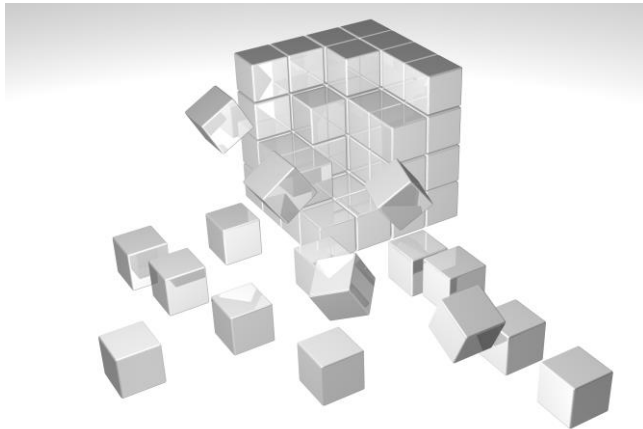
- Address cultural barriers and distrust, yuck factor and religious concerns
- Communication and participation



Cross-cutting recommendations

Address institutional fragmentation

- Are responsibilities and jurisdictions among national and local authorities and stakeholders clear?



Over-stringent regulations

- Prohibitive costs for treatment
- Some times ignored and therefore ineffective



Recap

1-The region faces a deep water crisis and we are not doing enough to solve it

2-Wastewater is part of the problem and part of the solution

3-Indirect use of untreated wastewater is a common reality in MENA: health risks need to be assessed and mitigated

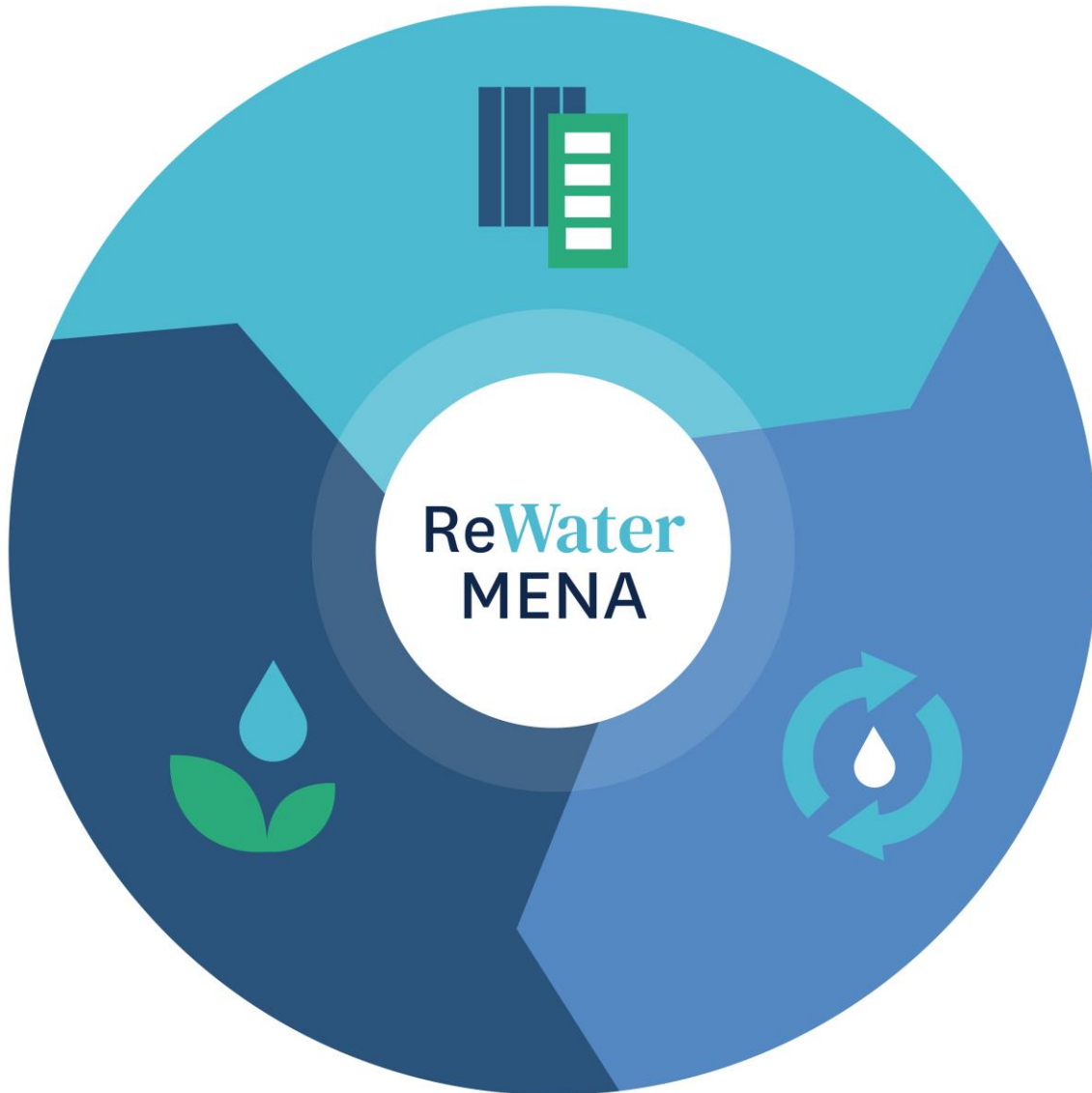
4-Wastewater is only a waste if we decide to waste it: The potential for resource recovery from municipal wastewater in MENA is still untapped

5-The region needs to accelerate to meet SDG6 (to recover and reuse loss wastewater and make reuse safer and more productive)

6- The region needs to address the challenges that lock the potential:

High costs and lack of cost recovery, cultural barriers and distrust, institutional fragmentation, improper regulations...

Thanks!



For questions or feedback contact **Javier Mateo-Sagasta**
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For more information on the outcomes of the
ReWaterMENA project visit:

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