A man wearing a white short-sleeved shirt, blue jeans, and a brown hat stands in the middle of a vast, dry, cracked field. The ground is parched and broken into large, irregular clumps of brown earth. In the background, there are sparse, dry bushes and a line of trees under a bright, slightly overcast sky. The overall scene conveys a sense of water scarcity and drought.

IUWM

Introduction and Framework for Water Scarce Cities

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What is it? (IUWM)

- It is not a new concept. Urban water cycle
- It is neither a new technique. Same models, engineering, ...

It is a way of thinking and managing
UWM from a comprehensive point of view

Procedural approach

History of evolution in the World Bank

A man wearing a white short-sleeved shirt, dark trousers, and a wide-brimmed hat stands in the middle ground of a dry, cracked landscape. The ground is covered in large, irregular, brownish-yellow clumps of parched earth. The background shows sparse, dry vegetation under a bright, hazy sky.

- Parallel evolution. LAC and Anchor
- Flood management in urban areas linked to pollution control: Teresina, Jakarta, ...
- Scarcity and optimization of resources together with pollution control
 - New line of service to increasingly sophisticated clients
 - New challenges and increasing demand for pollution control
 - IDB dominant position in Water Supply and Sanitation projects

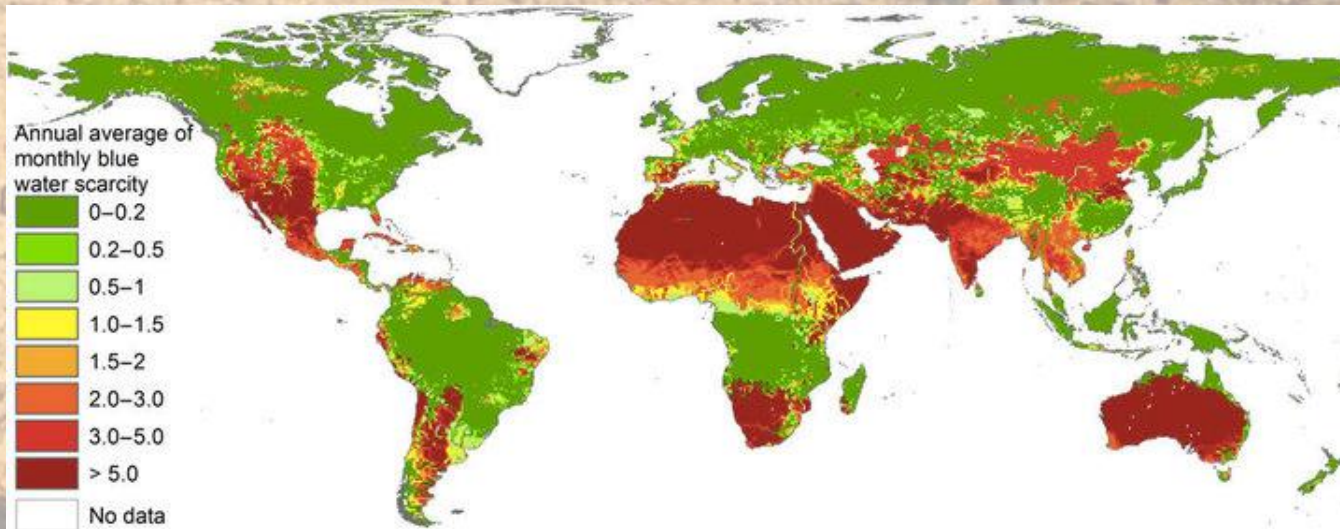
Which are the Main Elements? *(IUWM under Scarcity)*

- Adapt urban planning and criteria to water availability
- Introduce new urban development criteria and instruments to respond to new challenges of water availability and changing rain patterns
- Every drop counts!
- All of the above, in a participatory manner?

Challenges and solutions need to be seen in long cycles, that exceed political cycles

Scarcity, Climate Variability, is a Growing Challenge

- Affect growing numbers of cities
- Wide geographical distribution
- Is here to stay, and grow



What do we understand by “Water Scarce City”?

Singapore or Malta, are these “water scarce cities”?

Singapore: 2300 mm/y; 150 lpcd; 45% ExtIBTr; 24/7

Malta: 530 mm/y; 135 lpcd; 0% ExtIBTr; 24/7

Las Vegas or Perth, are these “water scarce cities”?

Las Vegas: 106 mm/y; 1000-600 lpcd; 94% ExtIBTr; 24/7

Perth: 670 mm/y; 390 lpcd; 0% ExtIBTr (73% GW); 24/7

Or is it a question of GDP?

Windhoek: 340 mm/y; 290 lpcd; 60% ExtIBTr

Amman: 270 mm/y; 125 lpcd; 0% ExtIBTr (74% GW); IS

Jaipur: 490 mm/y; 155 lpcd; 83% ExtIBTr; IS

Main Tools used to Respond to Water Scarcity/Stress

- Optimize existing conventional resources and plan for droughts
- Develop new non-conventional resources to diversify portfolio and reduce reliance on unreliable sources
- Manage the demand to increase Efficiency
- Manage waters at the appropriate scale

The example of Malta

