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

– 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