Session 3 : Mieux gérer la demande en eau en Méditerranée : informer et sensibiliser à l'échelle du territoire

Session 3 : Improving water demand management in the Mediterranean area: Territory-scaled information and awareness raising

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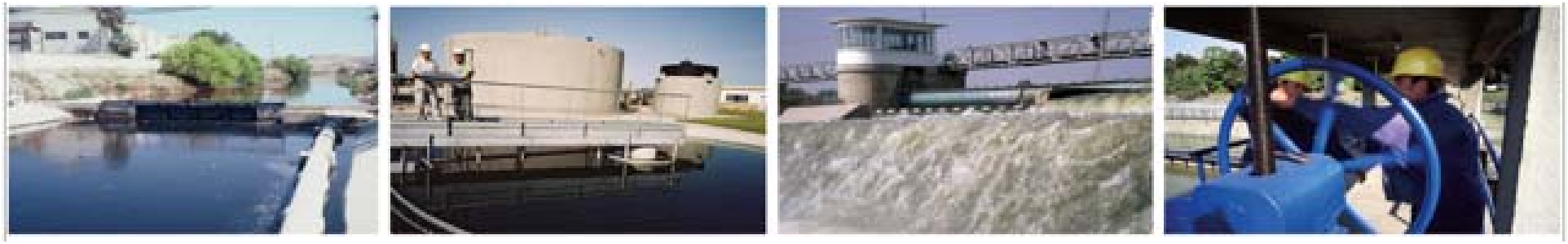


The Water Think Tank Méditerranée

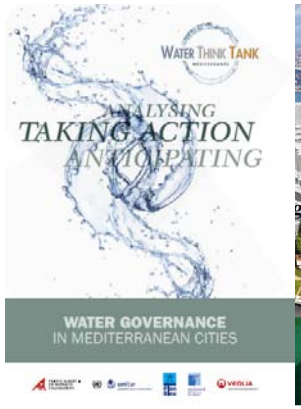
The **Water Think Tank Méditerranée** (WTT) initiative was launched by the Prince Albert II of Monaco Foundation during the fifth World Water Forum in Istanbul in March 2009, in partnership with the United Nations Institute for Training and Research (UNITAR), the Plan Bleu, the International Office for Water and Veolia Environnement Foundation. This initiative follows on from a round table organised by the Prince Albert II of Monaco Foundation, UNITAR and Veolia Environnement during the Zaragoza Water Expo in 2008, on the theme of integrated water resource management and the role of local authorities.

The Water Think Tank Méditerranée fosters dialogue in order to promote sustainable and integrated water resource management in the Mediterranean Basin. In order to carry out this task successfully, the WTT endeavours to take on board the views of all the public and private stakeholders involved in water management, and implements tools for exchange and cooperation through the production, capitalisation and sharing of knowledge.

Previous accomplishments

Since 2009, the Water Think Tank Méditerranée has been continuously working to achieve its goal :

- Organisation of the Water Think Tank Méditerranée Symposium following the theme: "**Territorial Water Governance in the Mediterranean: which experiences and what solutions for local players**?"
- Publication of a bilingual overview about "**Territorial governance of water in the Mediterranean**"
- Publication of a bilingual overview about "**Water governance in Mediterranean cities**"



Improving water demand management in the Mediterranean area :

An augmented overview by the WTT

This project is aligned with previous accomplishments of the Water Think Tank Méditerranée. This overview goes a step further in the analysis, raising the issue of water demand management in the Mediterranean area. Based on several case studies (including a cost-benefit analysis by Plan Bleu/CMI in 2013), it tries to be representative of the diversity of situations and management schemes in the Mediterranean Basin.

The overview hinges on 3 main points:

- **Measuring** *available ressources and needs, identifing actors and concerned territories*
- **Allocating** *water according to a common management scheme and a consistent optimisation approach*
- **Preserving** *the ressource from over-exploitation, pollution, climate change, etc.*

Measuring

The necessary water demand and supply assessment

Themes

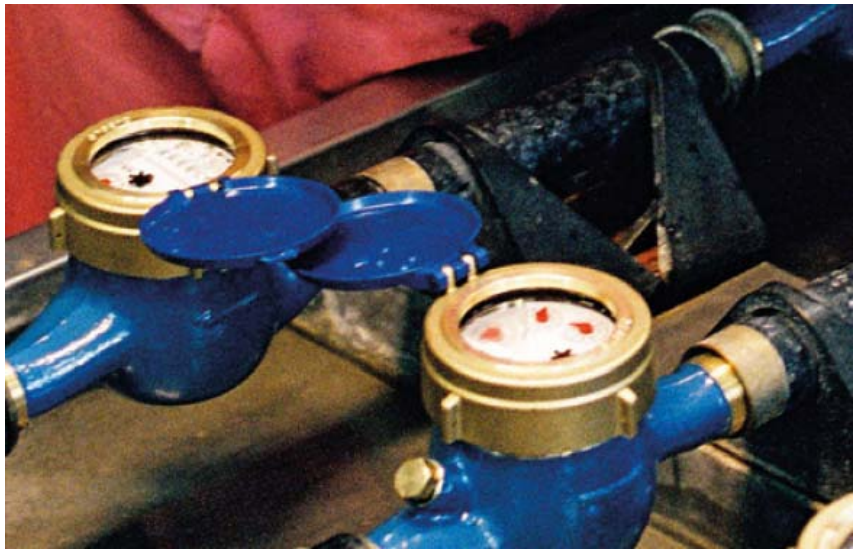
- **Hydrologic status** as tools for ressource management
- The aim of considering « **virtual water accounting** »

Case studies

- The **demographic challenges** for water demand in Cairo
- Benefits of **individual meters** in Tunis

Debate

- From **descriptive models** to **predictive models** for weather and climate



Allocating

Essential arbitrations under constraints

Themes

- Seasonal water management and **tourism dvlpt. opportunities**
- The need for water in **Mediterranean ecosystems**

Case studies

- The **water rights trade system** for water allocation conflict mgt. in Bitit, Morocco
- **The Council of Wise Men of the plain of Murcia**, Spain

Debate

- The development of **non-conventional sources of water vs reasonable consumption**

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Preserving

Today threats management for tomorrow

Themes

- The **Ramsar Convention** in the Mediterranean Basin
- **Climate change** impacts on water demand management

Case studies

- **Water losses in the distribution system** in Rhônes-Alpes, France
- Improving **water efficiency for agriculture** in Egypt

Debate

- **Short-term economic interests vs long-term ecological issues** in water demand management

FONDATION PRINCE ALBERT II DE MONACO

unitar
United Nations Institute for Training and Research

Plan Bleu

Office International de l'Eau

Fondation VEOLIA ENVIRONNEMENT

Cost-benefits analysis of WDM in Tunisia by Plan Bleu /CMI :

a 50 day search in a data stressed environment

Concepts at stake:

- ✓ A **baseline scenario** is required to make comparisons considering potentially implemented measures in a geographic and spatial perimeter.
- ✓ **Externalities** based on additional costs or benefits affect third-parties not involved in the decision making process.
- ✓ **Opportunity costs** due to loss of potential gain from other alternatives when one alternative is chosen.
- ✓ **Discount rates** representing the interest-earning potential of money lead to debates on how to integrate time value of money in the very long term. (4% in the case study).
- ✓ **Transaction costs** incurred in deals and economic exchanges (search and information costs and bargaining costs): accuracy and comparison scopes…
- ✓ Methods to assess the **use value,** what is the want-satisfying power of a good or service ?
- ✓ **Transportability of regional researches and Purchasing Power Parity** tools to compensate the data you lack.

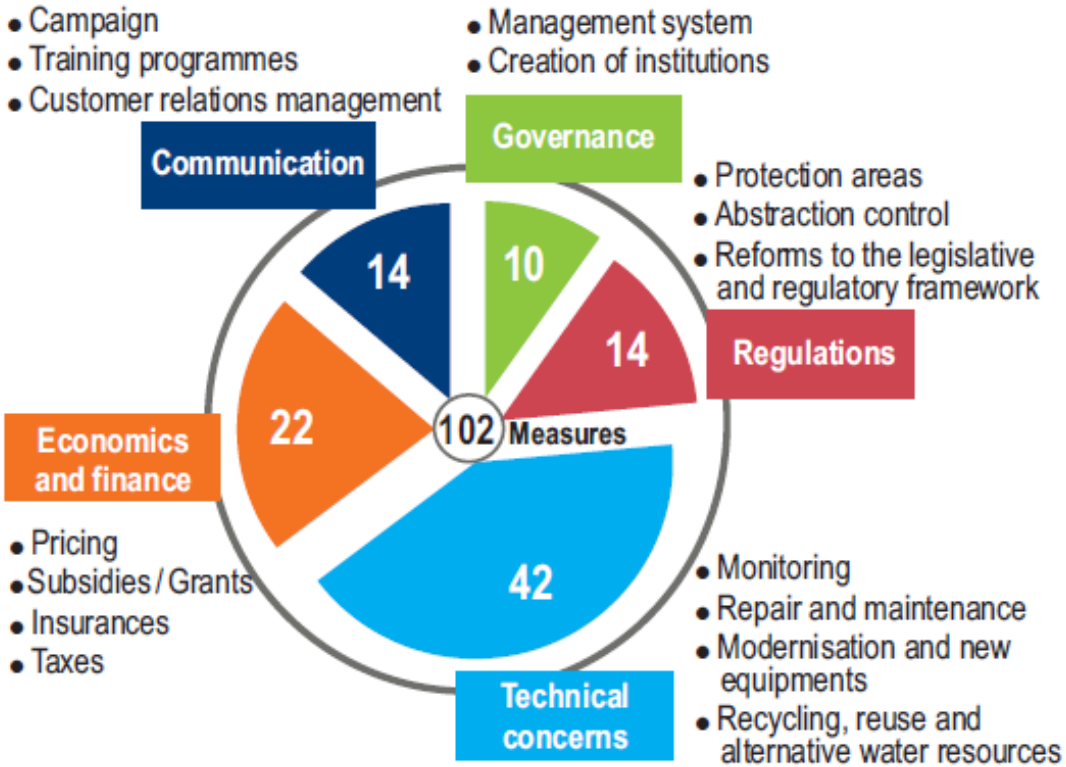
Cost-benefits analysis : example

Externalities → taxes and subsidies

Opportunity cost → winers-losers analysis

Transaction cost → ease of decision implementation

To identify the consequences of implementing a measure for each kind of stakeholders, an **actor-declined analysis** is required.
Doing so, every stakeholder is aware of « **who pays for what** ».



Cost-benefits analysis : example

	G1	G3	G6	R12	T5	T7	T15	T35
Benefits / costs ratio	0,96	0,6	1,09	1,69	0,8	1,96	6,99	6,8
NPV	-6 087 373	-869 558	5 344 479	12 089 155	-7 838 231	4 547 582	19 257 148	588 513
Costs / effectiveness ratio	0,92	0,1	0,58	0,47	0,34	0,4	0,02	0,26

	T36	T41	T42	E1	E4	E15	C4	C8
Benefits / costs ratio	1,03	0,92	1,01	1,21	1,83	1,12	2,72	1,22
NPV	2 505 016	-7 443 147	517 546	2 672 074	12 870 329	16 741 342	12 963 513	2 429 150
Costs / effectiveness ratio	1,1	N/a	0,71	2,71	0,14	1,18	0,07	2,35

Treated waste water reuse for agriculture

Improve water efficiency at plot-scale (micro-irrigation, etc.)

Next steps

- **Which key messages would you like decision-makers / public to be aware of to improve water management?**

- How to get involved in our **augmented overview** about « Improving water demand management in the Mediterranean area »?
  - ✓ Technical knowledge
  - ✓ Economic context
  - ✓ Communication tools
  - ✓ Etc.