

2nd Mediterranean Water Forum

Regional workshop on water demand management in the Mediterranean

Murcia, 25th November 2014

1 Context

1.1 Water demand management in the Mediterranean

The Mediterranean basin is one of the world's regions where the environment and the human activities are the most affected by climate change. There are major pressures on water resources in most Mediterranean countries, especially in southern and eastern ones. In some countries, such as Egypt, Israel or Malta, water withdrawals attain, even exceed, the average annual volume of renewable natural resources (index above 80%). Existing studies and projections highlight the significant increase expected from "water-poor" populations (with less than 1,000 cubic meters of renewable water per capita per annum): in the Mediterranean basin these populations would increase from 180 million people today to 250 million – 100 million more – within 20 years.

In order to meet the increasing demand from populations and economic activities, water policies and national strategies set up greater water supply, whether by building water surface storage and distribution infrastructures, exploitation of aquifers, or more recently use of non-conventional resources (waste-water reuse, seawater desalinization). In the Mediterranean, groundwater exploitation has grown exponentially and represents nowadays the primary source of water (all uses combined) for a third of the countries (ie. Croatia, Cyprus, Libya, Malta, Tunisia). Notably, private pumpings for agriculture increased significantly as 60% of groundwater are used for irrigation. The inadequacy or lack of user charges is reflected by the free access "de facto" to these resources and a "pumping race" leading to overexploitation (tragedy of the commons) and severe environmental impacts (saline intrusions, pollution, landslides, etc.). Regulatory measures must be implemented in the form of regulation and economic tools or contractual approaches (aquifer contract). In addition, constraints increase as the resource mobilization infrastructure is established; these constraints are physical (the most favorable sites for dam construction, for instance, are nowadays occupied), as well as financial (rising costs) and environmental (saline intrusions and aquatic ecosystems degradation issues become increasingly frequent).

Given the rapid population growth, environmental degradation and the effects of climate change, it is no longer possible to meet water demand by increasing water supply. An integrated water resources management approach, based on demand management and sustainable use of non conventional water resources, is absolutely vital.

Water demand management (WDM) is intended to encourage a better use of water already mobilized before considering supply increase, and thus contributing to solve the water supply/demand equation.



WDM is a series of measures aiming to develop technical, social, economical, institutional and environmental water efficiencies. It aims at making water consumption within a user sector (intrasectoral efficiency) and water allocation between the different uses (intersectoral efficiency) more efficient. Benefits from WDM are on quantitative (water demand decrease), qualitative and environmental (reducing discharges), economic and energy level (saved water costs, including energy cost, per cubic meter is often below the costs per cubic meter of newly mobilized and/or produced water).

When it comes to irrigated agriculture, maximizing water productivity includes not only agricultural production or even the added value per water cubic meter, but also, among others, the number of agricultural jobs that might be created when water resources are limited. Generally, non agricultural sectors users (industry, tourism) profit more from water use and are more open and able to pay much higher prices. Agricultural users get less direct financial benefits from water use, and resist strongly to any water charge increase. The water valuation's significant difference between the different sectors (on the willingness to pay or income per cubic meter criteria) exerts a pressure on the highly water consuming agriculture in order for that the water resources used for it might be released for more profitable uses, especially for domestic (the latter have always priority), tourist or industrial uses. Criteria (employment, food security, regional balances, amenity value of landscapes...) can be involved in the economic analysis, revealing a water's social value that is likely to provide a greater rationality to its use in agriculture. Obstacles to the implementation of intersectoral water allocation on a large scale are notably: the lack of clear definition of water use rights and their tradability, and the lack of widespread perception for water real value under the conditions of availabilities scarcity (FAO, 2004).

Margins for progress in physical terms are significant : water savings potential was valued at a quarter of the demand, irrigated agriculture representing more than 65% of this potential (Plan Bleu, 2005 and 2007). Following Plan Bleu's works, a regional target of 25% water savings by 2025 was adopted in the framework of the Barcelona Convention, using 2005 as reference year. However, in practice, WDM is mainly addressed from the technical perspective, based on the hydrauliques efficiency concept. It is important to take also better account of financial, economic, social and environmental aspects of water allocation and management. Three Fora on WDM have already been held (in Fréjus in 1997, Fiuggi in 2002, Zaragoza in 2007) by Plan Bleu, under the auspices of the Mediterranean Commission on Sustainable Development (MCSD). These different workshops allowed for a gradual recognition that WDM is a priority means of achieving two objectives that are central to sustainable development: to change unsustainable patterns of consumption and production; and to sustainably protect and manage natural resources as inputs to economic and social development. These Fora provided opportunities to discuss about tools for implementation of WDM policies and also showed that most significant progress resulted from the continuous and progressive implementation of combinations of tools such as strategies, institutional organization, pricing and subsidies. During the Zaragoza Forum (2007), the Plan Bleu was mandated to organize a 4th Regional Forum on water demand management.

The declaration of the Euro-Mediterranean Ministerial Conference on Water (Jordan, 22 December 2008) agreed to the development of a Strategy for Water in the Mediterranean (SWM) project: one of the priority axis is in finding the balance between water consumption and availability, including by proposing measure of adaption and prevention resulting from droughts and the rising scarcity of water resources. The Mediterranean experience in water scarcity management and WDM could be useful to other parts of the world facing the same issues.

1.2 CMI programme on WDM economic approach

In such a context, the French Development Agency (AFD) and the Plan Bleu, in partnership with the World Bank and in the framework of the CMI (www.cmimarseille.org), launched in 2009 a regional program to assist Mediterranean countries in developing and implementing policies for water demand management (WDM). At the heart of every speech for years and figuring prominently in all national strategies alongside



conventional policies mobilization of new resources, WDM concept must be made more operational. This can be done particularly through the use of economic concepts and tools allowing the numerous stakeholders – coming from different activity sectors – to share a common language and to reach at the same time more informed, rational and consensual decisions on key aspects of economic policy: choices between the various options of water savings or withdrawal management, water pricing in all its uses, existing taxes or subventions in different sectors than water but affecting water use, or choice of allocation based on water intersectoral efficiency analysis.

This programme¹ combines case studies on water use efficiency and WDM economic approach, as well as consultation, training, disseminating and valorization actions to contribute to public policy reforms and to the skills strengthening in WDM sector.

One of its components is **writing a series of regional synthesis reports on WDM economic approach in the Mediterranean** based on work already carried out:

- Prospective studies on water use efficiency carried out by Plan Bleu in 14 countries, namely : Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France (to be published), Israel, Italy, Lebanon, Malta, Morocco, Syria, Tunisia, Turkey, and,
- Four case studies on WDM economic approach carried out by AFD and / or Plan Bleu in Croatia, Jordan, Morocco and Tunisia.

Thirteen prospective studies on water use efficiency are available on Plan Bleu's website² and were synthesized entitled "[More efficient water use in the Mediterranean](#)" (Plan Bleu, 2012). Among the specific case studies on WDM economic approach, three are finalized (Croatia, Jordan, Morocco) and the fourth (Tunisia) is underway. Based on the studies carried out in Jordan and Morocco, national workshops of restitution, strategic dialogue and skills strengthening were held in Amman (December 2011) and Rabat (March 2014). Workshops proceedings are available on CMI's website³. The first lessons from pilot studies were presented during the 6th World Water Forum in Marseilles, in March 2012 (during the session "Demand Management, Mediterranean regional process"), thus positioning this initiative in the regional context and the international discussion fora on water resources management. These results will also contribute to the establishment of reference content on water demand management training as a result of the two sessions already conducted in Jordan and Morocco.

The current phase of the program is the drafting of **regional synthesis reports** revisiting in particular the notions of cost and value of water, pricing principles and allocation choices associated with as well as the economic bases of common resource management, and their potential regarding decision-making support in concrete situations. The instruments of WDM will be analyzed according to their relevance, conditions and limits of use, cost efficiency ratio, social acceptability, impact (economic, social and environmental), at the same time from a theoretical and empirical point of view, through case studies, making the WDM concept more operational for decision-makers.

Three reports are planned, carrying respectively on:

1. The economic instruments for water demand management in the Mediterranean, funded by the MAP/UNEP, ONEMA and CMI (finalized);
2. The intersectoral efficiency of water, allocation choices and virtual water, funded by AFD (in progress);

¹ <http://cmimarseille.org/Water-Resources-Management.php>

² <http://www.planbleu.org/publications/eau.html>

³ http://cmimarseille.org/FR/Water-Resources-Management_wk1.php



3. Groundwater resources management as common goods, funded by AFD;

2 Objectives

The overall objective of the workshop on water demand management (WDM) is to support the Mediterranean countries in water demand management policies' development and adaptation.

This workshop draws on the previous regional workshops on WDM organized by Plan bleu and its partners, and also on the water demand management sessions organized during the 6th World Water Forum (Marseilles, March 2012), contributing to the Mediterranean preparatory process towards the 7th World Water Forum (Daegu, April 2015). It will take place during the 2nd Mediterranean Water Forum (Murcia, 25-27 November 2014).

Specific objectives are as follows:

- Sharing Knowledge and analysis from the CMI programme on WDM economic approach ;
- Disseminating the solutions and good practices on WDM and facilitating regional cooperation in this field;
- Identifying these works potential contribution to the implementation of the « Water » component to the Mediterranean Strategy for Sustainable Development (MSSD) and the achievements of the MED1.1⁴ and MED1.2⁵ targets adopted during the 6th World Water Forum;
- Promoting the Mediterranean Approach at international scale.

The workshop will be structured around 4 thematic issues:

- 1/ Monitoring of the progresses achieved, promoting of the WDM policies in the Mediterranean and the difficulties experienced
- 2/ WDM economic tools; On this occasion, the synthesis report drafted on this issue in the framework of CMI WDM programme will be made public;
- 3/ Intersectoral water efficiency, allocation choices and virtual water
- 4/ Groundwater and aquifers management as common resources.

A report entitled « Regional synthesis on WDM economic approach in the Mediterranean », funded jointly by MAP, ONEMA and CMI, will be released to the public at this workshop.

A session will also present the latest Water Think Tank work on water demand management at territory level. Launched in 2009 at the initiative of HSH Prince Albert II of Monaco during the 5th World Water Forum in Istanbul, the Water Think Tank is a multi-stakeholders platform which conducts action-research works on water issue in the Mediterranean. Several partners (Plan Bleu, Office International de l'eau, UNITAR and Veolia Environment) have joined this platform whose secretariat is handled by the Prince Albert II of Monaco Foundation. Its vocation is to contribute to the dissemination of messages to raising awareness and for taking greater account of the environment in the Mediterranean.

In parallel with this workshop, about ten interviews will be conducted to provide inputs for Water Think Tank's considerations on water demand management in the Mediterranean and will be shared on web. In order to maximize this cross-media mindset, a short podcast may be made.

⁴ MED1.1 target: By 2015, each Mediterranean country has set its own national objectives for water use efficiency in the various using sectors and for water allocation between the different uses (productive and environmental) and defined/implemented « efficiency plans » for achieving their short-, medium- and long-term objectives.

⁵ MED1.2 target: By 2020, Mediterranean country has set its own national objectives for improving the water productivity of rainfed and irrigated agriculture, in the framework of an integrated water and food-security strategy, and defined/implemented measures for achieving their objectives in the short, medium and long term.



This regional workshop will lead to the development of operational recommendations on WDM implementation, which will be promoted during the 7th World Water Forum.

3 Organizers and target audience

3.1 Organizers

French Development Agency (AFD), Marseille Centre for Mediterranean Integration (CMI) and Plan Bleu

Funders: AFD, CMI, MAP (Mediterranean Action Plan)

Partners: Prince Albert II of Monaco Foundation, Water Think Tank, Mediterranean Water Institute

3.2 Target audience

Some fifty participants are expected: National, local and regional decision-makers from Mediterranean countries, Basin agencies, water service companies, organizations involved in regional development or irrigation, users, private sector, researchers...

4 Venue and duration

Venue: Victor Villedas Auditorium and Conference center, Murcia - Spain

Duration : 1 day (25 November 2014)

5 Languages

Simultaneous translation in English and French will be provided

6 Agenda

25 November 2014

8:30 Welcome and registration of participants

9:00 Opening speech (speaker to be confirmed) and introduction

Facilitator: Ms Céline Dubreuil-Imbert, Water Programme Officer - Plan Bleu

1/ « From Saragossa to Murcia » presentation: lessons learned from the previous workshops, workshop's objectives, 6th Forum on WDM findings...(Mr Hugues Ravenel, Director of Plan Bleu)

2/ General presentation on WDM in the Mediterranean (Dr Céline Dubreuil-Imbert, Water Programme Officer - Plan Bleu)

9:30 Session 1 : Monitoring of the progresses achieved, promoting of the WDM policies in the Mediterranean

Presentation of 2 Mediterranean experiences on WDM:

- Moroccan experience



Mr Abdeslam Ziyad, Chef de division Planification et gestion de l'eau, Ministère délégué chargé de l'eau, Morocco

- Spanish experience

Ms Ana Nieto Arias, Head of Water resources and Environment Department - EVREN

10:15 *Discussion with participants*

11:00 *Coffee break*

11:30 Session 2: Water demand management economic approach (1/4)

- CMI programme presentation (Mr Frédéric Maurel, AFD)
- Methodological guide for local governments (Dr Céline Dubreuil-Imbert, Plan Bleu)

12:00 Session 2: Water demand management economic approach (2/4)

Facilitator: Mr Frédéric Maurel, Project Manager, Water and Sanitation Unit, AFD

Economic tools for WDM: what impact in the Mediterranean?

speaker: Mr Dominique Rojat, AFD program coordinator, CMI

12:15 *Discussion with the participants*

13:00 **Lunch break**

14:00 Session 2: Water demand management economic approach (3/4)

Which tools to regulate groundwater exploitation?

speaker: Ms. Raphaëlle Lavenus, BRLi

14 :15 *Discussion with the participants*

15 :00 Session 2: Water demand management economic approach (4/4)

How do we encourage a better intersectoral water allocation?

speaker: Mr Sébastien Loubier, IRSTEA

15 :15 *Discussion with the participants*

16 :00 *Coffee break*

16 :30 Session 3: Better manage water demand in the Mediterranean: increasing education and awareness at territory level

Facilitator: Mr Nicolas Dutreix (Nomadeis)

Chairman: Mr Sébastien Lubert (Fondation Prince Albert II de Monaco /Water Think Tank)

17: 15 Synthesis and recommendations

Facilitator: Mr Dominique Rojat, AFD program coordinator, CMI

17:45 Conclusions and Closing session

Facilitator: Dr Céline Dubreuil-Imbert Water Programme Officer - Plan Bleu