Mediterranean
Water Forum

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Description of Mediterranean priorities /targets

Summary sheet

Sustainable solutions for water in the Mediterranean:
managing scarcity and improving quality

Priority 1: "Improving water demand management"

Presentation of target MED 1.1

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1. Heading of target MED 1.1

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.

Remark: The target is established at national level. However, the solutions to be implemented and commitments to be made to reach this target involve all stakeholders at the various territorial levels (governments, local and regional authorities, water authorities, professionals, etc.).

2. Target context and issues

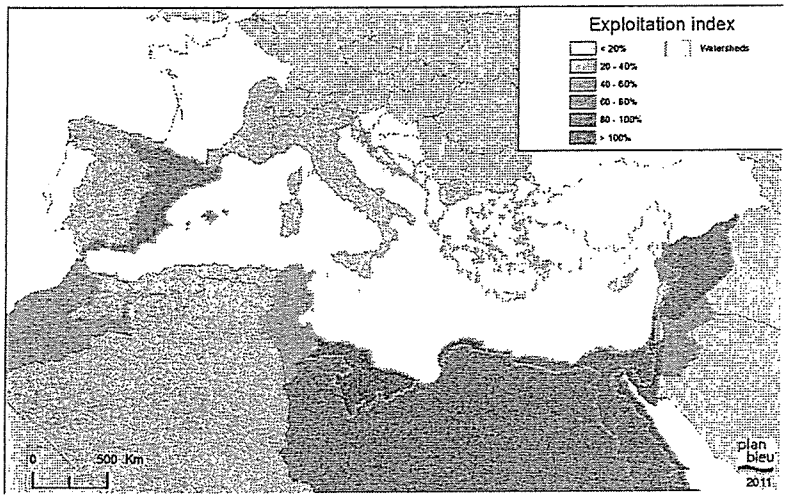
In the Mediterranean, water resources are very unevenly distributed over both space and time. Water shortage and drought situations are frequent, and have a particular impact in Southern and Eastern countries. The number of people living in countries in situations of water scarcity, with less than 1000 m^3/capita/year of renewable water resources, could reach 250 million inhabitants in 2025, 80 million of whom would be facing extreme shortage conditions with less than 500 m^3/capita/year.

Water demand across all Mediterranean countries doubled in the second half of the 20th century to reach 280 km^3/year in 2007. It may increase by a further 20% by 2025, essentially in the Southern and Eastern countries. Agriculture accounts for nearly 65% of this total water demand. In spite of some encouraging progress in terms of water use efficiency, losses during water transport and use are estimated at almost 40% of the total water demand, or more than 100 km^3/year for the Mediterranean as a whole.

In some countries (Egypt, Israel, Jordan, Libya, Malta, Syria and the Palestinian territories), water withdrawals approach or even exceed the limit threshold of renewable resources (figure 1). Water demand is increasingly met by an unsustainable water production relying on fossil water withdrawals and over-exploitation of renewable water. The prevailing national strategies still focus on extending water supply and pursuing abstraction, using and constantly deteriorating natural resources, posing a serious threat to the long-term.

Within a context of increasing shortage in parts of the region and in view of the uncertainties brought about by climate change, it is even more pressing to adapt water management policies, to better manage the different water uses and to ensure a more efficient and effective use of resources, if present and future needs of populations, hydrosystems and development are to be satisfied.

Figure 1: Exploitation index of renewable water resources in individual countries and catchment areas (2005-2010)



Source: Plan Bleu

Nota: Indices close to or higher than 80% indicate already high tensions on water resources; ratios between 60 and 80% are signs of a high risk of medium-term structural tensions; and ratios between 20 and 60% point to local or conjectural tension.

The works carried out by Plan Bleu, a centre for systematic and prospective studies on the environment and development in the Mediterranean operating in the framework of regional cooperation (the Mediterranean Action Plan), have in this sense helped to highlight on the one hand, the increasing imbalance between water supply and water demand, and on the other, the savings that could be achieved by reducing losses and inappropriate uses. Potential water savings have been estimated at almost a quarter of the total water demand by 2025 (figure 2). Agriculture is a crucial area for freeing up significant amounts of water. As the leading sector for « blue »[1] water consumption, irrigated agriculture represents the greatest potential for savings by volume, with over 65 % of total potential water savings identified in the Mediterranean.

More rigorous management of demand in certain countries or regions could, for example, help to cope with the expected increase in demand, at least over the next 15 to 20 years.

The works carried out have also underlined the necessity of developing cost-benefit and cost-effectiveness-type economic approaches, incorporating short- and long-term environmental and social impacts, in order to compare different water management options and assess the economic and financial benefits of water demand management (WDM) measures.

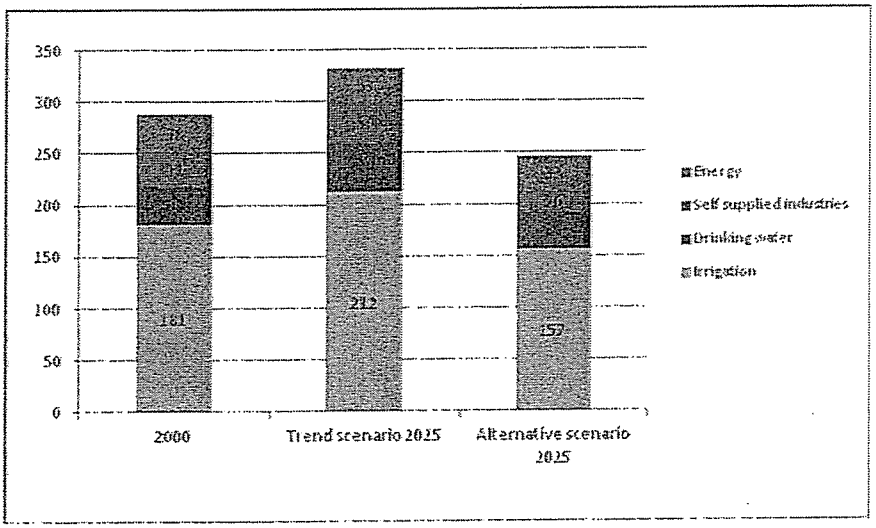
Inset: Water demand management (WDM)

WDM is defined as a set of technical, political, institutional, economic, training, awareness-raising and communications tools, designed to encourage more efficient use of existing water supply before seeking to increase supply levels. It therefore encompasses measures designed to improve water use efficiency[2] in the various usage sectors (intra-sectoral efficiency), but also water allocation between uses, taking account of both productive and environmental uses (inter-sectoral efficiency).

[1] « Blue » water is the water flowing through rivers to the sea, in lakes, held in underground aquifers, distributed through pipes, etc.

[2] Used in the English sense of the term, translated as "rendement" in French. It is based on achieving a specific result using a minimum level of resources.

Figure 2: Water demands per using sectors at Mediterranean scale, trend and alternative scenarios



Source: Plan Bleu, 2007

Based on these future-oriented analyses and in the wake of various regional WDM workshops (Fréjus 1997, Fiuggi 2002[3]), integrated water resource and demand management was chosen as the main priority action area for the Mediterranean Strategy for Sustainable Development (MSSD) adopted in 2005 by all Mediterranean rim countries and the European Community. One of the main objectives in relation to water management is consolidating WDM policies to stabilise demand by 2025, based on reducing levels of loss and inappropriate use and increasing the value added per cubic metre of water used, i.e. increased efficiency. The MSSD is a "framework strategy", which can be used as the basis for developing or updating national sustainable development strategies, "efficiency plans" (or plans for the rational use of water resources, the principle of which was adopted at the Johannesburg Summit in 2002) and sector-specific strategies, on the understanding that individual countries are responsible for establishing their own objectives. Efficiency plans may be drafted and implemented at various levels (country, catchment basin, aquifer, city, irrigation area, industry…).

Moreover, WDM should constitute a priority within the national Strategies for adapting to climate change adopted by the Mediterranean countries. Indeed, WDM measures are key aspects of adaptation strategies, particularly by dint of forestalling the effects of climate change and switching/ reorganising uses and activities.

A regional objective of 25% water savings by 2025 has been adopted within the framework of the Barcelona Convention, taking 2005 as its baseline. The aim of target MED 1.1 is to achieve this regional objective.

[3] A third regional workshop on progress with WDM was held in Zaragoza in 2007.

Sustainable solutions for water in the Mediterranean:
managing scarcity and improving quality

Priority 1: "Improving water demand management"

Presentation of target MED 1.2

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1. Heading of target MED 1.2

By 2015 (2020?), each 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.

Remark: The target is established at national level. However, the solutions to be implemented and commitments to be made to reach this target involve all stakeholders at the various territorial levels (governments, local and regional authorities, water authorities, professionals, etc.).

2. Target context and issues

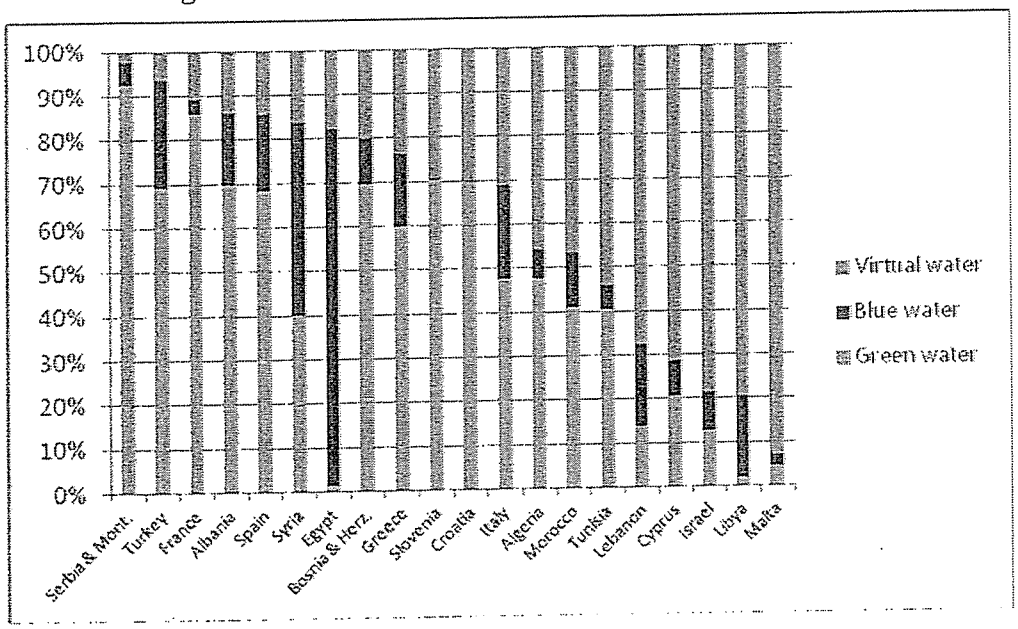
Agriculture in Mediterranean countries accounts for almost two thirds of their demand for blue water (from surface or ground water) and almost 90% of their total water demand, including green water from precipitation and virtual water derived from imports of food products. Water in the Mediterranean is therefore first and foremost an agricultural and food-security question, and vice versa.

The question of water needs to be tackled in relation to the water productivity of both irrigated and rainfed agriculture, changes in dietary habits and optimising the agro-food balance of trade, or to put it briefly, in relation to agricultural policy objectives in terms of food security. These objectives can only be defined on the basis of a full and comprehensive view of water, which is far removed from the traditional view of blue water, and which can be mobilised and used to take account of other forms of water resources i.e. green water and virtual water. In some Mediterranean countries, where green water and virtual water combined cover the major part of food demand (figure 3), the issues around irrigation are more economic or strategic: in particular, it may be an issue of exporting agricultural goods with high added value or helping to mitigate the negative effect of frequent droughts.

The works carried out by Plan Bleu have made it possible to assess the scale of losses and inappropriate use of blue water in each sector, and the possible progress that could be achieved through better water demand management (figure 2), which is likely to be a policy priority in the Mediterranean, based on a combination of tools and determination. A quarter of water demand for irrigation could be saved by improving the efficiency of water transport and plot-based irrigation.

The concept of rational water use, however, should be extended to the whole of rainfed agriculture, which accounts for the largest portion of natural water resources. Water and soil conservation measures, flood and run-off water management, water recovery and adapting the crop species cultivated to the level of usable reserves in the soil would enable more efficient use of green water.

Figure 3: Shares of green, blue and virtual water in the water demand of the Mediterranean countries for agriculture and food (2005)[4]



Source : Fernandez & Thivet, Plan Bleu, 2008

The strategic and prospective analyses carried out by Mediterranean countries, primarily to examine the possibilities of increasing the irrigated area and make it easier to take decisions in terms of allocating water resources within the agricultural sector or between different using sectors -including environmental considerations- should also take account of the possibilities offered by the development of "non-conventional" water resources, such as the reuse of treated wastewater. It will also be necessary to secure food imports for the Mediterranean region, which is the world's largest importer of cereals, in order to tackle water shortages and the risk of food insecurity.

The expected impact of climate change in the Mediterranean region makes it even more crucial to adapt the water and agricultural policies of the rim countries so that they are equipped to face a three-fold challenge: satisfying human needs, supporting development and protecting the environment.

[4] The virtual water demand is equivalent here to the quantities of virtual water imported *via* gross imports of cereals, soy beans, olives, specific crop products and beef and veal over the 2000-2004 period. The respective shares of blue, green and virtual water are thus calculated in relation to the countries' overall water demand for agriculture and food, irrespective of the final destination of the agricultural commodities (consumed at the national level or exported).

Regional Target Group MED 2.1

TARGET SHEET

The Target MED 2.1 aspires, in the short term (by 2015), to ensure that regional and national water resources planning in all Mediterranean countries includes the contribution of non-conventional resources as a potential source of water within their global water resources systems analysis and models. This planning should take into account the related effects on the environment, economy, health and energy.

The so called non-conventional water resources (mainly reuse of treated wastewater and desalination from brackish water or the sea) are nowadays quite common practices in the Mediterranean basin, but there are strong differences in the focus and degree of advance in this field among the different riparian countries. Moreover, there are different manners to face water issues or to understand and draw up water regulations due to historical and sociocultural reasons throughout the region. But despite these existing differences, it is obvious that due to the strategic importance that these resources can eventually mean in many areas of the Mediterranean, in economic, health, social and environmental terms, every country in the region should commit themselves to implement this objective by 2015.

Regarding desalination, most of the countries are nowadays using this technology, although only a few of them have done it within a planned, integrated framework. Some countries have bet on ambitious (maybe overambitious) desalination plans whereas in other cases desalinated water is almost inexistent or only an anecdotal resource.

Desalination is mainly called to meet urban supply needs, and in some specific cases industrial uses. This resource will only be applicable for irrigated agriculture if it becomes part of an integrated strategy that gathers every available resource, conventional and non-conventional, and all the existing demands in a mixed, integrated system. Economic analysis and experience shows that exclusive, direct use of desalinated water for agriculture is far from feasible due to its high cost. Also high energy consumption (which seems to reach an asymptotic level after very significant improvements in the last decade) and potentially high long-term environmental impacts should be carefully considered in the planning stage.

A key question is its energy dependence and the influence of that in the evolution of production costs. The product of increasing energy cost by decreasing energy consumption shows actually a final increasing result. Regarding that, technological innovation towards a higher reduction of energy consumption and the implementation of renewable energy sources must be encouraged, despite their known actual limitations. An alternative option should be to consider desalination as a complementary high-value resource, which main contribution will be to provide additional supply guarantee during severe water shortages. Hydroeconomic analysis of the water resources system during the planning stage is also mandatory in any case.

For reuse of wastewater the casuistry is also very wide. This is a usual practice, widely used mostly in irrigated agriculture for centuries, but growing for other uses such as industry, landscape gardening, urban services or golf courses. However, like for desalination, the

planned use of this valuable resource is not as common as it could be expected. Only a few Mediterranean countries have implemented wastewater reuse within their water plans, while in other cases users do not even apply any treatment to those waters before using them. In the most of these cases, the farmers irrigate with diluted, untreated, or partly treated wastewater, an inadequate practice that must be rejected.

Reuse is usually a competitive resource, with production costs significantly lowers than desalination if there is no need to use membrane technologies to achieve a higher quality or to reduce its salts contents. However, it is essential to control its chemical and bacteriological quality in order to minimize its sanitary risks. Therefore, the main priority must be to increase its reliability and sanitary guarantee.

The inclusion of reuse of wastewater in the water plans of the Mediterranean countries is essential and must be carried out bearing in mind the advantages and limitations of this kind of resource, and the necessity to lean on a well defined legal framework and a code of good practices. A successful use of regenerated wastewaters will imply not mainly an increase of net water resources (only real in coastal areas), but to achieve a substantial improvement of the environment at a local level, for the entire downstream basin, and for the Mediterranean Sea.

All the stakeholders commonly agreed that it's time for this situation to be addressed and improved. It is necessary to encourage the Mediterranean countries to develop water plans explicitly including feasibility analysis and programs about development of non-conventional resources. Those water plans must integrate all the necessary technical, institutional, regulatory and economic aspects, and define specifically the applicable technologies, treatment costs and tariffs, quality standards for each possible use and an appropriate institutional, local-adapted framework.

The time of the pioneers is far away. Both desalination and regenerated water reuse are actually feasible and technically mature alternatives, making the term non-conventional becomes obsolete, and accumulating a very valuable international experience in the Mediterranean areas where the availability of natural renewable water resources cannot support neither the current nor the future demands and the associated environmental requirements. Consideration in the water resources planning is obviously required.

Whether or not reuse and desalination will be the solution remains to be seen, but what is beyond doubt is that they will have to be part of the solution, now and in the future, in the Mediterranean area, a singularly fragile and threatened territory from the water availability and environmental point of view.

The Mediterranean Water Forum, upon knowing the situation, agrees to set itself up in an organization for the promotion of the development of the rational use of non-conventional water resources in the Mediterranean region. With this aim, it will coordinate the actions in the topic, setting up the necessary working groups and activities. Besides, the Forum commits itself to account for the developed activities and reached achievements to its members.

With this background, and according to the 6th WWF lemma *Time of solutions*, the MWF agrees to foster in depth exploration of the real possibilities of these new resources in the Mediterranean within a common, integrated water resources planning framework.

Regional Target Group MED 2.2

TARGET SHEET

The Target MED 2.2 aspires, in the short term (by 2015) to develop a common regulatory framework for the Mediterranean area that considers the specific hydroclimatic features of the region, with its singular problems of scarcity and droughts in semiarid environments. This framework must integrate the contribution of non-conventional resources with the rest of supply and demand, structural and non-structural alternatives.

The so called non-conventional water resources (mainly reuse of treated wastewater and desalination from brackish water or the sea) are nowadays quite common practices in the Mediterranean basin, together with other conventional resources such like surface waters from rivers or reservoirs, or pumped groundwater. However, this common practice shows strong differences in the regulatory framework for their consideration within the regional and national water resources systems planning of the different countries. So Target Group 2.1 is focused to enforce the inclusion of non-conventional water resources within the planning of the countries according to common good practices and recommended standards, whilst this Target Group 2.2 is ambitiously focused on getting a common regulatory framework for considering the singular problems of water scarcity of Mediterranean semiarid environments, taking into account the specific contribution of non-conventional resources within this framework.

Both objectives are very closely related and complimentary. Specific detailed insight in technological, economical, environmental and health issues of water desalination and reuse in the Mediterranean (2.1) is now collected and inserted within the more global framework of the complete water resources systems of the river basins and riparian countries (2.2), raising new problems and opportunities for common rules and experience-sharing in this water-stressed, singular semiarid area of the world.

In our countries water quality protection and environmental enhancement is of primary concern, but getting a good ecological status of the water bodies and related systems requires considering in an explicit way, as a key question, the specific problem of scarcity and growing imbalance between supply and demand.

Non-conventional water resources are called to play an important role in this arena, but their isolated, punctual consideration, even getting the higher levels of technical quality and sophistication, could be highly ineffective. Economic rationality, smart technical solutions, integrated consideration of all possible options, stakeholders' involvement and a wide open perspective are needed to reach the objectives, but all this elements needs a common regulatory framework at the level of regional and national water planning, and a common political commitment toward this objective.

For the action plan, examination of the actual status is the first concern. It is proposed to collect and update actual information about institutional regulatory framework of water planning, with specific consideration on the treatment given to non-conventional water resources in the different countries. These regulations must be compared in an

understandable, simplified scheme, raising the coincidences, differences, and acquired experiences from their practical application.

In view of the results, a common water resources planning pilot project could be developed, in order to check the approaches, methods and possibilities of non-conventional resources in actual real Mediterranean water systems, both from a technical and institutional perspective.

To do that, as a first stage, a group of institutions concerned in the water resources planning in the different countries must be created under the MWF initiative. Incorporation of interested institutions implies the commitment to cooperate with the group by collecting and preparing relevant information and data from their river basins or countries.

Once created the group, standards definitions of the necessary data should be identified, and every member must provide these data to the group, together with and updated collection of codes and practices about water resources planning in their areas.

Common minimum contents of the pilot water plans, with common basic data requirements must be defined. Clear, practical specification of simplified data bases, geographical information, systems definition and statistics could be collected and assembled under a common shared framework, easily usable, downloadable and shared for the entire group. Technician formation and research needs in semiarid hydrology are also a part of this target.

Using common methods and technologies, made available for all the group members, these pilot plans must, in a simplified way, analyze and underline the main problems related with water scarcity and sustainability of the systems at the river basin or even national scale. The real role of non-conventional water resources and the different alternatives could be so quantified within an objective, common framework. Good practices, rules and procedure for planning in semiarid areas, considering non-conventional resources, will be one of the results of this target.

As is well known, there exist actually a big amount of initiatives and previous work about all these issues. Most of them are updated and can be directly incorporated with the required arrangements and adaptations. Other could be obsolete and require some kind of updating. It is possible also to identify problems of lacking or data inconsistencies, which are also per se an interesting result. The group will analyze all these circumstances and decide in any case the best way of action.

It is obvious that by no means these activities should be considered as redundant, superimposed o substitutive of the different plans that every country must develop according to their internal laws and regulations. The scale, objectives and detail are clearly quite different, and many relevant questions required in the real formal plans should be -and must be- avoided in these pilot schemes.

Considering the situation, the Mediterranean Water Forum agrees to set itself up in an organization for the development of the rational use of non-conventional water resources in the Mediterranean region, together with all the other available resources. With this aim, it will coordinate the actions in the topic, setting up the necessary working groups and activities. Besides, the Forum commits itself to account for the developed activities and reached achievements to its members.

With this background, and according to the 6th WWF lemma *Time of solutions*, the MWF agrees to foster in depth exploration of the real possibilities of these new resources in the Mediterranean within a common, integrated water resources planning framework.

Sixth World Water Forum

Mediterranean Cross-Continental Process

Priority 3: Improving Water Governance

The 6th World Water Forum "Time for Solutions" aims to tackle the challenges our world is facing and to bring water high on all political agendas, given that sustainable development necessitates the proper address and effective tackling of water issues. In that context, and following a kick-off meeting in Murcia (18-19 April 2011), the Mediterranean Cross-Continental Process was launched as one of the Forum's regional processes. It aims to put forward concrete and tangible solutions applied in or proposed for the Mediterranean region, with replicability potential also in other parts of the world. In the course of the preparation process, four priorities for targeted action have been identified along with eight SMART targets (two for each priority).

Improving Water Governance is one of the four priorities consisting of the following two targets:

3.1 *In the medium term (by 2020), every Mediterranean country - supported by multi-stakeholder national dialogues and in view of achieving cross-sectoral water resources management - has in place operational and applicable national IWRM Plans and Water Efficiency Strategies and has developed and/or substantially advanced river basin management plans, all of which are linked/align with National Development Strategies, National and/or Sectoral Financing Strategies, National Adaptation Plans and, where applicable, National Integrated Coastal Zone Management Plans and International Agreements regarding the protection of transboundary water bodies.*

3.2 By 2020, every country has activated and implemented mechanisms for effective stakeholder participation throughout the different components of basin water resources management, and has in place a functioning articulation between central and decentralized levels

Below is a brief outline of the two targets' context, while the full elaboration of objectives, suggested solutions, commitments as well as an action plan for their implementation will be included in the target-specific and regional reports, currently under preparation, in view of the 6th World Water Forum (Marseille, 12-17 March 2012).

In addition to discussions, feedback and experience-sharing throughout the preparatory process towards Marseille, significant input (including specific proposals for solutions) is expected during the First Mediterranean Water Forum (Marrakesh, 19-20 December 2011).

Operational linkages with other related thematic and regional process of the 6th World Water Forum (especially CS1 Good Governance Core Group) have been secured and the possibility for joint sessions in Marseille is being explored.

Summary of the Report on Target 3.1[1]

In the medium term (by 2020), every Mediterranean country - supported by multi-stakeholder national dialogues and in view of achieving cross-sectoral water resources management - has in place operational and applicable national IWRM Plans and Water Efficiency Strategies and has developed and/or substantially advanced river basin management plans, all of which are linked/align with National Development Strategies, National and/or Sectoral Financing Strategies, National Adaptation Plans and, where applicable, National Integrated Coastal Zone Management Plans and International Agreements regarding the protection of transboundary water bodies.

The prominent role of water and water resources management in the Mediterranean agenda is difficult to contest. It is not only the severe scarcity conditions the region encounters, coupled with intense demographic changes (population growth, urbanisation trends), potential climate change implications and a rich constellation of geopolitical particularities, that places water issues high on the policy agenda. More importantly, it is the planning and implementation of much needed water governance reforms that render the overall endeavour necessary, though highly challenging.

Inspired by internationally accepted IWRM (Integrated Water Resources Management) principles and practices, the need for sustainable governance approaches at local, national and transboundary levels has been clearly identified. Despite significant efforts by most Mediterranean countries towards water sector reform, many still suffer from the lack of planning and technical capabilities, effective operational strategies, fragmentation of responsibilities among authorities – including decentralisation concerns, weak policy implementation and limited law enforcement. Furthermore, water strategies and plans (where existing) often do not adequately address national development priorities, financing strategies, adaptation policies and transboundary considerations.

Despite the rather ominous picture portrayed, most Mediterranean countries have embarked upon or are well underway water sector reform processes through the elaboration and/or update/revision of IWRM Plans and Water Strategies, with governance firmly placed at the centrepiece and IWRM forming the guiding framework. Recent regional political (the Arab Spring) and economic (food and economic crisis) developments present challenges as well as opportunities for inducing further the ingredients necessary for effective water governance. The prescriptions for improved water management can achieve the proclaimed effects only when the water reform is planned in a holistic manner, including political, institutional, legal, social and economic changes, and with due cross-sectoral considerations, involving agriculture, industry, energy, tourism, domestic use, nature conservation, etc.

Whether elaborating on an IWRM Plan, a Water Strategy and/or a Water Efficiency Plan, it is well recognised that there are no universal blueprints or one-solution-fits-all. Country

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[1] The Report is being prepared by the Global Water Partnership-Mediterranean (GWP-Med) in close collaboration with the Government of Greece (Hellenic Ministry of Environment, Energy and Climate Change) that leads the Mediterranean Component of the European Union Water Initiative (MED EUWI). Input has been/will be provided also from the Core Group of the Water Governance Priority as well as the Steering Committee of the Mediterranean Cross-Continental Process.

particularities need to be taken into account along with proper consideration of the various competing –and often conflictual- water users and uses. At transboundary level, the implementation of plans becomes even more strenuous, as it involves different national sovereignties with differing needs and priorities. Having said that, it is also well acknowledged that there is a wealth of valuable experiences to be shared at the regional, sub-regional, national and local levels and a promising ground for coordinated strategic planning. Knowledge and experience sharing along with the potential replicability of good/best practices needs strengthening with emphasis on multi-stakeholder involvement in order to ensure transparency, accountability, ownership and eventual endorsement.

Despite the difficulties in outlining the successful design (and implementation) of Plans and Strategies, some key ingredients –by no means exhaustive- would involve: the reform of institutional structures with clear definitions of roles and responsibilities so as to enhance inter- and cross-sectoral coordination along with a balanced central-decentralised planning; the establishment of apposite legal and regulatory frameworks with due attention to their effective enforcement also in connection to the implementation of economic principles and the enabling environment for private sector participation; the promotion and operationalisation of tangible actions for improving cooperation and sustainable use of transboundary water resources in conformity with international law and agreements signed and ratified by the countries; the improvement of transparency and accountability governance mechanisms with the aim to fight corruption and enhance integrity; the protection and safeguarding of natural ecosystems in accordance with the provisions of related Agreements and/or Conventions; the alignment of IWRM with integrated coastal zone management policies recognising the inescapable linkage and mutual influencing of inland and coastal management; the incorporation of emerging priorities like the water-food-energy nexus; or the mainstreaming of climate change considerations and the alignment with National Adaptation Plans.

Strenuous as it may seem, this endeavour is already in motion and is also supported by existing and on-going regional processes and initiatives that highlight the centrepiece of water management for sustainable development, raise the political profile of water issues and facilitate the sharing of experiences and good practices within and outside the region. The wealth of such processes/initiatives would render the mere recounting of them challenging, fractional and unmerited. In addition to EU-led (Water Framework Directive, EUWI-MED EUWI, etc) and UN-led (Barcelona Convention, Mediterranean Strategy for Sustainable Development, etc) processes, the on-going political process (since 2008) with regard to the elaboration of the Strategy for Water in the Mediterranean (SWM) and the Action Plan for its implementation within the framework of the Union for the Mediterranean (UfM) merits attention. The draft SWM, although not yet formally approved, has been agreed at 99% on its text by all the 43 countries of the UfM. What is important to note is the inclusion of clear and time-bound recommendations for action that reflect political commitment from the side of the countries. Therefore, reflecting on the context of the draft SWM, as well as that of the Arab Water Strategy (recently endorsed, with its Action Plan pending), especially as both include clear sections dedicated to water governance, is of significant added value for the input of Priority 3-Target 3.1 to the Sixth World Water Forum.

The identification and elaboration of tangible solutions is an on-going process, given also the need for a clear and plausible roadmap for their implementation. While keeping the above in mind, it is expected that the discussions during the First Mediterranean Water Forum in Marrakesh will enrich this endeavour and assist with moving forward.

Summary of the Report on Target 3.2[2]

By 2020, every country has activated and implemented mechanisms for effective stakeholder participation throughout the different components of basin water resources management, and has in place a functioning articulation between central and decentralized levels

In the Mediterranean countries, more than elsewhere, the strategic issues (scarcity, quality, flood risks) of water take on a new dimension, considering the deep evolutions expected in this region of the world (be they climatic, demographical, socio-economic, political or environmental, among others). Sharing the resources between all the different uses, both urban and rural, socio-economic and environmental, and their appropriate management at every level, locally as well as over large trans boundary basins, is a key question for welfare, peace and stability, in particular in the south and east of the region.

Improving governance and fostering its evolution is thus an obvious necessity in the Mediterranean countries, as strongly expressed in the previous World Water Fora. In this sense, the appropriate recognition of the complexity (multi-level, multi-user) of water issues, and of their interdependence with other general concerns (territorial planning, food security, public health, energy, etc.) requires the mobilisation of all the stakeholders.

Local actors, public or private, do not always fully grasp the respective roles of central and local power, and do not find structures that allow them to by truly involved. And too centralized decisions may be unrealistic, inappropriate and inefficient.

So, the aim of Target 2 is to make this mobilisation a reality and to improve water governance in Mediterranean countries, thanks to better articulation between central and local powers according to subsidiarity, and thanks to multilevel stakeholders' involvement and participation in decision-making process for integrated use of water resources, working simultaneously on the supply and demand sides.

The ambition of the target is to propose solutions, fed through experiences (successful or otherwise), being careful to preserve the particular conditions and context of each country, since governance must be constructed within a framework of human and social maturity.

To activate the mechanisms of participation of the key community of stakeholders and turn them operational, and compensate the shortcomings diagnosed in the articulations between the levels of water governance, the "solutions" can draw on a variety of processes (decentralization, delegation, consultation, capacity building, information....)

The field of the application of this participation can concern particularly the distribution of resources and the usual rules, the articulation water-food-energy, the protection of resources

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[2] The report on target 3.2, prepared by J. PLANTEY (IME) and S. MIQUEL (ARLEM) with A. AKHMOUCH's (OECD) advice, draws extensively on the methodology and approach developed by target 1 of CS1 Good Governance Core group; synergies for joint sessions at 6WWF will be contemplated at a later stage.

and the environment, the economic regulation/control (the "3T"....), the risks management (mitigation tools), the design and achievement of projects, the sustainable management of services...

The measures established to ensure the necessary articulation between water stakeholders, at different territorial levels, and between those levels, in decision-making processes on water policy, may vary significantly according to the particularities of each country.

Globally, for water resources management, the role of central power has up to now remained predominant; local authorities tend to progressively acquire control of management services (water and sanitation), and feel concerned with the quality of their immediate environment. The authorities in charge of more diverse or larger territories are closer to basin management issues or protection of natural aquatic areas.

No doubt after the "Arab spring", the democratisation process will induce reflexions about the setting up of local autonomy and the reinforcement of decentralization, particularly for sectors such as public water governance, which need consistent and concerted prospective planning and management

Bearing in mind the extreme diversity of contexts, local or regional, there is obviously no magic recipe or "one-size-fits-all" solution to define the tracks and means of an optimal articulation between different decision-making levels.

However, sharing experiences in different countries, on the setting up of diagnosis tools, the establishment of operational mechanisms, decentralisation, delegation of authorities, consultation, public consultation, etc., is likely to allow each of them to define the conditions of water governance adapted to the complexity and the scope of future challenges.

So, the Target and Solution Group recommends a strong and steady follow-up (helped by an ad'hoc Task Force to be constituted) of the Stakeholder Participation in Governance Process ("SPGP") in the Mediterranean countries until the target is reached, and even afterwards, to help for a continuous adaptation to evolving context.

As SPGP relies on combining bottom-up and top-down approaches, "engagements" have to be taken at field level, by every stakeholder, aware of his rights and duties according to the responsibility he assumes in water governance ; and at national and regional level, to help this process.

In this way, it is hoped that the 1st Mediterranean Forum will help to involve contributors, collect solutions and prepare commitments to be taken for the WWF6 in Marseille.

6th World Water Forum – Mediterranean Cross-Continental Process

B- Depollution of a shared ecosystem

Priority 4: Industrial and urban wastewater collection and treatment

Target 4.1: By 2020, every Mediterranean country has established the technical and economic modalities for the discharge of industrial waste in the public sanitation systems.

Target 4.2: By 2020, each Mediterranean country has defined a strategy of sustainable cost recovery (SCR) for sanitation services through the use of tariffs and fees, public subsidies and international[1] financial assistance to ensure economical sustainability, equitable access for all and pollution control.
Themes: Tariffs, Taxes and Transfers (the "3Ts")

Coordinators:

Target 4.1: IME - AFD
Target 4.2: EMWIS – ONAS (Tunisia)

Rationale
The 6th World Water Forum is based on four main processes: thematic, regional, political, grassroots and citizenship. The Mediterranean cross-continental region is one of 7 territories in the regional process. The Mediterranean Cross-Continental Process has identified 4 thematic priorities, grouped into two components:

A. Efficient water management, a priority question to face shortages and crisis prevention as a result of climate change
   - Priority 1: Non-conventional water use
   - Priority 2: Demand-supply management
   - Priority 3: Governance

B. Depollution of a shared ecosystem
   - Priority 4: Industrial and urban wastewater collection and treatment

Context:

Target 4.1:
The Mediterranean coast houses a population of more than 100 million inhabitants and 200 million tourists every year, but also numerous manufacturers, among which more than 200 petrochemical complexes, but also traditional mining, classical textile, fertilizers, chemistry, cement, agro-food, surface finishing and finally traditional companies such as tanneries, oil mills, canneries and breweries.

Within the framework of the Barcelona Convention, the Mediterranean countries committed to treat 80% of the human pollution which finds its way to the Mediterranean. If considerable efforts have been made from the perspective of urban sanitation, industrial sanitation remains the greatest challenge to be overcome in order to reach this objective of cleaning up the Mediterranean.

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[1] Transfers, in the vocabulary of the OECD on the 3T

Indeed, whereas domestic waste has been the subject of a defined strategy for public sanitation and substantial means have been mobilized, industrial waste often remain a problem which occurs afterwards and whose treatment mechanisms, at the institutional, technical and financial levels, are poorly defined.

Among the main obstacles to the fast implementation of projects which can decisively contribute to the objectives of improvement of the health situation, from the Horizon 2020 programme (depollution of the Mediterranean sea), is the lack of financial resources to ensure a satisfactory functioning and to make the necessary investments. This situation has often brought about serious insufficiencies in pollution control (municipal waste, urban wastewater and industrial pollution), perpetuating the idea that sanitation services do not deserve the same priority as drinking water provision services.

Target 4.2:
Nowadays, in a number of Mediterranean countries, the water sector and the institutions that belong to it are seriously under-financed. Scarce water resources, a growing demand and the deterioration in water quality complicate the challenge of supplying sufficient water for all users. Sufficient and sustainable funding is a prior condition for the correct functioning of the water sector, and guarantees the permanence of public water and sanitation services (WSS), and is itself necessary for human and economic development, social stability and peace. The economic, social and environmental cost of the absence of sanitation is often much higher than the real cost of the development and the management of these services.

The report "Managing Water for All: An OECD perspective on Pricing and Financing" presented at the 5th World Water Forum, called for the creation of a new model of financing the distribution of water and sanitation services in developing countries, based on the 3Ts: tariffs, taxes and transfers. During the 5th World Water Forum in Istanbul, Ministers recognized that: "exclusively economic approaches and tools cannot capture all social and environmental aspects in cost recovery. Financing strategies should be based on a best possible use and mix of tariffs for all forms of water services, taxes and transfers to cover needs related to infrastructure development and extension, operation and maintenance".

In the Mediterranean, the situation is highly contrasting, both in terms of the characteristics and the implementation of sanitation services tariffs. The establishment of an acceptable tariff is a prior condition for the collection of this vital financial resource but it is necessary to make an effort to explain and to motivate that this be effectively implemented.

Description

Target 4.1:
From the technical and operational perspective, the questions to be asked to manage industrial waste are the following:

- Should waste be connected to the public network?
- If it is connected, what pre-treatment should be established?
- In cases of individual sanitation, what types of treatments should be established?
- In all cases, what is the financial impact for the company?
- Who and how to operate this industrial pollution treatment infrastructure?
- How and who should control the functioning of these facilities?

But the institutional considerations remain even broader:

- What are the control or self-control mechanisms?
- Who should be responsible for water policing and what means should be associated with it?
- What should be the minimum regulation, how should waste standards be defined?

- What funding mechanisms (grants, etc.)?
- What incentives (certification, communication, etc.)?
- Should a homogenous framework be established or a framework that is adaptable according to the level of risk of the companies?

Three stages could be identified for the action plan, for example (to be discussed):

- By the end of 2015, each Mediterranean country evaluated has defined the institutional body in charge of authorising waste discharges into sanitation networks and of defining the associated technical-economic modalities
- By 2014, each Mediterranean country has carried out an estimation of industrial pollution discharged into natural environments and established inventories and priorities for action
- By 2015, each Mediterranean country has defined/established a billing system for the treatment of industrial waste by public utilities, accompanied by a system of participation in the investments, if appropriate.

Defining the activities to be carried out ("practical steps") and the responsible parties (on different territorial scales).

Giving examples of commitments made or to be made by:

- Politicians (governments, parliamentarians, local authorities)
- A "desirable target" to be set in institutional terms for the region by 2025 would be that each country has defined an institutional framework that specifies the roles of each stakeholder and the bodies in charge of the control of industrial waste discharged into public networks and into natural environments
- Regarding economic matters, a desirable target is the setting up of the polluter pays principle for the minimal running costs.
- As regards control, a target by 2020 would be that all Mediterranean countries have evaluated the industrial waste they produce and targeted the main areas for which a voluntary approach would be established (classification of industrial establishments)
- Commit to implementing measures that provide incentives for the treatment of industrial effluent (labels, technical support and awareness raising).
- Donors
- Commit to promoting innovative financing such as bank credit lines for industrial sanitation or cleaning funds (such as the FODEP).
- Companies
- Commit to optimizing their internal processes to reduce the quantity and concentration of wastewater
- Commit to approaches aiming to reduce the impact of their wastewater, in natural environments.

Target 4.2:
It is important to consider the cost recovery scheme for the global cycle of sanitation services in order to have a clear picture of all costs and for them to correspond to the necessary financial resources: taxes, tariffs and charges, and international financial aid (i.e. the 3Ts according to the OECD terminology). This approach aims to answer the question "Who pays for what?"

The importance of the 3Ts as a concept should not be overestimated; it simply represents a classification to analyse financial flows. It results in a policy reflection on the way to reconcile the sanitation sector's financial needs with its sources of income, the possibilities of cost reduction and the possibilities to use commercial funding sources. Similarly, the planning of strategic financing is not in itself sufficient to develop the

water-related infrastructure. It must be accompanied by good governance regarding sanitation (participation, transparency, accountability, rule of law, efficiency, equity, reactivity, responsibility, etc.). This process must be coordinated between the different Ministries and other levels of government (local and regional authorities), and include an appropriate consultation with non-governmental stakeholders.

The definition of the cost recovery scheme must be accompanied by:

- Guarantees on the quality of services, important for the acceptability of the tariff,
- Overall cost reduction considering the necessary investment in infrastructure development, functioning and rehabilitation. Technological innovation certainly has an important role to play, but substantial gains can also be noted through Public-Private partnerships for the funding and operation of infrastructures and sanitation services;
- Financial incentives aiming to reduce polluting waste;
- A regular dialogue with political decision-makers and users through opinion surveys (e.g. willingness to pay) and a set of regularly updated indicators (e.g. cost of ecosystem degradation by type of activity).

In a cost recovery scheme for the sanitation sector, the sources of funding to be considered are the following:

- Tariffs, taxes and charges: the polluter pays principle is generally applied in the form of:
    - Charges according to the level of pollution of the waste for companies or the level of consumption of water for households;
    - Eco-taxes on certain particularly polluting products (e.g. detergents)
    - Evaluation of sanitation by-products (e.g. the reuse of sludge for energy generation or treated wastewater for irrigation or industry).
- State budgets in the form of grants for operators or service users
- Official development assistance mechanisms in the form of international donations for projects or support for the operation budget.

For the implementation of a sustainable cost recovery scheme, particular attention must be paid to:

- The evolution of the cost recovery scheme over time,
- The definition of an equitable and socially acceptable tariff system with evaluation mechanisms,
- The role of different stakeholders: different levels of public authorities, operators, users (industrial and domestic).

Political leaders are called to define a clear SCR strategy since they control 2 of the 3Ts:

- Tariff policy: definition of the price level and adjustment mechanisms, verification of accessibility for the poor, imagining new solutions (for example payment for environmental services and the polluter pays principle)
- Taxes: reliable budgetary funding (imagining performance-based funding)
- Efficiency improvement in the allocation and use of grants

Elements for an action plan

Target 4.1:

From an institutional perspective, industrial waste management can only be achieved through the clear definition of roles between multiple stakeholders. In order to preserve the natural environment, industrial effluent may be either treated autonomously before being discharged into natural environments, or discharged into public networks where they will be treated together with domestic effluent. For that purpose, it is necessary to clarify the role of stakeholders and to define in particular what institution is responsible

for authorizing or otherwise the discharge of industrial waste into the public network and what institution is responsible for controlling industrial waste directly in natural environments. Each of these institutions may be local or national but must be provided with the means to implement this management.

Concerning waste discharged into public networks, the institutions generally designated to authorize this waste are the national or local operators of these public networks. They must therefore define waste standards for public networks and the associated means of control. Indeed, if some industrial effluent has characteristics close to domestic effluent and may be accepted taking into account their load in the sizing of treatment plants and dependent upon the setting up of pre-treatment (breweries, food industry), others may endanger the functioning of facilities (oil mills, tanneries, copper and brass works, etc.) and must be the subject of specific collection and treatment.

From an economic perspective, three main expenses can be made out in industrial waste management

1. The necessary investments in the construction of pre-treatment units, industrial waste treatment or linked to the oversizing of public treatment plants. These investments may, for some companies, be covered by the companies themselves, in particular when they are incentivized to do so through

2. The running costs of this infrastructure (or the corresponding proportion linked to industrial overloads)

3. The cost of verifying and following the industrial waste: Having companies cover all of these costs through the "polluter pays" principle has been beneficial for the treatment of waste from large companies but often constitutes a barrier for industrial waste management for small and medium sized companies, whose economic structure does not allow full cost recovery without endangering their activity.

Once the institutional actor in charge of authorizing and verifying industrial waste in a given territory has been identified, which may be for example a local authority through its public sanitation network operator, progress regarding industrial depollution activities is made through an estimation of the industrial pollution on the territory accompanied by a "land register" of the most heavily polluting companies which must be kept up-to-date.

The inventory of companies which produce the most waste, the setting up of a regulation which forces them to treat their waste directly or through public facilities, the setting up of funds or credit lines to fund pre-treatment or treatment investments is often insufficient to ensure good industrial waste management.

Target 4.2:
To reach this target, the following stages are proposed

- Agreement on the concepts of the approach to the sustainable cost recovery scheme (March 2012)
- Demonstration of current cost recovery schemes of (certain) Mediterraneans countries (December 2012, Marrakech)
- Collection of existing or innovative solutions in Mediterranean countries on this target (December 2012, Marrakech)
- Signing of an agreement between XX Mediterranean countries to implement an action plan aiming to establish a sustainable cost recovery scheme by 2020 (during the Marseille Forum in March 2012)

Links with other targets of the 6th World Water Forum

Thematic process:

- Target 4 of the Condition for Success CS2 "Financing water for all" related to the inclusion in national water policies of sustainable cost recovery through tariffs, taxes and international transfers
- Target 4 of the Priority for Action 1.3 "Contribute to hygiene and health through water and sanitation", related to the publication of total expenses related to water and sanitation,
- Priority for action 1.2 "Improve access to integrated sanitation services for all"

African regional process:

- Priority 5 "Develop and implement in all countries innovative financial mechanisms including taxes, tariffs and transfers",
- Priority 1 "Develop and implement sanitation and water plans"

European regional process:

- Priority 7 "Improve European drinking water and sanitation services"

As a result, the synergy between the different sessions must be coordinated and managed, and to ensure a mutual contribution in order to deliver a clear and precise message on the way in which we wish the funding of sanitation services to be carried out and managed in order to reach the targets established for 2020.

Annex:

***Definition of the 3Ts according to the OECD**

1) Tariffs
   a. Revenues of the operators from service provision (∑water and sanitation bills – taxes or charges)- revenues from service users
   b. Revenue of infrastructure owners (mainly public; relevant only if reinvested in the water sector)
2) Taxes (subsidies, grants); cash from (non-foreign) public budgets
   a. Subsidies to local or national water operators. The following lists a number of potential hidden subsidies:
      i. tax rebates, tax holidays
      ii. soft loans (i.e. at a subsidised interest rate),
      iii. transfers from local government housing taxes,
      iv. donations, and debt forgiveness
      v. subsidised services (e.g. electricity) and prices.
      vi. "dormant" equity investments
      vii. coverage of the operator's financing gap
   b. Subsidies to infrastructure owners (including soft loans / concessionary conditions for investment
3) Transfers: cash in aid from foreign sources
   a. Official development assistance - ODA (e.g. Subsidies from foreign sources, grants and soft loans),
   b. Budget support from foreign sources (e.g. debt forgiving)