

PALAIO LOGO
MEDTAC

“Core” for Action Plan

2001-2005

AND SUMMARY REPORT OF THE


**Mediterranean Conference of Water Stakeholders and Decision-Makers:
Towards a Core FOR Action Plan**
2-4 November 2000
Athens, Divani Acropolis Palace

Organised by MEDTAC/GWP and MIO-ECSDE


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 **General Introduction to the “Core” Action Plan:
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“CORE” FOR ACTION PLAN

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ACRONYMS

ORGANISATIONS / PROCESSES

| | |
|-----------|---|
| AP | Associated Programmes |
| ASCAD | Arab Centre for the Studies of Arid Zones and Dry Lands |
| BP | Blue Plan (Plan Bleu) |
| CAP | Core for Action Plan |
| CEDARE | Centre for Environment and Development of Arab Region and Europe |
| CIHEAM | International Centre for Advance Mediterranean Agronomic Studies |
| CMP | Catchment Management Plans |
| CZMP | Coastal Zone Management Plans |
| EMWIS | The Euro-Mediterranean Information System on the know-how in the Water Sector |
| EU | European Union |
| EUROMED | Euro-Mediterranean Partnership |
| FFA | Framework for Action |
| GWP | Global Water Partnership |
| IME | Institut Méditerranéen de l'Eau (Mediterranean Water Institute) |
| INBO | International Network of Basin Organisations |
| IWRM | Integrated Water Resources Management |
| MCSD | Mediterranean Commission on Sustainable Development |
| MEDTAC | Mediterranean Technical Advisory Committee |
| MedWet | Mediterranean Wetlands - initiative for the conservation and wise use of the Mediterranean wetlands |
| MIO-ECSDE | Mediterranean Information Office for Environment, Culture and Sustainable Development |
| MWN | Mediterranean Water Network |
| PPP | Public Private Partnerships |
| RBO | River Basin Organisations |
| SEA | Strategic Environmental Assessment |
| SMAP | Small and Medium Action Programme |
| TAC | Technical Advisory Committee (of a GWP region) |
| UNEP/MAP | The Mediterranean Action Plan of the United Nations Environment Programme |
| WDM | Water Demand Management |
| WFD | Water Framework Directive (of the European Union) |

Preface

Water in the Mediterranean is a critical resource, invaluable for human welfare and sustainable development and essential for the maintenance of the rich biological diversity of the region. That is why its integrated water resources management (IWRM) should be a common goal for all those concerned with balanced and equitable progress in this historical part of three continents.

Through the Mediterranean Technical Advisory Committee (MEDTAC)¹ of the Global Water Partnership (GWP), important documents, such as the Water Vision, Mapping and Framework for Action (FFA) have been drafted or are under preparation. The latter is supposed to offer a framework action programme. Despite whatever effort to include previous proposals, such a framework reflects the current views of our wider MEDTAC/GWP group.

Consensus is a fundamental principle of sustainability. An action plan to have chances for success should be based in the widest possible consensus. Consensus cannot and should not be forced. It should emerge naturally and be convincing. Until now, there have been several attempts and a number of plans and frameworks, strategic and/or operational aiming at this goal. Most of them have more similarities than most people think, but also characteristic divergences. It is perhaps now the moment to attempt to draft not yet another new action plan but to make a comparison of the existing proposals extracting from all of these plans, of their common core. Such a common core for action built on this maximum consensus would guide, hopefully without dispute, joint initiatives and activities leading to successful Regional Associated Programmes for the next five years.

The MEDTAC/GWP decided in its Meeting of May 2000, in Athens (a decision presented and endorsed by GWP) to contribute to this task by preparing a first draft of such a Core Action Plan to be submitted for discussion in a **Mediterranean Conference of Water Stakeholders and Decision-Makers: Towards a Core Action Plan** (to be held in Athens from 2 to 4 November 2000), which is the present document.

The document as a draft was presented and discussed in the Conference and a number of comments, as well as, the preliminary assessments of priorities of activities by four sub-regional groups of experts have been incorporated in the present document, which, by its nature, should never be considered as "*final*". The brief report of the Conference itself is given as an Annex 3. As discussed at the Conference, the document will be titled as Core for Action Plan 2001-2005.

¹ The members of MEDTAC/GWP are: Blue Plan (MAP/UNEP), CEDARE, CIHEAM, IME, MedWet, MIO-ECSDE and MWN

1. General Introduction

WATER RESOURCES IN THE MEDITERRANEAN - PRIORITY ACTIONS

1.1. Preamble

In the Mediterranean region, amongst global natural resources, water is the most critical. The complex dimensions of the Mediterranean freshwater, its fragility, its scarcity and its prediction for the next century had been highlighted and received considerable attention as a primary priority issue politically, technically and scientifically. In fact, water perspective in the Mediterranean region is overwhelmed by two fundamental problems: the continuously growing water demand, on one hand, and the water scarcity and expanding problems of pollution, on the other one. Basically, they are both interrelated, into the complex water functions along with the integrity of the water cycle, and provoked by unfavourable regional climatic conditions, rapid population growth, urbanization, industrialization and increased irrigation needs necessary to satisfy an additional demand for food production.

Today, there is still poor and incomplete awareness among policy makers, politicians as well as general public about their genuine dependence on water cycle, the uniqueness of water and its basic functions in the natural environment and society. It is also worth noting that different groups of societal actors (engineers, ecologists, farmers and researchers) tend to differ also in their basic water perceptions. Thus, the water perspectives are often quite limited and accordingly tend to hide the involvement of water in many societal planning issues related to land use. Consequences of such neglect is the arising of aggravating livelihood problems, the Mediterranean region is now facing, leaving the public to take the risks.

Nowadays, as we turn the corner on the 21st Century, there is an urgent requirement to devise strategies for the sustainable use of water resources in the region. In spite of it, an improved understanding of the scientific, technologies, economic and institutional factors underlying freshwater management and use is essential.

In the Mediterranean, many fruitful conferences, one followed by another, meetings, discussions and national, regional and international consultation processes concerning water resources were effectively and successfully held. Several programmes and projects had been realized and others are on the way to solve the water problems and to satisfy the water needs. Some progress is now felt, however, population growth, lack of proper management mechanisms and weakness in public awareness, all call for an efficient and tight cooperation on the national, regional and international levels, to avoid water crisis already started looming in the region.

The overall problems are clear. Equally clear is that the scope of the effort required to address them may well have to go beyond the application of current conventional thinking. We will need to be bold in thinking through what sort of long-term strategies to recommend, in addition to the application of the best current practice today. The relevance of particular issues and proposed solutions are difficult to address each country's priority issues and needs. Nevertheless, certain general principles and strategies for water policy and water sector development can be provided. Effective water policies are to be formulated and adopted in the Mediterranean countries according to the prevailing conditions in each, combined with the political will and commitment, suitable institutional frameworks, and the capacity to make them work.

1.2. Facts and Perspectives

In view of the actual situation, covering the major water supply and demand issues, management as well as the socio-economic and environmental aspects, we would like to highlight a few stylised facts and broad about the water resource, particularly the water demand and supply in the Mediterranean countries which could provide guidance for identifying policy options. These facts and perspectives could be summarized as follows:

- Whilst in global terms northern Mediterranean countries currently benefit from a relative abundance of water supply, the majority of southern ones either face serious risk of widespread water shortages, and/or even exhibit a structural water deficit. In terms of renewable supplies, seven countries (Malta, Libya, Jordan, Israel, Tunisia, Algeria and Egypt) already have a per capita availability (including water "imports" through trans-boundary rivers and aquifers) of less than 1,000 cubic meters/year, a common benchmark of water scarcity.
- Current internal water deficits - i.e. the negative balance between renewable indigenous resources and total withdrawals - are either compensated for through water originating outside the countries' borders -which implies a strong dependency on neighboring states -or by pumping groundwater at a non-renewable rate (and, to a lesser extent, by exploiting non-conventional sources, like desalination or water-recycling).
- In overall terms, water demand will continue to grow in the Mediterranean Basin because of rapidly increasing populations. By the year 2025, southern countries are expected to experience a decline in per capita water availability ranging between 25% and 60%. The number of countries with a total amount of renewable resources per capita lower than the scarcity threshold of 1,000 cubic meters/year/person will rise from seven to nine. For most of them, resources per capita are expected to fall well below the critical threshold of 500 cubic meters.
- Although there is still a lot of uncertainty about exactly how and when the earth's climate will be affected by greenhouse gases, and even more uncertainty about the local impacts of global warming, it is reasonable to believe that the Mediterranean water management problems are unlikely to be reduced, and may be further complicated and exacerbated, by climate change. For instance, especially in arid and semi-arid areas, relatively small changes in temperature and precipitation, together with the non-linear effects on evapotranspiration and soil moisture, can result in relatively large changes in runoff.
- Climatic change may enhance the demand for freshwater, particularly for agriculture and direct human consumption. A decrease in summer precipitation, whilst having little impact on the annual total, may nevertheless have significant effects on plant growth through extension of the summer period of water stress. The efforts of agriculture to adjust to climate change may lead to increased demand for irrigation purposes, especially for soils with low water-retention capacity. However, any increased use of irrigation water would be in conflict with the growing per capita demand for domestic uses induced by warmer average and extreme temperatures. Perhaps the greatest certainty about the impacts of climate change is that both water demand and supplies will become more uncertain. Because of the increasing volatility, matching future supplies with demands will become more difficult, and this will reinforce the need for institutions and infrastructural packages able to increase the adaptation capacity of water resources management systems to droughts and chronic shortages (as well as to floods and associated damages).
- Water-scarce countries' problems may be complicated by the increasing competition over shared resources and/or by the increasing difficulty of reaching international agreements, at a sub-regional scale, to compensate for the reduction in available domestic water supplies per capita. This is because even those countries which currently benefit from a relative abundance of freshwater (like Turkey, Syria and Lebanon) will experience a sharp decline in resources per capita, so that their "willingness" to export water will further de-

crease, whilst the temptation to restrict water outflows for political purposes might (further) increase.

- Water availability problems are likely to be further exacerbated by water quality deterioration, accelerated by the vicious circle which tends to be established between water scarcity and water quality degradation.
- Scarcity and pollution are the over-riding sources of most conflicts within and among countries. Scarcity in sufficient water to meet demands may be intermittent due to occasional drought or of increasing frequency as growing demands exceeds normal supply; quite different conditions demanding quite different solutions.
- Agriculture is one of the main source of diffuse (non point) pollution as well as one of the most important water-consuming sector. There is an urgent need to promote agricultural methods and technologies that are less water-polluting and consuming (hereafter referred as water efficient). There is also scope to better exploit opportunities for water re-use in this sector.
- Barriers to the sustainable use and management of water are not only technical ones, but, also arise from the social, economic and institutional context.
- Water resources and water services are often under-priced when compared to the cost of provision, institutional arrangements are poorly adapted to sustainable use/management goals; water operators, the general public and policy makers are poorly informed of one another priorities, externalities, such as depletion, degradation or pollution of water resources are not fully accounted for a decision making, etc.
- The level of water crisis and the country's water shortage is generally based on the per capita annual run-off and sustainable yield from groundwater. This quantity by itself does not represent the real situation. Evaluation has to be done in due to the quantity of water available in the low flow season as it determines the limits of economic activity and human well-being in the country and the level of crisis the country will experience under conditions of drought.
- There is high opportunity in water saving in the agriculture sector by increasing efficiencies of irrigation systems and recycling effluents, as both approaches will free up large quantities of water for new uses and to overcome sectorial water use conflicts. However, it is the basin efficiency that counts most when determining a country's potential water surplus over present uses. High basin efficiencies result from the repeated sequential re-use of municipal effluent and irrigation return flows by the various basin users as the water moves towards the sea.

The facts discussed above are all clearly indicating that the Mediterranean region and, in particular the Southern and Eastern countries, those with limited freshwater resource and intense population are nowadays facing serious problems in satisfying their water demands. The future perspectives are not sound and the situation would be more aggravated and much more complicated unless immediate actions are taken and properly implemented.

1.3. Priority Actions for Water sector in the 21st Century.

Water problems and their solutions will vary dramatically from one country to country, and many of the proposed management solutions are going to be common to all of the actions needed for any solution. But both the demand forecasts and the proposed solutions do not take sufficiently into account possible changes in supply in technology of production or in re-use. Other factors could also intervene, such as patterns of spatial allocation of settlement or of production.

In front of the water scarcity situation in the Mediterranean region and the water related environmental threats, it is necessary to review water strategies at national and regional scales and set a priority ranking of problems of physical and technical nature that affect the devel-

opment and management of the water resources.

Nowadays, the dilemma, the majority of Mediterranean countries are facing, is to balance demand and supply of water to ensure self-sufficiency in meeting agricultural, industrial and domestic water needs.

Keeping in mind that there is no room to increase the supply side as most of the available water resources have been mobilized, the option we have is to manipulate the demand side for the water use sector, particularly the agricultural one which accounts for up to 90% of water consumption in the region.

Therefore, the top priority actions are:

1. the implementation of integrated water resources management, with the major emphasis on demand water management in irrigated agriculture, and
2. the improvement of crop water productivity increasing crop by drop through:
 - improve efficiency of water use at farm scale;
 - safely use of non-conventional water resources by re-cycling waste and brackish water and re-use of drainage water; and
 - improve performances and rehabilitation of water distribution systems.

The implementation of such integrated water strategy in Mediterranean region should be accompanied with the ability of institutions and individuals to perform the tasks correctly and in a timely fashion, which implies capacity building of water resources sector embracing both technological and human resources development. This, equally important action, represents a key issue for the proper implementation of integrated water resources management as well as the effective achievement of water saving in irrigated agriculture. This action should be rationalized to reach public, private, NGOs and water users associations as well as other groupings. Capacity building includes a wide array of actions such as organisational reforms, institutional strengthening, training and networking. Euro-Mediterranean Cooperation is vital for the promotion and developing the capacity building of the water sector in the region.

A number of additional issues, concerning needed actions and the way of their implementation, may be synthesized as a framework for actions in water sector for the Mediterranean region. The ultimate challenge for all water professionals, decision makers and politicians is to translate the ideas, conclusions, recommendations to action on the ground. This is the only way of reducing the loads of the present, pushing back the dates of disruption and preparing the resources of the future.

2. Methodology

2.1. Consideration of all previous work.

In preparing the Core for Action Plan, an analysis was made of the various plans on water management in the Mediterranean and of other related documents, and their main proposals were summarised in comparison with the Framework for Action prepared by MEDTAC, being the latest regional water action plan (see Annex 1). The documents studied and their sources were the following:

1. ASCAD (Arab Centre for the Studies of Arid Zones and Dry Lands)

The ASCAD's (regional intergovernmental organisation under the League of Arab States) priorities on water management were adopted after consultation by ASCAD General Assembly of the Ministers of Agriculture of the Arab States.

2. CEDARE (Centre for Environment and Development in the Arab Region and Europe)

The priorities of CEDARE on issues of water management in the Mediterranean were identified following consultation with National Authorities through the system of Focal Points in the Ministries of Environment of Mediterranean countries.

3. CIHEAM/MAI Bari (International Centre for Advanced Mediterranean Agronomic Studies)

The priorities of CIHEAM/MAI Bari on issues of water management in the Mediterranean were identified following consultation with its Focal Points in Ministries of Agriculture of Mediterranean countries.

4. Euro-Mediterranean Partnership (1996), Marseilles Declaration and Recommendations. The Euro-Mediterranean Conference on Water Management, Marseilles, 25-26 November 1996. pp.13

Euro-Mediterranean Partnership "Marseilles Declaration": The Declaration and Recommendations were adopted by 27 European and Mediterranean countries and the Commission of the European Union (EU) at the Ministerial Conference on Water Management, held in Marseilles, 25-26 November 1996.

5. Euro-Mediterranean Partnership (1997), Helsinki Declaration. The Euro-Mediterranean Conference on Environment, Helsinki, 28 November 1997. pp.25

Euro-Mediterranean Partnership "Helsinki Declaration": The Declaration and Recommendations were adopted by 27 European and Mediterranean the Commission of the EU and the Council of the EU at the Ministerial Conference on the Environment, held in Helsinki, 27-28 November 1996. The process led to the Short and Medium Action Plan (SMAP) of the Euro-Mediterranean Partnership.

6. Euro-Mediterranean Partnership (1999), Conclusions of the Euro-Mediterranean Ministerial Conference on Local Water Management. Published by the International Commission for Water Mediterranean Policy and HYC, Turin. pp. 40

Euro-Mediterranean Partnership "Turin Plan of Action": The Action Plan was adopted by 27 European and Mediterranean countries, the Commission of the EU and the Council of the EU, at the Ministerial Conference on Local Water Management, held in Turin, 18-19 October 1999.

7. Mediterranean Mirror Task Force. Mediterranean Institute on Water (IME), France.

At the request of the EU, IME conducted a reflection among governments and experts on issues related to water management in the Mediterranean (focussing on: Integrated management of water, Water demand management, Protection of the resource, Participatory process, Water savings, Tariffs and pricing, Institutional aspects, Water supply during periods of crises). The recommendations produced were included in the 5th PCRD.

8. Thematic Group on Management of Water Demand of the Mediterranean Committee on Sustainable Development (MCSD): Recommendations. The Recommendations were adopted by the 10th Ordinary Meeting of the Barcelona Convention, Tunis, November 1997. Members of the MCSD Thematic Group on Management of Water Demand were 13 Mediterranean countries, 6 NGOs and the EU.

9. MEDWET and Ramsar Convention on Wetlands (1998), A Strategy for Mediterranean Wetlands. Published by MedWet Secretariat Unit (Greek Biotope/Wetland Centre, EKBY), Thessaloniki. pp.48.

MedWet – The Mediterranean Wetlands Initiative: “Mediterranean Wetlands Strategy (MWS)”. The MWS was prepared by the 5 EU-Member States in the Mediterranean, the Convention on Wetlands, the European Commission and 3 international NGOs. It was discussed and finalised at the Pan-Mediterranean Wetlands Conference in Venice, June 1996. It was adopted by the Mediterranean Wetlands Committee (MedWet/Com) in Thessaloniki, March 1998 and was officially approved by Resolution VI.22 of the Conference of the Contracting Parties to the Convention on Wetlands, in San José, Costa Rica, May 1999.

10. METAP III: Integrated Water and Coastal Management. METAP III is a partnership of the European Commission, the European Investment Bank, the United Nations Development Programme and the World Bank. 14 non EU Mediterranean countries are participating in METAP III. The Water component of METAP III was adopted in a Mediterranean meeting.

11. Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE): Declarations and Recommendations on Water Management adopted by Mediterranean NGOs. The Declarations and Recommendations were adopted in major Mediterranean NGO meetings organised by MIO-ECSDE in Athens (1991), Rome (1992), Athens (1994), Tunis (1994), Barcelona (1995), Kairouan (1996), Turin (1999).

12. MWN – Mediterranean Water Network: “Mediterranean Water Charter”
The Mediterranean Water Charter was prepared by the Ministers of Mediterranean Countries responsible for Water in Rome 1992. It provides a strategic framework for regional cooperation aiming at sustainable water management in the Mediterranean. The Mediterranean Water Network was agreed as the implementation mechanism for follow up of the Charter. The Action Plan of the MWN was drafted and approved in Malta in 1999 through a process of technical and political consultation with the members of the MWN. This includes Water Directors of the Mediterranean Countries and different regional organisations (MIO-ECSDE, CEDARE, IME, CIHEAM) and observers such as the World Bank and the European Commission.

13. SEMIDE / EMWIS - Euro-Mediterranean Water Information System.

The priorities were proposed by an expert group and were adopted in Malta, July 1999, during the Meeting of the Euro-Mediterranean Water Directors with the participation of 10 Mediterranean countries and the EU Commission.

14. MENA Water Initiative

The MENA Water Initiative is a partnership of the World Bank, the Commission of the EU and the European Investment Bank. The priorities of the MENA Water Initiative were adopted during the Regional Seminars of Cairo 1998 and Amman 1999, following a consultation of delegates from competent Ministries of MENA-MED region.

15. MEDTAC/GWP (2000), Water for the 21st Century: Vision to Action. Framework for Action for the Mediterranean. Mediterranean Technical Advisory Committee of the Global Water Partnership (MEDTAC/GWP). Compiled by the Mediterranean Water Network, Madrid. pp.44

MEDTAC/GWP (2000), Water for the 21st Century: Vision to Action. Mediterranean Vision on Water, Population and the Environment. Mediterranean Technical Advisory Committee of the Global Water Partnership (MEDTAC/GWP). Document prepared by the Blue Plan. pp. 62

Mediterranean Technical Advisory Committee of the Global Water Partnership (MEDTAC/GWP): Water for the 21st Century: Vision to Action. Framework for Action for the Mediterranean, Vision on Water, Mapping. The documents were presented at the 2nd World Water Forum and Ministerial Conference, The Hague, 17-22 March 2000.

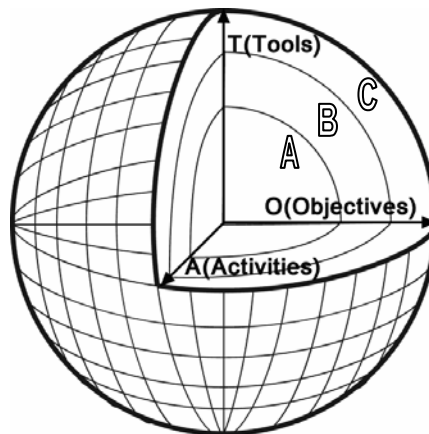
2.2. Innovative clustering

An effort was made, with the obvious limitation of certain arbitrariness, to structure the recommendations and proposals into these documents into:

- a. operational Objectives (O),
- b. appropriate Tools (T) and instruments to be used or introduced and developed and
- c. Activities (A) to implement them.

The key idea is that, ideally, priority projects should combine high priority objectives, high priority activities and be implemented by employing high priority tools. In fact, the three dimensional representation in Figure 1 could be used to understand better the logic of classification.

Figure 1: Proposals



Example

O: Protecting ground water

A: eg. by reducing waste disposal

T: eg. by informing the public, using deposit schemes

Higher priorities are placed closer to the centre. The latter results to a series of layers of priority in a sphere (see Figure 1).

According to this scheme there are three zones of importance:

Zone A: central, where all components are of high priority

Zone B: where some elements are of high priority and some of medium or lower priority

Zone C: where all elements are of medium or lower priority.

2.3. Prioritisation according to complementary consensus.

The level of priority has been decided on the basis of consensus gained for the Objectives, Tools or Activities through the process developed so far.

Therefore, the three categories are the following:

- I. High: Those that appear in all or at least the large majority of documents.
- II. Medium: Those that are included in a minority of documents.
- III. Lower: Those that are proposed by only one or two organisations / networks.

Three Tables (1,2 and 3) have been prepared summarising the results on priority analysis carried out for Objectives, Tools and Activities.

It is logical that there is much greater consensus on Tools and Operational objectives than on specific Activities. Combination of the elements of the first category (High Priority) are considered as of greater importance leaning to the central Zone A, and are presented in Table 4.

3. Towards a Core for Action Plan

3.1 Goal

From most of the documents studied a genuine consensus emerges. A large agreement seems to exist as to the overall goal or mission and to the most fundamental objectives. This is to promote the sustainable use of water resources in the Mediterranean region through their integrated management

3.2 Objectives, Tools and Activities

The Tables 1, 2 and 3 present in a condensed form :

- the operational Objectives necessary to reach the above goal,
- the Tools, from education and information to institutional reform, as well as,
- the proposed indicative Activities that emanate from them, and also indicate the organisation and networks that have proposed them, usually through long and elaborate procedures.

Table 1. Objectives

| OBJECTIVES | ACTION PLANS / PRIORITIES OF INSTITUTES AND REGIONAL INITIATIVES | | | | | | | | | | | | | | |
|--|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| O1. Improving water management | | ✓ | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | ✓ |
| O2. Rationalising water use in agriculture | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | | | ✓ | | ✓ | ✓ |
| O3. Increasing water availability (through increased supply and demand management) | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| O4. Improving sanitation | | | ✓ | | | ✓ | | | ✓ | ✓ | | | | | ✓ |
| O5. Protecting groundwater | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| O6. Co-operation on shared water Resources | ✓ | | | | | | | | | ✓ | ✓ | ✓ | | | ✓ |
| O7. Risk management (droughts and floods) | | | | | | ✓ | | | | | | ✓ | | ✓ | ✓ |
| O8: Generating and disseminating knowledge | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | | ✓ | | ✓ |
| O9. Insuring political awareness and Support | | | | | | | | | ✓ | | ✓ | | | ✓ | ✓ |
| O10. Cultivating social and cultural change | | | ✓ | ✓ | | ✓ | | ✓ | | | ✓ | | | | ✓ |
| O11. River basin institutional reforms | | | | | | ✓ | | | ✓ | | | | | ✓ | ✓ |
| O12. New legal framework for IWRM | | | | | | | | | | | | | | | ✓ |
| O13. New information framework for IWRM | | | | | | | | | | | | ✓ | | | ✓ |
| O14. Promoting new practices | | ✓ | ✓ | | | | | | | ✓ | ✓ | | | | ✓ |
| O15. Generating / disseminating new knowledge on IWRM | | | | | | ✓ | | | | | | | | | ✓ |

Table 2. Tools

| No | TOOLS | ACTION PLANS / PRIORITIES OF INSTITUTES AND REGIONAL INITIATIVES | | | | | | | | | | | | | | |
|--|--|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| O1. Improving water management | | | | | | | | | | | | | | | | |
| 1 | (O1)T1 Encourage development and modernisation of analysis tools and data | | | | ✓ | | | | | | | | | | | |
| 2 | (O1)T2 Provide technical advice on critical issues | | ✓ | | | | | | | | | | | | | |
| 3 | (O1)T3 Improve professional staff training | | | | ✓ | | | | | | ✓ | | ✓ | | ✓ | |
| 4 | (O1)T4 Increase transparency and strengthen citizen information and public awareness | | ✓ | | | | | | | | | | | | ✓ | |
| 5 | (O1)T5 Collaboration between centres of excellence | | | | ✓ | | | | | | | | | | | |
| O2. Rationalising water use in agriculture | | | | | | | | | | | | | | | | |
| 6 | (O2)T1 Implement pilot projects and disseminate good practice case studies in efficient water use and soil conservation | | | | | | ✓ | | | | | | | | | ✓ |
| 7 | (O2)T2 Promote research and training in irrigation and plant virology throughout the region with wide dissemination of the results, focusing on arid and semi-arid zones | ✓ | | ✓ | | | | | | | | | | | | |
| O3. Increasing water availability (through increased supply and demand management) | | | | | | | | | | | | | | | | |
| 8 | (O3)T1 Provide adequate financial resources for the implementation of the integrated plans | | | | | | | | | | | ✓ | | | | ✓ |
| 9 | (O3)T2 Remove technical, economic, legal and social barriers | | | | | | | | | | | | | | | ✓ |
| 10 | (O3)T3 Institute economic incentives | | | | | | | | ✓ | | | | | | | ✓ |
| 11 | (O3)T4 Promote exchange of information and institute monitoring | | | | ✓ | | | | | | | ✓ | | | | |
| O4. Improving sanitation | | | | | | | | | | | | | | | | |
| 12 | (O4)T1 Disseminate best practice information to industry and other stakeholders | | | | | | | | | | | | | | | ✓ |
| 13 | (O4)T2 Strengthen legislation against pollution | | | | | | | | | | ✓ | | | | | |

| No | TOOLS | ACTION PLANS / PRIORITIES OF INSTITUTES AND REGIONAL INITIATIVES | | | | | | | | | | | | | | |
|---|--|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | and enforcement | | | | | | | | | | | | | | | |
| O5. Protecting groundwater | | | | | | | | | | | | | | | | |
| 14 | (O5)T1 Reinforce and clarify the legal framework for the protection and sustainable use of groundwater | | | | | | | | | | | ✓ | | | ✓ | |
| 15 | (O5)T2 Provide advice on the management of groundwater | | ✓ | | | | | | | | | | | | | |
| O6. Co-operation on shared water Resources | | | | | | | | | | | | | | | | |
| 16 | (O6)T1 Exchange knowledge by training and disseminating experience | | | | | | | | | | | ✓ | ✓ | | | |
| O7. Risk management (drought mitigation and floods) | | | | | | | | | | | | | | | | |
| 17 | (O7)T1 Strengthen or develop appropriate legal framework for flood and drought mitigation plans | | | | | | ✓ | | | | | | ✓ | | ✓ | |
| 18 | (O7)T2 Promote pilot projects and disseminate results | | | | | | ✓ | | | | | | ✓ | | | |
| O8: Generating and disseminating knowledge | | | | | | | | | | | | | | | | |
| 19 | (O8)T1 Improve capacity building through training, water policies and strategies | | | | | | | ✓ | | | | ✓ | | | | |
| O9. Insuring political awareness and support | | | | | | | | | | | | | | | | |
| 20 | (O9)T1 Develop country case studies | | | | | | | | | | | ✓ | | | ✓ | |
| O10. Cultivating social and cultural change | | | | | | | | | | | | | | | | |
| 21 | (O10)T1 Reinforce training and exchange of experience on IWRM | | | | | | | | | | | ✓ | | | ✓ | |
| 22 | (O10)T2 Participation in conferences | | | ✓ | | | | | | | | | | | | |
| O11. River basin institutional reforms | | | | | | | | | | | | | | | | |
| 23 | (O11)T1 Encourage stakeholders participation in Basin Authorities, beyond water users | | | | | | | | | | | | | | ✓ | |
| 24 | (O11)T2 Ensure the provision of adequate financial resources for water management [| | | | | | | | | | | | | ✓ | ✓ | |
| O12. New legal framework for IWRM | | | | | | | | | | | | | | | | |
| O13. New information framework for IWRM | | | | | | | | | | | | | | | | |
| O14. Promoting new practices | | | | | | | | | | | | | | | | |
| 25 | (O14)T1 Disseminate results and provide advice | | | | | | ✓ | | | | | ✓ | | | ✓ | |
| O15. Generating / disseminating new knowledge on IWRM | | | | | | | | | | | | | | | | |
| 26 | (O15)T1 Disseminate results widely | | | | | | ✓ | | | | | | | | ✓ | |

Table 3. Activities

| No | ACTIVITIES | ACTION PLANS / PRIORITIES OF INSTITUTES AND REGIONAL INITIATIVES | | | | | | | | | | | | | | |
|--------------------------------|---|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| O1. Improving water management | | | | | | | | | | | | | | | | |
| 1 | (O1)A1 Separate planning, policy and regulatory functions from service delivery | | | | | | | | | | | | | | ✓ | |
| 2 | (O1)A2 Facilitate delegated and decentralised management | | | | ✓ | ✓ | ✓ | | | | | | | | ✓ | |
| 3 | (O1)A3 Reinforce regulatory function and promote supervisory function of local government and TA | | | | | | | | | | | | | | ✓ | |
| 4 | (O1)A4 Prepare integrated water resources development and management plans | | | | | | | | | | | ✓ | | | | |
| 5 | (O1)A5 Improve financial practices and promote financial independence of companies | | | | | ✓ | ✓ | | | | | ✓ | | | ✓ | |
| 6 | (O1)A6 Improve knowledge and monitoring of available resources and make data available to various users | | | | | | | | | | | ✓ | ✓ | | | |

| No | ACTIVITIES | ACTION PLANS / PRIORITIES OF INSTITUTES AND REGIONAL INITIATIVES | | | | | | | | | | | | | | |
|---|--|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 7 | (O1)A7 Develop further techniques for water collection, processing and storage | | | | | | | | | | | ✓ | ✓ | | | |
| O2. Rationalising water use in agriculture | | | | | | | | | | | | | | | | |
| 8 | (O2)A1 Institute integrated rural development programmes | | | | | | | | | | | | | | | ✓ |
| 9 | (O2)A2 Promote the modernisations of irrigated agriculture, through a feasibility study and a forum | | | | | | ✓ | | | | | | ✓ | | ✓ | |
| 10 | (O2)A3 Increase the capacity and professionalism of water user organisers, and delegate to them practice improvement, water pricing and distribution, control of water use etc | | | | | | ✓ | | | | | | | | | ✓ |
| 11 | (O2)A4 Rationalise funding to the agricultural sector for water use efficiency | | | | | | | | | | | | | | | ✓ |
| 12 | (O2)A5 Facilitate the introduction of salt- and drought-resistant crops and encourage 'dry' agriculture | | | | | | | | | | | | | | | ✓ |
| 13 | (O2)A6 Promote the use of treated wastewater, marginal and saline water, through training, best practice dissemination and technology transfer | ✓ | | | | | | ✓ | | | | | | | | |
| 14 | (O2)A7 Consider the application of economic and management tools and decision support technologies to the irrigation sector | | | | ✓ | | ✓ | | | | | | | | | |
| 15 | (O2)A8 Consider impact of free trade on water use in agriculture | | | | ✓ | | | | | | | | | | | |
| 16 | (O2)A9 Take into account environmental aspects of water use in agriculture, especially as to water quality, water abstraction and other impacts | | | | ✓ | | | | | ✓ | | | | | | |
| O3. Increasing water availability (through increased supply and managing demand) | | | | | | | | | | | | | | | | |
| 17 | (O3)A1 Optimise use of existing resources and protect them from pollution | | | ✓ | | | ✓ | ✓ | | | | ✓ | | | | ✓ |
| 18 | (O3)A2 Develop additional (mainly non-potable) water resources (treated wastewater, desalinisation, etc) | | | ✓ | | | ✓ | | | | ✓ | ✓ | | ✓ | ✓ | |
| 19 | (O3)A3 Careful management of the underground water potential | | | | | | | | | | | | | | ✓ | |
| 20 | (O3)A4 Fight erosion (plus other measures) to prevent siltation of reservoirs | | | | | | | | | | ✓ | ✓ | | | | |
| 21 | (O3)A5 Improve efficiency in distribution, decreasing losses drastically | | | | | | ✓ | | | | | ✓ | | | | ✓ |
| 22 | (O3)A6 Benefit from increased water efficiency in agriculture | | | | | | | ✓ | | | | | | | | ✓ |
| 23 | (O3)A7 Improve efficiency of water use (water conservation, water saving technology, etc.) | | | | | | | | | ✓ | ✓ | | | | | |
| 24 | (O3)A8 Promote the preparation of integrated strategies on water supply and demand within the framework of sustainability | | | | | | ✓ | | | | ✓ | | | | | ✓ |
| 25 | (O3)A9 Undertake practical demand control activities | | | | | | | | ✓ | | | | | | | |
| O4. Improving sanitation | | | | | | | | | | | | | | | | |
| 26 | (O4)A1 Encourage national sewerage and wastewater treatment plans | | | | | | | | | | ✓ | | | | | ✓ |
| 27 | (O4)A2 Institute pollution prevention measures, starting with monitoring of pollution sources | | | ✓ | | | ✓ | | ✓ | | | | | | | ✓ |
| 28 | (O4)A3 Establish water quality monitoring systems and appropriate laboratories in all water Basin Authorities | | | | | | | | | | ✓ | | | | | ✓ |
| 29 | (O4)A4 Reinforce and modernise state control companies and structures | | | | | | | | | | | | | | | ✓ |
| 30 | (O4)A5 Allocate specific financial resources to pollution control and prevention and to wastewater management | | | | | | | | | | | | | | | ✓ |
| 31 | (O4)A6 Protect vulnerable resources from pollution, such as aquifers, wetlands, coastal | | | ✓ | | | | | | ✓ | ✓ | | | | | |

| No | ACTIVITIES | ACTION PLANS / PRIORITIES OF INSTITUTES AND REGIONAL INITIATIVES | | | | | | | | | | | | | | |
|--|---|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | waters, reservoirs | | | | | | | | | | | | | | | |
| O5. Protecting groundwater | | | | | | | | | | | | | | | | |
| 32 | (O5)A1 Determine sustainable rates for groundwater exploitation | | | | | | | | | ✓ | ✓ | | | | | |
| 33 | (O5)A2 Monitor pollution and salt intrusion in aquifers | | | ✓ | | | | | | | | | | | | |
| 34 | (O5)A3 Establish specific groundwater protection and sustainable management programmes, through direct and indirect measures | | | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 35 | (O5)A4 Encourage the conjunctive use of surface and groundwater to increase water supply, without depleting aquifers | | | | | | | | | | | | | | | ✓ |
| 36 | (O5)A5 Institute measures for the natural recharge of aquifers | | | | | | | | | ✓ | | | | | | |
| 37 | (O5)A6 Restrict groundwater consumption to high priority uses | | | | | | | | | | | | | | | ✓ |
| O6. Co-operation on shared water Resources | | | | | | | | | | | | | | | | |
| 38 | (O6)A1 Institute fora among concerned countries for information flow and agreement on basic concepts | ✓ | | | | | | | | | | ✓ | ✓ | | | ✓ |
| 39 | (O6)A2 Establish common data collection and analysis systems (centres, projects, etc.) | | | | | | | | | | | | | | | ✓ |
| 40 | (O6)A3 Encourage the establishment of common agreements and treaties on shared water resources | | | | | | | | | | | ✓ | | | | ✓ |
| 41 | (O6)A4 Set up joint technical and policy committees | | | | | | | | | | | | | | | ✓ |
| 42 | (O6)A5 Promote the preparation of joint water resources management plans | | | | | | | | | | | | ✓ | | | ✓ |
| 43 | (O6)A6 Encourage joint research and experimentation in non-conventional resources | | | | | | | | | | | | ✓ | | | |
| O7. Risk management (drought mitigation and floods) | | | | | | | | | | | | | | | | |
| 44 | (O7)A1 Encourage the designation or establishment of reference centres for data collection and evaluation, monitoring and simulation of floods and droughts | | | | | | | ✓ | | | | | ✓ | | | ✓ |
| 45 | (O7)A2 Establish regional programmes of collaboration on risk management | | | | | | | | | | | | | | | ✓ |
| 46 | (O7)A3 Prepare emergency plans to deal with floods and droughts | | | | | | | | | | | | ✓ | | ✓ | ✓ |
| O8: Generating and disseminating knowledge | | | | | | | | | | | | | | | | |
| 47 | (O8)A1 Allocate funds at national and Basin level | | | | | | | | | | | | ✓ | | | ✓ |
| 48 | (O8)A2 Establish national assessment and monitoring systems, mainly on water quality and use possibly in the form of a database | | | | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ |
| 49 | (O8)A3 Promote pilot projects on better water application and water use in industry | | | | | | | | | | | | | | | ✓ |
| O9. Insuring political awareness and support | | | | | | | | | | | | | | | | |
| 50 | (O9)A1 Collect new data on risks and negative impact of present water use practices both for people and nature | | | | | | | | | | | | | | | ✓ |
| 51 | (O9)A2 Disseminate widely these data through the media, educational networks, policy awareness workshops etc | | | | | | | | | | | | ✓ | | ✓ | ✓ |
| 52 | (O9)A3 Obtain social support for new IWRM measures, avoiding political defeat | | | | | | | | | | | | | | | ✓ |
| 53 | (O9)A4 Promote water policy reform towards IWRM | | | | | | | | | ✓ | | ✓ | | | ✓ | |
| O10. Cultivating social and cultural change | | | | | | | | | | | | | | | | |
| 54 | (O10)A1 Support measures to change individual and collective behaviour, such as public awareness campaigns, education etc | | | | ✓ | | | ✓ | | ✓ | | | ✓ | | | ✓ |

| No | ACTIVITIES | ACTION PLANS / PRIORITIES OF INSTITUTES AND REGIONAL INITIATIVES | | | | | | | | | | | | | | |
|---|--|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 55 | (O10)A2 Facilitate the social acceptance of the private sector in water management | | | | | | | | | | | | | | | ✓ |
| 56 | (O10)A3 Facilitate the social acceptance of co-operation on shared water resources | | | | | | | | | | ✓ | | | | | ✓ |
| 57 | (O10)A4 Reinforce ability of new stakeholders to develop information and participate in the decision making process | | | | | | | | | | | | | | | ✓ |
| O11. River basin institutional reforms | | | | | | | | | | | | | | | | |
| 58 | (O11)A1 Establish Basin Authorities | | | | | | | | | ✓ | | | | | | ✓ |
| 59 | (O11)A2 Strengthen the policy, planning and regulatory functions of Basin Authorities, and separate from engineering and construction | | | | | | | | | | | | | ✓ | | ✓ |
| 60 | (O11)A3 Promote the preparation of medium- and long-term Integrated Basin Plans | | | | | | | | | ✓ | | | | | | ✓ |
| 61 | (O11)A4 Reinforce the management skills and change the focus of staff in Basin Authorities | | | | | | ✓ | | | | | | | | | ✓ |
| O12. New legal framework for IWRM | | | | | | | | | | | | | | | | |
| 62 | (O12)A1 Create co-ordinating bodies at national and Basin levels | | | | | | | | | | | | | | | ✓ |
| 63 | (O12)A2 Provide appropriate legal framework for Basin Authorities | | | | | | | | | | | | | | | ✓ |
| 64 | (O12)A3 Establish legal framework for users' and citizens' rights | | | | | | | | | | | | | | | ✓ |
| 65 | (O12)A4 Incorporate in the legislation positive measures for water management (such as PPP, integrated coastal zone and basin management, environmental management, stakeholder participation) | | | | | | | | | | | | | | | ✓ |
| 66 | (O12)A5 Strengthen legal and administrative means to ensure enforcement of IWRM | | | | | | | | | | | | | | | ✓ |
| O13. New information framework for IWRM | | | | | | | | | | | | | | | | |
| 67 | (O13)A1 Establish the appropriate information network for IWRM (detail local knowledge on water availability and use and human impacts) | | | | | | | | | | | ✓ | | | | ✓ |
| 68 | (O13)A2 Encourage the creation of new knowledge on IWRM | | | | | | | | | | | | | | | ✓ |
| 69 | (O13)A3 Improve information dissemination systems so that information is made easily available | | | | | | | | | | | | | | | ✓ |
| O14. Promoting new practices | | | | | | | | | | | | | | | | |
| 70 | (O14)A1 Encourage good new practices in reallocating water resources | | | | | | | | | | ✓ | | | | | ✓ |
| 71 | (O14)A2 Encourage good new practices in the protection and restoration of the water resources | | | ✓ | | | | | | | | ✓ | | | | ✓ |
| O15. Generating / disseminating new knowledge on IWRM | | | | | | | | | | | | | | | | |
| 72 | (O15)A1 Encourage the creation of new knowledge on IWRM | | | | | | ✓ | | | | | | | | | ✓ |

Table 4.1: Priority Objectives

| Priority | Objectives |
|----------|--|
| HIGH | O3. Increasing water availability (through increased supply and demand management) |
| | O1. Improving water management |
| | O2. Rationalising water use in agriculture |
| | O5. Protecting groundwater |
| | O8: Generating and disseminating knowledge |
| MEDIUM | O10. Cultivating social and cultural change |
| | O4. Improving sanitation |
| | O6. Co-operation on shared water Resources |
| | O14. Promoting new practices |
| | O7. Risk management (drought and floods) |
| | O9. Insuring political awareness and support |
| | O11. River basin institutional reforms |
| LOW | O13. New information framework for IWRM |
| | O15. Generating / disseminating new knowledge on IWRM |
| | O12. New legal framework for IWRM |

Table 4.2: Priority Tools

| Priority | Tools |
|----------|---|
| HIGH | Information, Public Awareness and Participation |
| | Training and Capacity Building |
| MEDIUM | Legislation |
| | Scientific and Institutional Collaboration |
| | Financial Support and Economic Incentives |
| LOW | Technology Improvement and Use |

4. Implementation process

To arrive at a commonly agreed Core for Action Plan, and to ensure its effective implementation during the next five-year period (2001-2005), a number of steps are proposed for discussion and finalisation.

4.1 The Athens Conference

MEDTAC/GWP has called a Mediterranean Conference in Athens on 2-4 November 2000, and has invited 'stakeholders' in water issues in the region to participate actively. During this Conference, the Draft Core Action Plan was presented and discussed in detail. The debates focused not only on the general aspects of the plan, but also on the priorities proposed and the tools to be promoted/used, allowing participants to argue on higher priority for specific activities or tools.

Four working groups of experts were set up by geographical origin, namely North of the Mediterranean, Middle East, Mediterranean Islands, North of Africa, where the Core Action Plan was discussed and priorities were debated. While the Objectives and Tools as raised in the draft paper were agreed without particular difficulty, there were major differentiations among the groups on the priority Activities.

4.2 Disseminating the Core for Action Plan

After this finalisation and endorsement procedure, the Core for Action Plan will be circulated to authorities and organisations involved in water management in the Mediterranean. Its recommendations could be used as reference for ranking their future activities in this sector.

4.3 Main actors for the implementation of the Core for Action Plan

The “widest possible consensus by all main stakeholders” is a fundamental principle of sustainability. The fact that the Core for Action Plan is based on the proposals of action plans and recommendations of a large variety of key actors makes it self-evident that also its implementation is expected to be based on the synergies built and the complementary roles played by the various main actors, such as the national, regional and local authorities, private enterprises, banks, cooperatives and professional associations, universities and research centres and institutions, networks of environmental NGOs and other citizens groups and the public at large, since all the aforementioned groups are water users and simultaneously could contribute substantially in the overall effort for IWRM.

The tables of Annex 2 indicate the main roles expected to be played by the various partners.

4.4 Monitoring and feedback

An additional activity is the monitoring of the application of the recommendations of the Core for Action Plan. MEDTAC/GWP is willing to accept this task and to inform all stakeholders of the results, through its web site and relevant reports. This monitoring will create feedback, which in turn may lead to the updating of certain aspects of the Core for Action Plan. The procedure for such updating should be considered and agreed in due time.

LIST OF ANNEXES

- Annex 1: Outline of major Mediterranean action plans, recommendations and priorities of institutions and regional initiatives on water management
- Annex 2: The role of various Mediterranean stakeholders in implementing IWRM, the FFA and the Core for Action Plan
- Annex 3: Summary Report of the “Mediterranean Conference of Water Stakeholders and Decision Makers: Towards a Core for Action Plan”, 2-4 November 2000, Athens

ANNEX 1

Outline of major Mediterranean action plans, recommendations and priorities of institutions and regional initiatives on water management

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|---|----------|--|-----------------|---|--|
| STRATEGIES TO MOVE AWAY FROM THE WATER CRISIS AND SECURE EQUAL ACCESS TO WATER | | | | | |
| CAPACITY BUILDING | | <p>Support capacity building in the region through the following mechanisms.</p> <ul style="list-style-type: none"> • Provide advise on water conservation, water monitoring and assessment. • Provide advice on management of the surface and groundwater resources. • Provide advice on low cost and environmentally friendly technologies. • Facilitate information exchange, advice to countries in the development of water policies and legislation and international water management. • Initiate public awareness activities. | | <p>Institutional strengthening: decentralisation, user/polluter pays, development and modernisation of analysis tools, data banks, etc.</p> <p>Training for professionals: training plans, on the job apprenticeships, collaboration between centres of excellence.</p> | <p>Strengthening and reforming water management to be able to govern water efficiently and effectively.</p> <ul style="list-style-type: none"> • Develop the organisational set up and improving financial practices. • Separate planning, policy and regulatory functions from service delivery. • Facilitate delegated management. • Reinforce regulatory functions. • Reinforce staff training. • Improving financial practices and citizen information and transparency. |

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|------------------|---|-----------|---|---|---|
| AGRICULTURAL USE | <p>The general focus is to carry out research for the improvement of agriculture, environment and management of natural resources in arid and semi-arid zones of the Arab countries, including improvement of agricultural production (waste water reuse potential, monitoring for metals and pathogenic micro-organisms of crops irrigated with wastewater, recommendations for adequate handling to minimise health risks).</p> | | <p>Training on irrigation and plant virology, protection of fruit trees, short courses on environmental management, etc.</p> <p>Set up an Experimental Station for demonstration purposes for hydroponics products, computerised irrigation systems, etc.</p> <p>Set up an Information and Documentation Centre on Agriculture in the Mediterranean</p> <p>The techniques for protecting the Mediterranean fruit crops are a priority line of action, as well as, the improvements in irrigation practices and in the performance of irrigated agriculture.</p> | <p>Water management for sustainable agriculture (modern decision support technologies, progressive recovery costs, water quality protection, impact of free trade on water use and programmes to minimise impacts...)</p> | <p>Reforming and modernising agriculture, insuring food security in the region and optimising water use.</p> <ul style="list-style-type: none"> • Prepare integrated rural development programmes. • Involve water user associations in improving farm advisory services to increase crop per drop and value per drop, marketing, etc. • Establish appropriate and easily accessible funding for farmers with adequate payment terms. • Professionalise water user associations, delegate functions in them on water distribution, control of water use, pricing. • Promote pilot projects and disseminate good practices on improving water use and soil conservation. • Facilitate the introduction of salt and drought resistant crops and evaluate the potential of dry agriculture. |
| WATER MANAGEMENT | | | <p>The efficient use of water and water saving are two priority fields of action.</p> | <p>Domestic and industrial water: water conservation, tariffs, new technologies for non conventional water, exchange of information and methods for monitoring</p> | <p>Strategy to insure water availability in the region. Combined water demand and water supply strategy.</p> <ul style="list-style-type: none"> • Water demand management. • Optimisation of existing water resources. <p>New water to come from a combination of</p> <ul style="list-style-type: none"> • Water gains from improved efficiency in distribution and use and reduced demand. • Optimisation of existing water resources: reduced EVT demand (with aquifer storage, soil conservation), reduce sedimentation of reservoirs, protect supplies from pollution, separated supplied systems according to quality). • Development of additional resources, mainly non potable (wastewater, desalination, etc). • Water diverted from agriculture resulting from modernisation. |

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|--|----------|-----------|-----------------|--|--|
| | | | | | <p>Actions to facilitate the combined strategy</p> <ul style="list-style-type: none"> • Promote the preparation of integrated strategies. • Remove technical, economic, social and legal barriers to the implementation of water demand. • Allocate specific financial resources to water demand measures and to water infrastructures with positive social costs benefit. • Promote, create incentives and disseminate results in relation to wastewater reuse, desalination and optimising the use of water. |

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|---------------|----------|--|---|--|--|
| WATER QUALITY | | Provide advice on management of the surface and groundwater resources. | <p>Combat environmental degradation: survey and monitor pollution sources and sea intrusion project, monitoring of groundwater pollution in irrigated areas.</p> <p>Manage, protect and conserve the vulnerable resources of the region (map of vulnerability of different natural systems and draw plans on the basis of the results).</p> | | <p>Strategies to improve sanitation and protect the quality of surface and groundwater.</p> <ul style="list-style-type: none"> • Establish national sewerage and wastewater treatment plans. • Establish water quality monitoring systems and laboratories in Basin Authorities. • Establish pollution prevention measures. • Facilitate information to industry about best practices and modernise state control companies. • Allocate specific financial resources to pollution control and prevention, and to wastewater management. <p>Protecting Groundwater</p> <ul style="list-style-type: none"> • Study the availability and exploitability of groundwater at rates that can be sustained. • Restrict use of groundwater to high priority uses. • Establish specific protection programmes for aquifers with a combination of direct and indirect measures (Enforce terms of existing licences, impose charges, etc.) • Encourage the conjunctive use of surface and groundwater where this could increase overall supply. • Establish legal framework to protect groundwater |

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|----------------------------------|---|------------------|------------------------|---|--|
| INTERNATIONAL COOPERATION | Focus on the strengthening of co-operation mechanisms and regional projects | | | | <p>Promoting co-operation between countries sharing water resources.</p> <ul style="list-style-type: none"> • Support permanent dialogue between concerned countries. • Establish common data collection and analysis projects and centres. • Promote debate to agree on doctrine to be adopted. • Promote the development of agreements and treaties and set up joint committees (technical and policy) • Promote the preparation of joint plans. |
| RISK MANAGEMENT | | | | | <p>Risk management in the region - Preparation of emergency plans for drought mitigation and flood management.</p> <ul style="list-style-type: none"> • Governments to designate or set up reference centres for data collection and evaluation monitoring of floods and droughts. • Establish regional programmes to exchange experience adopt common protocols for data collection and analysis and for the preparation of programmes of measures. • Prepare plans and legal frameworks to deal with floods and droughts. |

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|---------------------|----------|-----------|-----------------|--|--|
| IMPROVING KNOWLEDGE | | | | Exchange of documentation on existing training and research, institutional data. Set up data administration systems and documentation centres. | <p>Generating knowledge and helping in the uptake of existing knowledge in relation to water use efficiency, ensuring food security and water quality.</p> <ul style="list-style-type: none"> • Actions to be taken in relation to water assessment and monitoring in countries where this is not already in place. • Actions to be taken in relation to development and dissemination of knowledge for increase efficiency in water use and reduce pollution. <p>Allocate funds for research at national and Basin level.</p> <p>Establish national monitoring and assessment systems and upgrade water quality and use monitoring.</p> <p>Promote applied experimental research linked to advisory services to improve water use and soil conservation.</p> <p>Promote pilot projects to show better water application and best water use in industry.</p> |

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|---|----------|-----------|--|--|--|
| PREPARING FOR THE TRANSITION TOWARDS INTEGRATED WATER RESOURCES MANAGEMENT | | | | | |
| POLITICAL SUPPORT | | | | | <p>Insure political awareness and political support.</p> <ul style="list-style-type: none"> • Collection of new data and information on the risks and impacts of present water use for water availability and quality and health of ecosystems. • Dissemination of results in the mass media, educational establishments, etc. • Obtain social support for new IWRM measures without risking political defeat. |
| SOCIAL AND CULTURAL CHANGE | | | <p>Organisation and participation in international conferences</p> | <p>Information and awareness</p> | <p>Social and cultural change strategy.</p> <ul style="list-style-type: none"> • Support measures to change individual and collective behaviour such as public awareness campaigns, education. • Measures to make socially and culturally acceptable the participation of the private sector in water management. • Measures to make socially and culturally acceptable the co-operation over shared water resources. • Reinforce ability of new stakeholders to develop information and participate in decision-making. • Reinforce training in Basin Authorities for IWRM and exchange of experience. |

| | 1. ASCAD | 2. CEDARE | 3. CIHEAM- BARI | 4. MARSEILLES EURO-MED CONFERENCE (1996) | 15. FFA / MEDTAC (2000) |
|----------------------|----------|-----------|-----------------|--|---|
| INSTITUTIONAL REFORM | | | | | <p>Adopt the necessary institutional reforms to implement Integrated Water Resources Management. (IWRM) approach on a River Basin level.</p> <ul style="list-style-type: none"> • Establish Basin Authorities. • Strengthen the policy, planning and regulatory functions of Basin Authorities and separate from engineering and construction. • Promote the preparation of long term Integrated Basin Plans. • Promote stakeholder participation beyond existing water users. • Reinforce management skills and change the focus of bureaucracy. • Provide adequate financial resources for water management functions. |
| LEGAL FRAMEWORK | | | | | <p>Establish the appropriate legal framework for IWRM.</p> <ul style="list-style-type: none"> • Create co-ordinating bodies at National and Basin level. • Establish legal provisions so that Basin Authorities have enough legal power for enforcement of programmes of measures. • Establish legal framework to define rights and responsibilities of the public and the users. • Incorporate into the legislation principles such as PPP, integrated coastal area and Basin approach, stakeholder participation, and environmental management. • Provide enough legal means for adequate enforcement of legislation and programmes of measures. |

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| INFORMATION EXCHANGE | | Facilitate information exchange, advice to countries in the development of water policies and legislation and international water management; initiate public awareness activities | | | <p>Establish the appropriate basic information framework in IWRM</p> <ul style="list-style-type: none"> Establishing the appropriate basic information framework for IWRM (detail local knowledge on water availability and use and human impacts) Promote new practices and disseminate good practices in relation to water reallocation and protection and restoration of the resource. Encouraging the creation of new knowledge for IWRM and systems for disseminating the information (in water use efficiency and soil conservation, on health of aquatic ecosystems, on the interdependence of agriculture and environment, on salt and drought resistant crops, focus also on management and effective dissemination systems so that information is easily accessible). |
| PROMOTE NEW PRACTICES | Waste water reuse potential and monitoring of crops irrigated with wastewater for metals and pathogenic micro-organisms, recommendations for adequate handling to minimise health risks | Provide advice on low cost and environmentally friendly technologies | Manage, protect and conserve the vulnerable resources of the region (map of vulnerability of different natural systems and draw plans on the basis of the results) | | <p>Promote new practices and reinforce good practices. Disseminate results.</p> <ul style="list-style-type: none"> In relation to reallocation of available water resources. In relation to the protection and restoration of the resource. |
| OTHER | | | | | Encouraging the creation of new knowledge of IWRM and disseminate the information. |

| | 5. SMAP / HELSINKI DECLARATION (1997) | 6. TURIN PLAN OF ACTION (1999) | 7. IME MIRROR TASK FORCE | 8. MCSD (1997) | 15. FFA / MEDTAC (2000) |
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| STRATEGIES TO MOVE AWAY FROM THE WATER CRISIS AND SECURE EQUAL ACCESS TO WATER. | | | | | |
| CAPACITY BUILDING | Decentralisation of water management including water users and institutional reorganisation of water management with financially autonomous and transparent bodies and ability to recover their costs | <ul style="list-style-type: none"> Promote supervisory functions of local government and targeted actions to support efficient operation of regulatory bodies. Promote delegated management. Promote financial independence of companies. | | | <p>Strengthening and reforming water management to be able to govern water efficiently and effectively.</p> <ul style="list-style-type: none"> Develop the organisational set up and improving financial practices Separate planning, policy and regulatory functions from service delivery. Facilitate Delegated management. Reinforce regulatory functions Reinforce staff training. Improving financial practices and citizen information and transparency |
| AGRICULTURAL USE | | <p>Feasibility study on the modernisation of irrigation agriculture</p> <ul style="list-style-type: none"> Training, transfer of technology and know how and best practice experience on the use of treated wastewater, marginal water and saline water Create a forum for exchange of experiences among irrigation water users and in particular land improvement agencies. Promote water user participated management. Study on application of economic and management tools to the irrigation sector. Carry out pilot projects on targeted subjects | Water potential for irrigated agriculture | | <p>Reforming and modernising agriculture, insuring food security in the region and optimising water use.</p> <ul style="list-style-type: none"> Prepare integrated rural development programmes. Involve water user associations in improving farm advisory services to increase crop per drop and value per drop, marketing, etc. Establish appropriate and easily accessible funding for farmers with adequate payment terms. Professionalise water user associations, delegate functions in them on water distribution, control of water use, pricing.. Promote pilot projects and disseminate good practices on improving water use and soil conservation. Facilitate the introduction of of salt and drought resistant crops and evaluate the potential of dry agriculture. |

| | 5. SMAP / HELSINKI DECLARATION (1997) | 6. TURIN PLAN OF ACTION (1999) | 7. IME MIRROR TASK FORCE | 8. MCSD (1997) | 15. FFA / MEDTAC (2000) |
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| WATER MANAGEMENT | Measures and techniques for waste water treatment and disposal, prevention of salinisation and treatment of brackish water; other pollution prevention and correction measures in the hot spots, integrated coastal zone management, etc. | <p>The demand management approach is considered in several lines of action, such as, the integrated management of water (urban) and the basin management.</p> <p>The supply management is part of the proposals related to the management of water scarcity.</p> <p>The issues of water demand management are treated in two ways:</p> <p>1. As part of the technological action in the urban water and wastewater management proposals including:</p> <ul style="list-style-type: none"> • Location of automated mapping of buried water conduits and sewers. • Rehabilitation of hidden leakage and water supply systems. • Application of mathematical models for simulating water supply and sewage systems as a support tool for monitoring losses in water supply systems and design of new ones. • Promote national scenarios and pilot projects for water demand management. <p>The issues of optimising existing water resources are dealt with in relation mainly to water quality protection issues:</p> <ul style="list-style-type: none"> • Monitoring water quality in water supply and sewage systems. • Control of main hydraulic, chemical and physical parameters in drinking water production and water purification plants to enhance efficiency. | <p>Water management to solve deficits of drinking water supply in rural areas</p> <p>Water demand management:</p> <ul style="list-style-type: none"> • creation of long term planning tools, water savings, agricultural water management use, • knowledge of resources in karstic environments. | <p>Development of strategic recommendations in the water field for the effective incorporation of water demand management in national water strategies and development of environmental policies:</p> <ul style="list-style-type: none"> • Promote the incorporation of demand control objectives in water and sectoral development policies • Promote investments in activities that use water efficiently • Undertake practical demand control activities | <p>Strategy to insure water availability in the region. Combined water demand and water supply strategy.</p> <ul style="list-style-type: none"> • Water demand management. • Optimisation of existing water resources. <p>New water to come from a combination of:</p> <ul style="list-style-type: none"> • Water gains from improved efficiency in distribution and use and reduced demand. • Optimisation of existing water resources: reduced EVT demand (with aquifer storage, soil conservation), reduce sedimentation of reservoirs, protect supplies from pollution, separated supplied systems according to quality). • Development of additional resources, mainly non potable (wastewater, desalinisation, etc). • Water diverted from agriculture resulting from modernisation. <p>Actions to facilitate the combined strategy</p> <ul style="list-style-type: none"> • Promote the preparation of integrated strategies. • Remove technical, economic, social and legal barriers to the implementation of water demand. • Allocate specific financial resources to water demand measures and to water infrastructures with positive social costs benefit. • Promote, create incentives and disseminate results in relation to wastewater reuse, desalination and optimising the use of water. |

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| WATER QUALITY | Protection of reservoirs and wetlands at the basin level | | | | <p>Strategies to improve sanitation and protect the quality of surface and groundwater.</p> <ul style="list-style-type: none"> • Establish national sewerage and wastewater treatment plans. • Establish water quality monitoring systems and laboratories in Basin Authorities. • Establish pollution prevention measures. • Facilitate information to industry about best practices and modernise state control companies. • Allocate specific financial resources to pollution control and prevention, and to wastewater management. <p>Protecting Groundwater</p> <ul style="list-style-type: none"> • Study the availability and exploitability of groundwater at rates that can be sustained. • Restrict use of groundwater to high priority uses. • Establish specific protection programmes for aquifers with a combination of direct and indirect measures (Enforce terms of existing licences, impose charges, etc.) • Encourage the conjunctive use of surface and groundwater where this could increase overall supply. • Establish legal framework to protect groundwater |

| | 5. SMAP / HELSINKI DECLARATION (1997) | 6. TURIN PLAN OF ACTION (1999) | 7. IME MIRROR TASK FORCE | 8. MCSD (1997) | 15. FFA / MEDTAC (2000) |
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| INTERNATIONAL COOPERATION | | Not considered explicitly. The Turin Plan of Action focuses mainly on Local management | | Encourage co-operation between countries with the same demand management problems and facing future shortages | <p>Promoting co-operation between countries sharing water resources.</p> <ul style="list-style-type: none"> • Support permanent dialogue between concerned countries. • Establish common data collection and analysis projects and centres. • Promote debate to agree on doctrine to be adopted. • Promote the development of agreements and treaties and set up joint committees (technical and policy) • Promote the preparation of joint plans. |
| RISK MANAGEMENT | | <p>Explicitly considered in the line of action on drought management.</p> <p>IT coincides on approach and proposals in relation to collection of information, assessment of indicators, study management tools, study actions, impacts and strategies, development of legal frameworks, issues of desertification and pilot projects.</p> | Risk management and climate change: water quality, droughts and floods, water transfers, planning tools, desalination and urban wastewater reuse. | | <p>Risk management in the region - Preparation of emergency plans for drought mitigation and flood management.</p> <ul style="list-style-type: none"> • Governments to designate or set up reference centres for data collection and evaluation monitoring of floods and droughts. • Establish regional programmes to exchange experience adopt common protocols for data collection and analysis and for the preparation of programmes of measures. • Prepare plans and legal frameworks to deal with floods and droughts. |

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| IMPROVING KNOWLEDGE | Assessment actions have been recommended: water assessment in quality and quantity; analysis of micro biological quality and waste water treatment for safe drinking water. | Research and Development not specifically part of the proposals There are important horizontal activities that are related to “developing awareness” and “changing culture”. | Capacity building through training, database management-performance analysis, water observatories, water policies and strategies. | Improve knowledge on the gains that could be obtained with emphasis on transparency (through setting up mechanisms for collection of water demand data, prepare indicative objectives and standards) | <p>Generating knowledge and helping in the uptake of existing knowledge in relation to water use efficiency, ensuring food security and water quality.</p> <ul style="list-style-type: none"> • Actions to be taken in relation to water assessment and monitoring in countries where this is not already in place. • Actions to be taken in relation to development and dissemination of knowledge for increase efficiency in water use and reduce pollution. <p>Allocate funds for research at national and Basin level. Establish national monitoring and assessment systems and upgrade water quality and use monitoring. Promote applied experimental research linked to advisory services to improve water use and soil conservation. Promote pilot projects to show better water application and best water use in industry.</p> |

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| PREPARING FOR THE TRANSITION TOWARDS INTEGRATED WATER RESOURCES MANAGEMENT | | | | | |
| POLITICAL SUPPORT | | Not explicitly as an objective of the Turin Action Plan, other than in relation to the “culture change issues”. | | | <p>Insure political awareness and political support.</p> <ul style="list-style-type: none"> • Collection of new data and information on the risks and impacts of present water use for water availability and quality and health of ecosystems. • Dissemination of results in the mass media, educational establishments, etc. • Obtain social support for new IWRM measures without risking political defeat. |
| SOCIAL AND CULTURAL CHANGE | | Main aim of horizontal line | | Develop awareness on the importance of water losses through campaigns, access to information on water demand | <p>Social and cultural change strategy.</p> <ul style="list-style-type: none"> • Support measures to change individual and collective behaviour such as public awareness campaigns, education. • Measures to make socially and culturally acceptable the participation of the private sector in water management. • Measures to make socially and culturally acceptable the co-operation over shared water resources. • Reinforce ability of new stakeholders to develop information and participate in decision-making. • Reinforce training in Basin Authorities for IWRM and exchange of experience. |

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| INSTITUTIONAL REFORM | | Institutional reform and capacity building in Turin plan mostly focus on “training”. | | | <p>Adopt the necessary institutional reforms to implement Integrated Water Resources Management. (IWRM) approach on a River Basin level.</p> <ul style="list-style-type: none"> • Establish Basin Authorities. • Strengthen the policy, planning and regulatory functions of Basin Authorities and separate from engineering and construction. • Promote the preparation of long term Integrated Basin Plans. • Promote stakeholder participation beyond existing water users. • Reinforce management skills and change the focus of bureaucracy. • Provide adequate financial resources for water management functions. |
| LEGAL FRAMEWORK | | | | | <p>Establish the appropriate legal framework for IWRM.</p> <ul style="list-style-type: none"> • Create co-ordinating bodies at National and Basin level. • Establish legal provisions so that Basin Authorities have enough legal power for enforcement of programmes of measures. • Establish legal framework to define rights and responsibilities of the public and the users. • Incorporate into the legislation principles such as PPP, integrated coastal area and Basin approach, stakeholder participation, and environmental management. • Provide enough legal means for adequate enforcement of legislation and programmes of measures. |

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| INFORMATION EXCHANGE | | | | | <p>Establish the appropriate basic information framework in IWRM</p> <ul style="list-style-type: none"> Establishing the appropriate basic information framework for IWRM (detail local knowledge on water availability and use and human impacts) Promote new practices and disseminate good practices in relation to water reallocation and protection and restoration of the resource. Encouraging the creation of new knowledge for IWRM and systems for disseminating the information (in water use efficiency and soil conservation, on health of aquatic ecosystems, on the interdependence of agriculture and environment, on salt and drought resistant crops, focus also on management and effective dissemination systems so that information is easily accessible). |
| PROMOTE NEW PRACTICES | pollution prevention and correction measures in the hot spots, integrated coastal zone management, etc. | There are issues of transfer of technology in the Horizontal lines related to this. | Coastal areas: institutional aspects, technical aspects and brackish aquifers | | <p>Promote new practices and reinforce good practices. Disseminate results.</p> <ul style="list-style-type: none"> In relation to reallocation of available water resources. In relation to the Protection and restoration of the resource. |
| OTHER | | | | | Encouraging the creation of new knowledge of IWRM and Disseminate the information. |

| | 9. MedWet (1998) | 10. METAP III | 11. MIO-ECSDE | 15. FFA / MEDTAC (2000) |
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| STRATEGIES TO MOVE AWAY FROM THE WATER CRISIS AND SECURE EQUAL ACCESS TO WATER | | | | |
| CAPACITY BUILDING | Encourage the participation of water management services representatives in the meetings of MedWet/Com. | | <ul style="list-style-type: none"> • Improve training and education at various levels. • Training of unemployed youth as technician for the improvement and maintenance of water infrastructures. | <p>Strengthening and reforming water management to be able to govern water efficiently and effectively.</p> <ul style="list-style-type: none"> • Develop the organisational set up and improving financial practices • Separate planning, policy and regulatory functions from service delivery. • Facilitate Delegated management. • Reinforce regulatory functions • Reinforce staff training. • Improving financial practices and citizen information and transparency |
| AGRICULTURAL USE | Ensure the sustainable management of fresh water resources, on the basis of integrated plans for each hydrological basin, mainly by encouraging economy in water use and recycling, and giving priority to certain uses, through pricing mechanisms. | | <ul style="list-style-type: none"> • Promotion of projects on terracing of hilly agricultural lands and of alternative agricultural practises aiming at the reduction of use of chemical fertilizers, etc. and promote the use of organic nutrients. • Eliminating the appropriate subsidy policies in the basin and replacing them with those linking incentives with the subsidies and the efficient use of the resources (especially in agriculture). | <p>Reforming and modernising agriculture, insuring food security in the region and optimising water use.</p> <ul style="list-style-type: none"> • Prepare integrated rural development programmes. • Involve water user associations in improving farm advisory services to increase crop per drop and value per drop, marketing, etc.. • Establish appropriate and easily accessible funding for farmers with adequate payment terms. • Profesionalise water user associations, delegate functions in them on water distribution, control of water use, pricing. • Promote pilot projects and disseminate good practices on improving water use and soil conservation. • Facilitate the introduction of salt and drought resistant crops and evaluate the potential of dry agriculture. |

| WATER MANAGEMENT | 9. MedWet (1998) | 10. METAP III | 11. MIO-ECSDE | 15. FFA / MEDTAC (2000) |
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| | <ul style="list-style-type: none"> Encourage the adoption of integrated catchment and coastal zone management through catchment management plans (CMP) and coastal zone management plans (CZMP) Manage water resources in an integrated and sustainable way, on the basis of hydrological basins, ensuring that wetlands are provided with water of the quality and quantity necessary to maintain their natural functions and values. Special attention to be given to maintaining adequate sediment supply for coastal wetlands, especially deltas. | <p>Manage water scarcity: improve physical efficiency (water conservation, water saving technology in urban and rural area, waste water reuse), changes in water prices and charges, changes in institutional roles and relationships</p> | <ul style="list-style-type: none"> Develop national strategies and standards for water resources management and services taking into account also the needs and lack of opportunities of the poor of each society. Particular emphasis should be given on the need to apply sustainability principles and tackle the water problems of different time horizons simultaneously. While dealing with the pressing issues of today (reducing, for instance, losses in transport and water distribution of irrigation) we should prepare seriously for the future by making the necessary investments, securing the quality of water (particularly of groundwater), increasing of the ability of the soil to retain more rain water by increasing plant cover, recharging the underground aquifers, reducing floods and facilitating the functioning of the various vital biogeochemical parts of the natural water cycle, which should be in the center of our water policies for the future. Water and sanitation services should be under the monitoring of the local communities and the benefits should stay within the communities, following participatory and transparent processes. Water projects financed by bi- and multilateral agencies and programs should be liable to proper Strategic Environmental Assessments (SEA) that need to be conducted by independent bodies. The civil society should be fully associated with the preparation and implementation of such SEAs. Set clear standards and objectives for water and wastewater use, disposal and reuse both in terms of quality and quantity. | <p>Strategy to insure water availability in the region. Combined water demand and water supply strategy.</p> <ul style="list-style-type: none"> Water demand management. Optimisation of existing water resources. <p>New water to come from a combination of:</p> <ul style="list-style-type: none"> Water gains from improved efficiency in distribution and use and reduced demand. Optimisation of existing water resources: reduced EVT demand (with aquifer storage, soil conservation), reduce sedimentation of reservoirs, protect supplies from pollution, separated supplied systems according to quality). Development of additional resources mainly non potable (wastewater, desalinisation). Water diverted from agriculture resulting from modernisation. <p>Actions to facilitate the combined strategy</p> <ul style="list-style-type: none"> Promote the preparation of integrated strategies. Remove technical, economic, social and legal barriers to the implementation of water demand. Allocate specific financial resources to water demand measures and to water infrastructures with positive social costs benefit. Promote, create incentives and disseminate results in relation to wastewater reuse, desalination and optimising the use of water. |

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| | | | <ul style="list-style-type: none"> • In addition to pricing other financial tools such as incentives and disincentives (taxes, levies, etc) could be taken into account, in compliance with implementation of the Polluter Pays Principle. • Identification of the appropriate sizeable areas to be kept closed to other human activities. in order to secure production of safe drinking water. • Special assessment and targeted action plans for the effect of the rapidly expanding tourism sector on the utilisation of water. • Avoid massive water transfer projects and water storage in open systems to serve unbalanced population distribution. | |

| | 9. MedWet (1998) | 10. METAP III | 11. MIO-ECSDE | 15. FFA / MEDTAC (2000) |
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| WATER QUALITY | <p>Ensure that pollution from substances, which are toxic, persistent and liable to bio-accumulate, is eliminated and that all other pollutants, including nutrients, are kept under control.</p> | <p>Protection of existing resources:</p> <ul style="list-style-type: none"> • prevent irreversible pollution, aquifers and coastal waters through monitoring and enforcement. • strengthen legislation. • water quality monitoring • institutions to implement effluent standards, pollution charges • role of NGOs • investments in waste water treatment and in collection, • treatment and reuse of irrigation return flows and industrial pre-treatment | <p>Substantial increase in the levels of spending for clean water and sanitation especially for the poor people and disadvantaged-marginal communities.</p> | <p>Strategies to improve sanitation and protect the quality of surface and groundwater.</p> <ul style="list-style-type: none"> • Establish national sewerage and wastewater treatment plans. • Establish water quality monitoring systems and laboratories in Basin Authorities. • Establish pollution prevention measures. • Facilitate information to industry about best practices and modernise state control companies. • Allocate specific financial resources to pollution control and prevention, and to wastewater management. <p>Protecting Groundwater</p> <ul style="list-style-type: none"> • Study the availability and exploitability of groundwater at rates that can be sustained. • Restrict use of groundwater to high priority uses. • Establish specific protection programmes for aquifers with a combination of direct and indirect measures (Enforce terms of existing licences, impose charges, etc.) • Encourage the conjunctive use of surface and groundwater where this could increase overall supply. • Establish legal framework to protect groundwater |
| INTERNATIONAL COOPERATION | <p>Involve the Mediterranean Wetlands Committee in water issues.</p> <p>Place emphasis on shared wetland and water resources, with priority on Prespa Lakes (Albania, Greece and the FYR of Macedonia) and Neretva River (Croatia and Bosnia – Herzegovina).</p> | <p>Development of collaborative networks</p> | <p>Establishment of a special Mediterranean Commission (or enlarge the scope of the MCS D) to deal with: Water Resource Management, Agreed principles of water pricing, Designing of infrastructures, Promoting of wastewater treatment and water conservation, Research and technology.</p> | <p>Promoting co-operation between countries sharing water resources.</p> <ul style="list-style-type: none"> • Support permanent dialogue between concerned countries. • Establish common data collection and analysis projects and centres. • Promote debate to agree on doctrine to be adopted. • Promote the development of agreements and treaties and set up joint committees (technical and policy) • Promote the preparation of joint plans. |

| | 9. MedWet (1998) | 10. METAP III | 11. MIO-ECSDE | 15. FFA / MEDTAC (2000) |
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| RISK MANAGEMENT | | | Stress the importance of taking precautionary measures to mitigate the possible impact of drought and climate change on rainfall patterns, and consequently of water availability at national and regional levels | <p>Risk management in the region - Preparation of emergency plans for drought mitigation and flood management.</p> <ul style="list-style-type: none"> • Governments to designate or set up reference centres for data collection and evaluation monitoring of floods and droughts. • Establish regional programmes to exchange experience adopt common protocols for data collection and analysis and for the preparation of programmes of measures. • Prepare plans and legal frameworks to deal with floods and droughts. |
| IMPROVING KNOWLEDGE | Continue the MedWet Series publications with issues related to water. (Already published: F. Pearce, Wetlands and water resources, 1996 and M. Acreman, Wetlands and hydrology, 2000.) | | Encourage scientific research at all levels and in sectors related to water utilisation, particularly for desalination and waste water reuse using renewable energy sources. | <p>Generating knowledge and helping in the uptake of existing knowledge in relation to water use efficiency, ensuring food security and water quality.</p> <ul style="list-style-type: none"> • Actions to be taken in relation to water assessment and monitoring in countries where this is not already in place. • Actions to be taken in relation to development and dissemination of knowledge for increase efficiency in water use and reduce pollution. <p>Allocate funds for research at national and Basin level.</p> <p>Establish national monitoring and assessment systems and upgrade water quality and use monitoring.</p> <p>Promote applied experimental research linked to advisory services to improve water use and soil conservation.</p> <p>Promote pilot projects to show better water application and best water use in industry.</p> |

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| | PREPARING FOR THE TRANSITION TOWARDS INTEGRATED WATER RESOURCES MANAGEMENT | | | |
| POLITICAL SUPPORT | Continue information and sensibilisation efforts through the governmental participation in MedWet/Com (25 Mediterranean states and the Palestinian Authority). | | Coherence between the declarations, action plans and programmes and their practical implementation. Adopting a viable monitoring mechanism to insure a proper implementation of the different (internationally agreed) actions. | <p>Insure political awareness and political support.</p> <ul style="list-style-type: none"> • Collection of new data and information on the risks and impacts of present water use for water availability and quality and health of ecosystems. • Dissemination of results in the mass media, educational establishments, etc. • Obtain social support for new IWRM measures without risking political defeat. |
| SOCIAL AND CULTURAL CHANGE | Organise Pan-Mediterranean information campaign on water issues in relation to agriculture and wetlands (planned for 2002). | | <ul style="list-style-type: none"> • Emphasis and recognition of the rights, knowledge and experience of local people and communities and the need to manage water in ways that protect natural ecosystems. • The role of women should be recognised as a key element in water management and safe-guarding. | <p>Social and cultural change strategy.</p> <ul style="list-style-type: none"> • Support measures to change individual and collective behaviour such as public awareness campaigns, education. • Measures to make socially and culturally acceptable the participation of the private sector in water management. • Measures to make socially and culturally acceptable the co-operation over shared water resources. • Reinforce ability of new stakeholders to develop information and participate in decision-making. • Reinforce training in Basin Authorities for IWRM and exchange of experience. |

| | 9. MedWet (1998) | 10. METAP III | 11. MIO-ECSDE | 15. FFA / MEDTAC (2000) |
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| INSTITUTIONAL REFORM | Promote the co-ordination and subsequent integration of water management and wetland sustainable use institutions. | | Establishment of River Basin Consultative Committees with the participation of official appropriated institutions, users (including NGOs) and private sector | <p>Adopt the necessary institutional reforms to implement Integrated Water Resources Management. (IWRM) approach on a River Basin level.</p> <ul style="list-style-type: none"> • Establish Basin Authorities. • Strengthen the policy, planning and regulatory functions of Basin Authorities and separate from engineering and construction. • Promote the preparation of long term Integrated Basin Plans. • Promote stakeholder participation beyond existing water users. • Reinforce management skills and change the focus of bureaucracy. • Provide adequate financial resources for water management functions. |
| LEGAL FRAMEWORK | Re-examine critically during 2001 the review of wetland and water legislation completed in 1997 in selected Mediterranean countries | | Legal and institutional mechanisms must be put in place for the empowerment of communities to participate in a meaningful way at all levels. Access to information, as a prerequisite for participation in decision-making processes, is a fundamental right | <p>Establish the appropriate legal framework for IWRM.</p> <ul style="list-style-type: none"> • Create co-ordinating bodies at National and Basin level. • Establish legal provisions so that Basin Authorities have enough legal power for enforcement of programmes of measures. • Establish legal framework to define rights and responsibilities of the public and the users. • Incorporate into the legislation principles such as PPP, integrated coastal area and Basin approach, stakeholder participation, and environmental management. • Provide enough legal means for adequate enforcement of legislation and programmes of measures. |

| | 9. MedWet (1998) | 10. METAP III | 11. MIO-ECSDE | 15. FFA / MEDTAC (2000) |
|-----------------------|---|---|---|---|
| INFORMATION EXCHANGE | Continue information exchange, through MedWet/Com and the new networks under establishment (MedWet/ Regions, MedWet/Sites and MedWet/NGOs). | | Provide the political, legal and financial framework for timely and full access of all partners including the civil society, to necessary, updated and relevant information to fulfil their legitimate role in participating in the decision making process and integrated water management. | Establish the appropriate basic information framework in IWRM <ul style="list-style-type: none"> Establishing the appropriate basic information framework for IWRM (detail local knowledge on water availability and use and human impacts) Promote new practices and disseminate good practices in relation to water reallocation and protection and restoration of the resource. Encouraging the creation of new knowledge for IWRM and systems for disseminating the information (in water use efficiency and soil conservation, on health of aquatic ecosystems, on the interdependence of agriculture and environment, on salt and drought resistant crops, focus also on management and effective dissemination systems so that information is easily accessible). |
| PROMOTE NEW PRACTICES | Include experimental use of new practices in all current MedWet projects (especially MedWetCoast, MedWet5-Prespa, Neretva River). | Build capacity (best practice, disseminate sustainable water practices; creation and improvement of water utilities in cities; legal development) | <ul style="list-style-type: none"> Denote wastewater as a resource and encourage all necessary steps to contain, treat and reuse this resource in order to help bridge the gap between supply and demand especially in industry and agriculture and in order to ensure that all pollution threats are properly addressed. Development and promotion of waterless- odourless sanitary latrines | Promote new practices and reinforce good practices. Disseminate results. <ul style="list-style-type: none"> In relation to reallocation of available water resources. In relation to the protection and restoration of the resource. |
| OTHER | | | | Encouraging the creation of new knowledge of IWRM and Disseminate the information. |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA MEDTAC (2000) |
|---|--|--|---|--|
| STRATEGIES TO MOVE AWAY FROM THE WATER CRISIS AND SECURE EQUAL ACCESS TO WATE. | | | | |
| CAPACITY BUILDING | <p>Develop management plans (interactive policy between makers and users, evaluation of results and incorporation in new plans)</p> <p>Institutional and legislative measures: decentralisation, national co-ordination, information, education, legislation and legislative text for rational use of water</p> <p>Economic and financial measures</p> | <p>Collection and dissemination of data on</p> <ul style="list-style-type: none"> • Institutions (existing organisations, structures and types, mode of organisation) • Training (training centres, methods, certificates, contents) | | <p>Strengthening and reforming water management to be able to govern water efficiently and effectively.</p> <ul style="list-style-type: none"> • Develop the organisational set up and improving financial practices • Separate planning, policy and regulatory functions from service delivery. • Facilitate delegated management. • Reinforce regulatory functions • Reinforce staff training. • Improving financial practices and citizen information and transparency |
| AGRICULTURAL USE | <p>Future of irrigation: promote co-operation/ joint projects for modernising agriculture and agricultural technology, implement programmes for water saving and efficiency, etc.</p> | | <p>Agriculture and irrigation policy has explicitly been considered as one of the priorities identified (in a free trade context)</p> | <p>Reforming and modernising agriculture, insuring food security in the region and optimising water use.</p> <ul style="list-style-type: none"> • Prepare integrated rural development programmes. • Involve water user associations in improving farm advisory services to increase crop per drop and value per drop, marketing, etc.. • Establish appropriate and easily accessible funding for farmers with adequate payment terms. • Profesionalise water user associations, delegate functions in them on water distribution, control of water use, pricing. • Promote pilot projects and disseminate good practices on improving water use and soil conservation. • Facilitate the introduction of salt and drought resistant crops and evaluate the potential of dry agriculture. |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA MEDTAC (2000) |
|------------------|--|-------------------|---|--|
| WATER MANAGEMENT | <p>Technical measures to control erosion and siltation of reservoirs; reduce losses of distribution networks.</p> <p>Water and the challenge of sustainability in the context of water competition and water and energy.</p> <p>Develop water supply and non conventional water sources.</p> | | <p>The issues of water scarcity and water reallocation constitute a challenge to be solved by the Initiative.</p> <p>Priority areas of work for the second phase are: underground water management and wastewater reuse</p> | <p>Strategy to insure water availability in the region. Combined water demand and water supply strategy.</p> <ul style="list-style-type: none"> • Water demand management. • Optimisation of existing water resources. <p>New water to come from a combination of:</p> <ul style="list-style-type: none"> • Water gains from improved efficiency in distribution and use and reduced demand. • Optimisation of existing water resources: reduced EVT demand (with aquifer storage, soil conservation), reduce sedimentation of reservoirs, protect supplies from pollution, separated supplied systems according to quality). • Development of additional resources, mainly non potable (wastewater, desalinisation). • Water diverted from agriculture resulting from modernisation. <p>Actions to facilitate the combined strategy</p> <ul style="list-style-type: none"> • Promote the preparation of integrated strategies. • Remove technical, economic, social and legal barriers to the implementation of water demand. • Allocate specific financial resources to water demand measures and to water infrastructures with positive social costs benefit. • Promote, create incentives and disseminate results in relation to wastewater reuse, desalination and optimising the use of water. |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA MEDTAC (2000) |
|----------------------|---|--------------------------|---|--|
| WATER QUALITY | The sustainable management of underground water resources is one of the priority lines of action of the MWN | | Deteriorating water quality is considered as one of the challenges that the Water Initiative needs to solve. Priority areas for the second phase are: groundwater management and wastewater reuse. | <p>Strategies to improve sanitation and protect the quality of surface and groundwater.</p> <ul style="list-style-type: none"> • Establish national sewerage and wastewater treatment plans. • Establish water quality monitoring systems and laboratories in Basin Authorities. • Establish pollution prevention measures. • Facilitate information to industry about best practices and modernise state control companies. • Allocate specific financial resources to pollution control and prevention, and to wastewater management. <p>Protecting Groundwater</p> <ul style="list-style-type: none"> • Study the availability and exploitability of groundwater at rates that can be sustained. • Restrict use of groundwater to high priority uses. • Establish specific protection programmes for aquifers with a combination of direct and indirect measures (Enforce terms of existing licences, impose charges, etc.) • Encourage the conjunctive use of surface and groundwater where this could increase overall supply. • Establish legal framework to protect groundwater |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA MEDTAC (2000) |
|----------------------------------|---|--------------------------|---|--|
| INTERNATIONAL COOPERATION | <p>Regional cooperation on information exchange on: resource and demand assessment, methods for planning.; research and experimentation in non conventional resources.</p> <p>Knowledge exchange by training.</p> <p>Creation of a Mediterranean Water Network for International and Euro-Mediterranean Cooperation with focus on strengthening institutions, development of national management capacities, identification of approaches appropriate to the Mediterranean, adaptation of standards, organisation of circulation of information among countries and development of partnerships</p> | | | <p>Promoting co-operation between countries sharing water resources.</p> <ul style="list-style-type: none"> • Support permanent dialogue between concerned countries. • Establish common data collection and analysis projects and centres. • Promote debate to agree on doctrine to be adopted. • Promote the development of agreements and treaties and set up joint committees (technical and policy) • Promote the preparation of joint plans. |
| RISK MANAGEMENT | <p>Dealing with the challenge of drought management in the Mediterranean: cooperation for assessment and monitoring of drought related data and simulation of impacts, prepare drought management plans, develop drought legislation, establish public awareness campaigns and educational programmes and creation of a Mediterranean Drought Observatory.</p> | | <p>Drought has been considered as one of the priorities of the Initiative</p> | <p>Risk management in the region - Preparation of emergency plans for drought mitigation and flood management.</p> <ul style="list-style-type: none"> • Governments to designate or set up reference centres for data collection and evaluation monitoring of floods and droughts. • Establish regional programmes to exchange experience adopt common protocols for data collection and analysis and for the preparation of programmes of measures. • Prepare plans and legal frameworks to deal with floods and droughts. |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA MEDTAC (2000) |
|----------------------------|---|--|--|--|
| IMPROVING KNOWLEDGE | <p>Evaluation of resources through strengthening of institutions and information and data measurement and collection, regular inventory of available resources. Techniques for hydrological collection, processing and storage; improvement of access to data by various users</p> <p>Monitoring and reporting</p> <p>Promote user participation in management and financing plans and projects</p> | <p>Collection and dissemination of information and dissemination for building a database with the following data:</p> <ul style="list-style-type: none"> • training (training centres, methods, certificates, contents); • research and development (sectors of research, organisation, people, methods, documentation, funding sources...); • institutions (existing organisations, structures and types; mode of organisation...); • data management (existing methods of administration, methods of verification, validation and presentation); • documentation (identification of existing centres, existing documentation, method of treatment, technologies of access for consultation) | | <p>Generating knowledge and helping in the uptake of existing knowledge in relation to water use efficiency, ensuring food security and water quality.</p> <ul style="list-style-type: none"> • Actions to be taken in relation to water assessment and monitoring in countries where this is not already in place. • Actions to be taken in relation to development and dissemination of knowledge for increase efficiency in water use and reduce pollution. <p>Allocate funds for research at national and Basin level.</p> <p>Establish national monitoring and assessment systems and upgrade water quality and use monitoring.</p> <p>Promote applied experimental research linked to advisory services to improve water use and soil conservation.</p> <p>Promote pilot projects to show better water application and best water use in industry.</p> |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA / MEDTAC (2000) |
|----------------------------|---|-------------------|---|--|
| | PREPARING FOR THE TRANSITION TOWARDS INTEGRATED WATER RESOURCES MANAGEMENT | | | |
| POLITICAL SUPPORT | | | The general aim of the Water Initiative is to promote water policy reform towards sustainable management through policy awareness seminars and country case studies | <p>Insure political awareness and political support.</p> <ul style="list-style-type: none"> • Collection of new data and information on the risks and impacts of present water use for water availability and quality and health of ecosystems. • Dissemination of results in the mass media, educational establishments, etc. • Obtain social support for new IWRM measures without risking political defeat. |
| SOCIAL AND CULTURAL CHANGE | | | | <p>Social and cultural change strategy.</p> <ul style="list-style-type: none"> • Support measures to change individual and collective behaviour such as public awareness campaigns, education. • Measures to make socially and culturally acceptable the participation of the private sector in water management. • Measures to make socially and culturally acceptable the co-operation over shared water resources. • Reinforce ability of new stakeholders to develop information and participate in decision-making. • Reinforce training in Basin Authorities for IWRM and exchange of experience. |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA / MEDTAC (2000) |
|----------------------|----------------|-------------------|---|---|
| INSTITUTIONAL REFORM | | | One of the problems identified is the weakness of institutions and financing (institutional reform for management of water scarcity and pollution and changing private and public roles, creation of a water special lending fund from financing institutions | <p>Adopt the necessary institutional reforms to implement Integrated Water Resources Management. (IWRM) approach on a River Basin level.</p> <ul style="list-style-type: none"> • Establish Basin Authorities. • Strengthen the policy, planning and regulatory functions of Basin Authorities and separate from engineering and construction. • Promote the preparation of long term Integrated Basin Plans. • Promote stakeholder participation beyond existing water users. • Reinforce management skills and change the focus of bureaucracy. • Provide adequate financial resources for water management functions. |
| LEGAL FRAMEWORK | | | | <p>Establish the appropriate legal framework for IWRM.</p> <ul style="list-style-type: none"> • Create co-ordinating bodies at National and Basin level. • Establish legal provisions so that Basin Authorities have enough legal power for enforcement of programmes of measures. • Establish legal framework to define rights and responsibilities of the public and the users. • Incorporate into the legislation principles such as PPP, integrated coastal area and Basin approach, stakeholder participation, and environmental management. • Provide enough legal means for adequate enforcement of legislation and programmes of measures. |

| | 12. MWN (1999) | 13. SEMIDE (1999) | 14. MENA WATER INITIATIVE (1998-1999) | 15. FFA / MEDTAC (2000) |
|------------------------------|---|--------------------------|--|--|
| INFORMATION EXCHANGE | Improve quantitative and qualitative evaluation of demand (urban and rural population, industry and agriculture, ecological water flow) through establishing data banks on water consumption. | | | <p>Establish the appropriate basic information framework in IWRM</p> <ul style="list-style-type: none"> • Establishing the appropriate basic information framework for IWRM (detail local knowledge on water availability and use and human impacts) • Promote new practices and disseminate good practices in relation to water reallocation and protection and restoration of the resource. • Encouraging the creation of new knowledge for IWRM and systems for disseminating the information (in water use efficiency and soil conservation, on health of aquatic ecosystems, on the interdependence of agriculture and environment, on salt and drought resistant crops, focus also on management and effective dissemination systems so that information is easily accessible). |
| PROMOTE NEW PRACTICES | | | The issues of water scarcity and water reallocation constitute a challenge to be solved by the Initiative. | <p>Promote new practices and reinforce good practices. Disseminate results.</p> <ul style="list-style-type: none"> • In relation to reallocation of available water resources. • In relation to the protection and restoration of the resource. |
| OTHER | | | | Encouraging the creation of new knowledge of IWRM and Disseminate the information. |

ANNEX 2

The role of various Mediterranean stakeholders in implementing IWRM, the FFA and the Core for Action Plan

The role Central Governments

- Prepare main water policy and strategic orientations.
- Take main decisions on criteria for water allocation and pollution control
- Prepare and adopt major planning laws and regulations.
- Develop and set up national regulatory authority (including inspectorates)
- Set up law enforcement mechanisms.
- Fund and set up demonstration projects.
- Disseminate best practice experience
- Promote and ensure public participation at all levels.
- Provide strategic finance to Basin Authorities according to proposed measures.
- Active co-ordination at strategic level with government organisations of other countries sharing water resources.
- Set up major advisory structures (committees) at national level

The role of Basin Authorities

- Plan major objectives (water saving, optimisation, etc..) at water basin level.
- Develop and implement adequate direct implementation measures (eg. flood protection) and indirect implementation measures such as incentives or specific regulations (eg, emission limits) , penalties, voluntary agreement, information centres (of clean technologies, of best practices in farming, etc..) in co-ordination with Government bodies (national, regional and local authorities). Help shape actions of other agents.
- Participate in decision making for domestic water provision agencies (public or private).
- Set up and run water allocation and reallocation mechanisms, including conflict resolution fora.
- Project finance.
- Set up water quality and quantity observatories (Basin Observation Centres) equipped with laboratories for data collection and analysis.
- Set up monitoring, inspection and policing services
- Act as regulator and controller of activities related to water resources, including final decisions on water pricing.
- Develop pilot projects and disseminate best practice experience at the basin level.
- Carry out projects on conservation, protection and restoration of water resource.
- Carry out studies and control the efficiency in service provision.
- Provide strategic finance to other organisations (Water companies, University and research centres, NGOs) to deal with issues such as water and poverty or environmental issues or strategic research.
- Organise training courses for the staff of its services and other organisations.
- Facilitate co-ordinated action of water agents at basin level.
- Participate in coordination organisations at national level and when basins are shared by more than one country.

The role of Local Authorities

- Provision of water and sanitation services to the population.
- Insure good financial practices both if services are run by the local authorities or by specialised companies (whether public or private).
- Insure water service provision to the urban poor.
- Prepare proposals for pricing and tariff structures to be discussed and approved by regulatory bodies.
- Insure efficient service provision of water agencies in co-ordination with Basin Authorities.
- Develop appropriate local regulations (emission limits to urban systems, specific conditions to companies on adoption of best practices).
- Set up enforcing mechanism and local inspection services in liaison with the Basin Authorities to insure implementation of local, basin and national and international regulations.
- Set up public education campaigns.
- Implement specific measures of the Basin Plans at Local level such as municipal water conservation measures.
- Establish land planning restrictions.

The role of the Private Sector

IN SERVICE PROVISION

- Direct delivery of public and private services related to water through public utilities.
- Provide finance for water service projects under BOT or BOOT systems.
- Implement water conservation measures.

BANKS

- Establish credit lines for water projects of farmers and SMEs

INDUSTRY AND FARMERS ASSOCIATIONS

- Set up industry programmes to improve emissions and optimise use of water resources.
- Elaborate water audits and water saving programmes.
- Participate in information provision and setting up of incentives and programmes of Basin Authorities.

The role of the Water Users

- Participate in planning
- Participate in Basin Management.
- Contribute to direct implementation of measures such as water conservation.
- Participate in setting tariffs.
- Participate in preparation of programmes of measures by sector.
- Associate in consultative bodies at Basin and local level together with other organisations.
- Participate in consulting forums and conflict resolution fora.
- Create water users associations.

The role of the NGOs

- Participate in the planning and implementation of the programmes of measures.
- Participate in consultative and governing boards of basin authorities and regulatory bodies.
- Carry out pilot projects (with emphasis on awareness raising, education, participatory processes and capacity building).

The role of the Universities and the Research Organisations (public or private)

- Carry out specific research projects.
- Participate in studies, implementation and monitoring.
- Participate in advisory bodies.
- Set up demonstration projects.

The role of Networks and Regional Organisations

- Raise awareness at different levels and sectors (according to networks).
- Identify and document best practice experience.
- Help direct existing funding
- Participate in the design of wider action plans and campaigns for them
- Inform their members of all new developments both scientific and institutional related to water issues.

ANNEX 3

Summary Report of the “Mediterranean Conference of Water Stakeholders and Decision Makers: Towards a Core for Action Plan”, 2-4 November 2000, Athens, Greece

SUMMARY REPORT OF THE CONFERENCE.

| | |
|--------------------------------|---|
| Title | Mediterranean Conference of Water Stakeholders and Decision Makers: Towards a Core for Action Plan |
| Place | Divani Acropolis Palace Hotel, Athens, Greece |
| Date | 2-4 November 2000 |
| Organisers | The Mediterranean Technical Advisory Committee of the Global Water Partnership (MEDTAC/GWP), and the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE). |
| Sponsors | The meeting was supported by the Global Water Partnership (GWP), the DG ENV of the Commission of the European Union, the Water Supply & Sewerage Corporation of Athens (EYDAP), the Mediterranean Action Plan of the United Nations Environment Programme (MAP/UNEP). The social events were co-sponsored by Coca Cola Hellas and the Hellenic Bottling Company (3E). |
| Objectives | <p>The objectives of this Conference were:</p> <ul style="list-style-type: none">• to share with a wide Mediterranean audience of different stakeholders the results of the MEDTAC “Vision to Action” process and get feed back on it.• to bring together and contribute to the setting up of a dialogue of various partners and bodies acting in the Mediterranean on water issues and be informed and share their initiatives.• to discuss, amend and, if possible, adopt an operational Mediterranean “Core for Action Plan 2001-2005” for Water deriving from previous relevant recommendations by various regional institutes and processes, including the MEDTAC Mediterranean Vision and Framework for Action (FFA). |
| Programme | The final programme of the Conference is attached. |
| Participants | 182 representatives from government agencies, international organisations, local authorities, environmental NGOs, private companies, research centres and universities from 23 countries participated at the Conference (see attached), while an additional number of approximately 50 observers , mostly from Greece, participated in selected sessions. |
| Abstract of the content | The scope of the Global Water Partnership (GWP), its relevant initiatives worldwide and the Integrated Water Resources Management (IWRM) concept were presented. The Mediterranean Vision, FFA and Mapping, being the input of the region to the 2 nd World Water Forum, The Hague 2000, were analyzed. Emphasis was given to the Core for |

Action Plan (CAP), which was also discussed in four sub-regional workshops (North of the Mediterranean, Middle East, Mediterranean Islands, Northern Africa) in order to further elaborate on specific priority activities. CAP will be used as a tool for scouting and orientation of policies shaping programmes and projects.

Brief account of the proceedings

Prof. Michael Scoullou, Chairman of MIO-ECSDE, welcomed the participants and presented the scope of the Conference, linking it with the global and regional water initiatives and processes and invited the Greek Deputy Minister for the Environment, to take the floor formally and open the Conference.

Dr. Elias Ethymiopoulos, the Greek Deputy Minister for the Environment, made reference to the critical water problems of the region and the international and Mediterranean initiatives promoted in the framework of the Euro-Mediterranean Partnership and the European Union (EU). He described the actions that Greece has undertaken towards integrated water resources management, particularly in the context of the implementation of the EU Water Framework Directive (WFD) and emphasized the importance of the environmental dimension of water issues and the interest with the Greek Government attaches to the present initiative.

The representative of the European Commission, DG AidCo, Mr. Vassilis Papadopoulos, described the EU initiatives related to water putting emphasis on the WFD, as well as, the international processes in which the EU participates. He referred to the Euro-Mediterranean Partnership and SMAP and he described the guiding principles followed aiming at an effective water resources management. Making reference to the Conference and the Core for Action Plan, he noted their action-oriented perspective, he suggested that this should be used as a screening tool for projects and expressed the wish to lead into concrete results.

Mr. Arab Hoballah, Deputy Coordinator of MAP/UNEP, described the water-related initiatives undertaken within the Barcelona Convention and the MCSDD. He welcomed the initiatives undertaken by GWP-MEDTAC and made reference to the conclusion of the Vision. Mr. Hoballah congratulated the organizers of the Conference indicating the wide range of participating stakeholders and pointed the quality of the background documents. He noted that the CAP should assist towards the re-orientation or confirmation of national water policies aiming to a more efficient management in the framework of IWRM, making special reference to the promotion of innovative techniques and supportive incentives, to the importance of information, awareness and public participation, as well as, pilot and demonstration projects. He concluded referring to MEDTAC/GWP as an important initiative facilitating consensus building among water decision makers and stakeholders in the region and re-confirmed UNEP/MAP support to MEDTAC work.

From the GWP and MEDTAC side, Dr. Michel Soulie (Chairman of MEDTAC), Mr. Mohammed Benblidia (Chairman of IME) and Mr. Ivan Cheret (GWP TAC Member)

presented the aims, structure and activities of the partnership at the global and regional level, making reference to the important achievements so far (Vision to Action process, 2nd WWF in The Hague, etc.) and the future priorities and milestones (eg. Bonn 2001, Johannesburg 2002, 3rd WWF, Kyoto 2003).

The products of the Vision to Action process (Vision, FFA, Mapping) and the follow up of the Hague World Water Forum were presented by respective speakers. An analysis of the role of various stakeholders for implementing IWRM was followed by presentations of related actions undertaken by regional organizations and networks (see Agenda of the Conference).

The MEDTAC 'Core for Action Plan 2001-2005' was presented and discussed.

The Core for Action Plan is an "advance" product within the 'Vision to Action' process. Such exercise has not been attempted in other GWP regions by other TACs, but it was felt both necessary and feasible for the Mediterranean, given the long tradition of regional initiatives on water in the Mediterranean basin and in order to "place" the GWP-MEDTAC approach into perspective within the regional picture without controversy or misunderstandings.

The aim of the whole approach was to demonstrate and document the complementarity of the various previous or parallel initiatives, thus facilitating the smooth and efficient selection of priorities and coordination based on consensus.

The latter is a fundamental principle of sustainability and the basis of successful policies. It should emerge naturally in order to be convincing. Until now, there have been several plans and frameworks, strategic and/or operational about water management. Most of them have more similarities than most people think, but also a few characteristic divergences. The MEDTAC decided to contribute to this task by preparing a draft of such a Core for Action Plan to be submitted for discussion in the "Mediterranean Conference of Water Stakeholders and Decision-Makers: Towards a Core for Action Plan".

The Core for Action Plan, which was presented to the Conference of Water Stakeholders and Decision Makers, is not a new action plan, but a comparative synthesis of 15 existing attempts for action plans and recommendations concerning the region, extracting, after classification and analysis, their common core. Such a common core for action built systematically on the maximum possible consensus (based on scientific, political, economic etc. grounds) could guide, hopefully without further dispute and delays, joint initiatives and activities related to water throughout the region for the years to come.

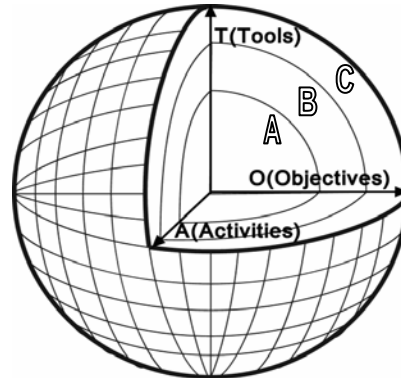
The 'Core' was obtained by using components of all of previous initiatives and proposals. The components used were:

- the operational *Objectives* necessary to reach the overall goal (to promote the sustainable use of water resources in the Mediterranean region through their integrated management),

- the appropriate *Tools* and instruments to be used or introduced and developed (from education and information to institutional reform),
- the proposed indicative *Activities* to implement them.

The key idea is that, ideally, priority projects should combine high priority objectives, with high priority activities and be implemented by employing high priority tools. In fact, the three dimensional representation in Figure 1 could be used to understand better the logic of classification.

Figure: Proposals



Example

- O:** Protecting ground water
 - A:** eg. by reducing waste disposal
 - T:** eg. by informing the public, using deposit schemes
- Activities in area A are obviously of higher priority than those in area C.

The Priority Objectives and Priority Tools obtained are given in Tables 1 and 2 respectively.

Table 1. Priority Objectives

| Priority | Objectives |
|----------|--|
| HIGH | O3. Increasing water availability (through increased supply and managing demand) |
| | O1. Improving water management |
| | O2. Rationalizing water use in agriculture |
| | O5. Protecting groundwater |
| | O8: Generating and disseminating knowledge |
| MEDIUM | O10. Cultivating social and cultural change |
| | O4. Improving sanitation |
| | O6. Co-operation on shared water Resources |
| | O14. Promoting new practices |
| | O7. Risk management (drought mitigation and floods) |
| | O9. Insuring political awareness and support |
| LOW | O11. River basin institutional reforms |
| | O13. New information framework for IWRM |
| | O15. Generating / disseminating new knowledge on IWRM |
| | O12. New legal framework for IWRM |

Table 2. Priority Tools

| Priority | Tools |
|----------|---|
| HIGH | Information, Public Awareness and Participation |
| | Training and Capacity Building |
| MEDIUM | Legislation |
| | Scientific and Institutional Collaboration |
| | Financial Support and Economic Incentives |
| LOW | Technology Improvement and Use |

The Core for Action Plan has listed also a large number of proposed priority activities. The selection and mainly the ranking of them is mostly in the hands of the involved stakeholders at the appropriate level of decision making since they are largely influenced by the conditions at the sub-regional, national or local level. The fact that the Core for Action Plan is based on the proposals of action plans and recommendations of a large variety of key actors makes it self-evident that also its implementation is expected to be based on the strong synergies built and the complementary roles played by the various main actors. This particular issue, the so called “water governance” was outside the scope of the present meeting and it became clear that require an in-depth analysis and dialogue in a future occasion.

Four workshops (North of the Mediterranean, Middle East, Mediterranean Islands, North of Africa) were organised in order to discuss sub-regional priorities emerging from the FFA and the CAP. The reports of the sub-regional workshops are attached.

A synthesis of their most important results is summarised as follows:

The *Northern Mediterranean group* emphasized that in fact it is not homogeneous. It could be further sub-divided into three sub-groups, depending on the water availability and level of economic development, which differentiate the level of water exploitation, the institutional framework governing water resources, the available technical support system and the management practices followed. Therefore, the CAP should take into account and also strengthen its provisions for the natural environment, which is under high pressure.

Increase in water efficiency and water supply should be combined with reduction of pollution, preservation of ecosystems and flood protection IWRM should be be considered compatible and combined with integrated management of coastal areas. The water use in agriculture should be re-evaluated in a thorough and systematic way.

The EU Water Framework Directive offers a tangible example for IWRM in EU countries. It could be considered and/or applied by many more countries of the region, since some of them are also accession countries, while other share waters with EU countries.

The *Mediterranean Islands group* concluded that activities increasing water availability with due regard to the management of water demand by reducing losses and increasing water use efficiency should be considered as the first priority.

Since agriculture is considered as of utmost importance for the needed diversification of the economy of the Mediterranean islands, emphasis should be placed on proper treatment of effluents for irrigation. Desalination schemes and small dams should be also included in priority approaches, however with proper and full consideration of all environmental, social and economic impacts.

Similar priorities to those of the Mediterranean Islands were identified also by the *Middle East* and the *North African* groups, which emphasised the needed attention and work for mobilisation and proper use of non-conventional water resources, including marginal quality waters, reuse of effluents, desalination, etc., while particular emphasis has to be given to needed technical improvements in all water uses.

Furthermore, *all groups*, as well as the plenary emphasised the urgent need for more systematic and in-depth public awareness which is linked to appropriate education and strengthening of the political will to address effectively water problems. As very important issues were identified all those dealing with water pricing and valuation on which solutions should be obtained after further dialogue since they remain still insufficiently examined. MEDTAC was encouraged to continue working with all stakeholders in order to further examine issues such as water pricing and validation particularly in the South-Mediterranean countries as well as alternative water resources and water governance in order to consolidate the results and identify proper mechanisms for their implementation in all parts of the Mediterranean (EU and non-EU countries).

Conclusions

- there is a consensus among the Mediterranean stakeholders on the crucial role of water for Mediterranean peoples and their economies and its critical state throughout the region which require urgent and coordinated action dialogue,
- there is an overall agreement of the priority objectives, as well as, on the tools considered as appropriate for the management of water in the region, as identified in the CAP
- although the overall priority activities are shared by all stakeholders the workshops showed that there are differentiations between the sub-regions in ranking these priority actions. This is due to the diverse ecological, social and economic conditions prevailing in the various parts of the Mediterranean. The need to involve more stakeholders in the processes was also emphasized.
- the CAP also showed and the Conference confirmed that there is an evolution time. The water authorities tend to take more seriously into account the concerns and preferences of the civil society and NGOs on water issues. A number of initiatives and examples were mentioned such as the Mediterranean Commission on Sustainable Development (MCSD), the Turin Plan of Action under the Euro-Mediterranean Partnership, etc.

Follow up

A relevant note called “**Note on the synthesis leading to the finalisation of the “Core Action Plan”**”, was circulated to the participants seeking their agreement. At the Closing Session, the final results were presented by Prof. Michael Scoullos, as a synthesis report adopted by the conference. Its content has as follows:

“The Core for Action Plan presented in the “Mediterranean Conference of Water Stakeholders and Decision-Makers: Towards a Core Action Plan, Athens, 2-4 November 2000”, is the logical sequence and emerges from the Vision and particularly the Mediterranean FFA prepared by MEDTAC. In the finalised version, the Core for Action Plan should include its central part (as presented) and it should be appropriately enriched and amended to reflect the deliberations throughout the Conference and the outputs of the various Workshops.

The Core for Action Plan, based on the analysis of the already existing Mediterranean action plans, is a tool mainly to be used as a check list for the orientation of IWRM strategies in the Mediterranean, mainly at regional level.

The clustering of objectives and tools in priority zones signifies the relative agreement of a larger number of stakeholders as these could be deduced from a number of international meetings, elaborate negotiations and consensus building procedures. The priority sequence is needed in order to develop our strategies by selecting the more suitable and least controversial activities which could lead to promoting an IWRM in the Mediterranean.

It is very clear that in order to upgrade current management practices to the level of an IWRM at regional and river basin level we need to progressively incorporate in our strategies elements to be identified and indicated by (a) Mapping exercise (currently in process at country level).

The Core for Action Plan also provides a very useful tool as the basis and nucleus for the development of Associated Programmes as it secures that the latter take into account existing experiences and agreements.

It is also clear that the Core for Action Plan is necessary for the first “delivery mechanism” of GWP, namely the fostering of regional water partnerships echoing the same principles as GWP itself. It is important also for the second “delivery mechanism” of GWP, namely the built up of Associated Programmes, since they should be based on expertise of existing regional / global institutions and benefit from linkages to other programmes and the wider network of programmes and plans of the various stakeholders of the region.

It is obvious that the selection of priority activities remains the task and responsibility of the relevant actors at the appropriate level of decision making, following the subsidiarity principle eg. sub-regional, national or local/river basin level.

The positioning of the Core for Action Plan in the overall framework of MEDTAC/GWP is given in the flow diagramme attached herewith.

The Core for Action Plan will be particularly helpful during the current transition period between (a) the phase of existing relevant but scattered activities and plans undertaken at various levels and (b) the ultimate goal which is IWRM.”

The Plenary approved the synthesis. One participant emphasized, without disagreeing with it, that he wanted to make sure that the “Core Action Plan” was not going to replace the outcome of the Turin Euro-Mediterranean Conference on Water, which was already adopted. The Chairman concluded that there was never such an intention. Although the Turin outcome was not adopted and considered as a binding Action Plan, the present “Core” has by no means such an intention. It could serve, however, as a useful screening or a guiding tool. Furthermore, as a gesture for unanimous agreement of all stakeholders, he proposed to refer to CAP not as “Core Action Plan”, but as “Core for Action Plan”, which was unanimously accepted.

REPORTS OF THE SUB-REGIONAL WORKSHOPS

North of the Mediterranean

Rapporteur Mr. Manuel Menendez, Programme Director, CEDEX, Spain

Mr. Ivica Trumbic, Director of PAP/RAC (MAP/UNEP) presented an overview of the MEDTAC Sub-regional Framework for Action for the North of the Mediterranean.

The ten countries forming the North Mediterranean Sub-Region: Albania, Bosnia Herzegovina, Croatia, France, Greece, Italy, Slovenia, Spain, Turkey and Yugoslavia. h have very different hydrological and socio-economical characteristics. During the elaboration of the sub-regional Framework for Action the countries have been divided into three sub-groups:

- a. The water- abundant and economically developed North: Northern Spain, France, Central and Northern Italy and continental part of Greece.
- b. The water-abundant and economically less developed North: Slovenia, Croatia, Bosnia Herzegovina, Yugoslavia, Albania and Turkey.
- c. The water-scarce and economically developed North East coast of Spain, Southern Italy and coastal area of Greece.

To analyse water issues in the above mentioned countries and regions, seven elements, constituting the so called “context” have been chosen:

- Natural context
- Level of exploitation of water resources
- Financial system
- Institutional context
- Socio-economic development
- Technical system
- Management practices

For each sub-group and context element, “driving forces”, “main issues” and “risk of no action” were identified. The two options developed in the Vision were the “business as usual” scenario and “sustainable” scenario, as defined in the Blue Plan.

According the previous analysis, the following general issues have been listed:

- Integrated management in coastal areas
- Increase in water use efficiency
- Flood protection
- Introduction of non conventional sources
- Reduce pollution

- Preserve ecosystems

Moreover, several key sustainable issues were examined:

- Water abundant, with some parts face persistent water shortages
- Level of exploitation has not reached dramatic proportions, but expensive solutions for water supply should be avoided
- The role of agriculture and its use of water has to be re-evaluated
- Water losses in the network are large, reduction will reduce water demand
- Threats from untreated waste water discharges endanger water resources
- Water conservation efforts is crucial for curbing water demand
- Natural disasters' risk management is not high in the national agendas
- Integrated water resources management based on stakeholders participation in decision making
- Institutional frameworks have to be reinforced

The discussions concluded in a list of proposed strategies:

- Introduction of integrated water resources management
- Increase of water supply
- Improvement of freshwater and coastal water quality
- Improvement of water supply security
- Mitigation of natural disasters risk

After the key presentation, the floor was opened for discussion. Several additional points were raised:

- The EU Water Framework Directive should be taken into account as four countries of the sub-region are EU members and the others are involved in the accession procedures. Through the transboundary river basins and shared waters more countries should be considered in the analysis.

- Monitoring is a key point and can be improved with the role of supra national institutions as the European Environment Agency (EEA).

- Sometimes the national legislation and/or the action plans already exist but it has not been implemented due to weak political will, inadequacies in public participation and awareness and lack of transparency.

- The report has an anthropocentric approach. Environmental considerations must be improved.

- Some of the priority Objectives identified in the Core for Action Plan are not common for all the countries of the sub-region. The additional division of countries into sub-groups made for the North of the Mediterranean has to be considered by the Core for Action Plan.

Mediterranean Islands

Rapporteur: Mr. Christos Markoulis, Director, Ministry of Agriculture, Natural Resources and Environment, Cyprus

Mr. Nicos Tsiourtis, Ministry of Agriculture, Natural Resource and Environment, Cyprus presented an overview of the MEDTAC Sub-regional Framework for Action for the Mediterranean Islands.

The following strategic needs and concerns for improvement were identified during the discussions:

- 1- Increase water availability with due regard to the managing of water demand (emphasis given in reducing water losses and efficient water use).
- 2- Improvement of water management. Special emphasis was given to the need for improvement of the legal and institutional framework for all islands, including the two State Islands (Cyprus and Malta).
- 3- Improvement of sanitation with emphasis on re-use of treated effluent for irrigation. (Domestic effluents to be treated and re-used for irrigation to free good quality water for domestic use).
- 4- Concern about construction of more dams and desalination systems without due regard to environmental impacts.
- 5- Agriculture should be maintained especially for environmental, social and economic reasons. Islands do not have a diversified economy due to their size.
- 6- Climatic changes should be studied extensively since they will affect directly future water supplies.
- 7- Ensuring political awareness, support and good governance of water resources.

Middle East

Rapporteur: Mr. Mohammed Ben Hassine, Head of Unit, Ministry of Environment & Land Management, Tunisia

1^{er} aspect

Mobilisation des eaux non conventionnelles comme une solution pour satisfaire les demandes croissantes en eau douce et cela, en exploitant les eaux marginales de qualité médiocre, ou par la désalinisation des eaux saumâtres, ou en réutilisant des eaux usées traitées pour des fins de production agricole

2^{ème} aspect

Une meilleure utilisation de l'eau en diminuant les pertes à la distribution, à l'exportation et au transport de l'eau. Pour cela, les solutions consistent en la mobilisation des eaux potentielles et dans l'économie de l'eau pour sa meilleure utilisation dans différents secteurs.

PRIORITES

1. Développement de l'utilisation des ressources en eaux marginales (eau salée et eaux usées et traitées).

L'eau marginale est une ressource qui se trouve en grande quantité dans cette région. Comme les stations d'épuration produisent chaque année des quantités énormes d'eau qui sont rejetées dans le milieu naturel, ces volumes sont croissants d'une année à l'autre.

Pour mieux réutiliser ces eaux usées qui se trouvent en grande quantité, il faut se reposer sur 5 facteurs essentiels:

- Le premier correspond à une réutilisation améliorée des eaux usées pour satisfaire les besoins des agriculteurs et pour ne pas donner de problèmes sanitaires aux citoyens
- Le deuxième : résoudre le problème de stockage de ces eaux là qui sont en grande quantité en hiver quand les agriculteurs n'en ont pas besoin
- Le troisième : l'alimentation artificielle des nappes avec les eaux usées traitées
- Le quatrième : utilisation des eaux usées traitées dans d'autres secteurs que l'agriculture tels que le refroidissement des machines dans l'industrie, l'irrigation des forêts et l'amélioration de l'environnement urbain (irrigation des arbres sur les rues).

Tout cela nécessite une coordination entre les institutions dans le pays.

2. Amélioration des techniques d'utilisation de l'eau

– Face aux demandes croissantes de l'eau et au développement démographique et après la mobilisation des ressources existantes

- et face aux ressources en eau limitées, il est devenu utile de procéder à une meilleure gestion de l'eau pour assurer un développement durable et cela par :

Amélioration de l'efficacité de l'eau pendant le transport, la distribution

La maintenance continue des ouvrages hydrauliques

L'adaptation des cultures

3. La sensibilisation

Ce volet concerne l'intensification de la sensibilisation dans tous les secteurs, pour tous les utilisateurs d'eau et à tous les niveaux en leur signalant la rareté de l'eau et la valeur

économique de cette ressource dans le développement économique et social, afin de mieux économiser l'eau.

Pour cela, des campagnes intensives de sensibilisation continue, qui ciblent toute la population et les organismes, suivent une méthodologie basée sur les méconnaissances, les attitudes et les pratiques des usagers.

4. Tarification

Pour inciter les usagers à économiser de l'eau, il est devenu utile d'établir le prix de l'eau pour lui donner sa valeur économique.

MEDITERRANEAN CONFERENCE OF WATER STAKEHOLDERS AND DECISION MAKERS: TOWARDS A "CORE" ACTION PLAN

Divani Acropolis Palace
Athens, 2-4 November 2000

Organised by:



Mediterranean Technical Advisory Committee
of the Global Water Partnership
(MEDTAC/GWP)

&



Mediterranean Information Office
for Environment, Culture and Sustainable Development
(MIO-ECSDE)

Supported by:

Global Water Partnership (GWP)
Commission of the European Union – DG ENV
Water Supply & Sewerage Corporation of Athens (EYDAP)
Mediterranean Action Plan / United Nations Environment Programme (MAP/UNEP)

Social events co-sponsored by :
Global Water Partnership and Hellenic Bottling Company S.A. & Coca-Cola

AGENDA

DAY 1: Thursday, 2 November 2000

Afternoon: Plenary sessions (14.30-17.15)

Session 1: Opening (14.30 –15.45)

14.30-15.30

PANEL

- **Mr. Elias Efthymiopoulos**, Deputy Minister for Environment, Greek Ministry for Environment, Physical Planning and Public Works
- **Prof. Michael Scoullios**, Chairman, MIO-ECSDE
- **Mr. Ivan Cheret**, TAC Member, GWP
- **Mr. Michel Soulie**, Chairman, MEDTAC/GWP
- **Mr. Mohammed Benblidia**, Chairman, Mediterranean Institute for Water (IME)
- **Mr. Arab Hoballah**, Deputy Coordinator, MAP/UNEP
- **Mr. Basile Papadopoulos**, Head of Unit, Commission of the European Union, DG RELEX
- **Mr. Dionisis Xenos**, Executive Director, EYDAP

15.30-15.45

Presentation of the Agenda of the Conference

Mr. Michel Soulié, Chairman, MEDTAC/GWP

15.45-16.30 *Coffee Break & Press Conference*

Session 2: Key Note Presentations (16.15-17.15)

Chair: **Mr. Elias Efthymiopoulos**, Deputy Minister for Environment, Greek Ministry for Environment, Physical Planning and Public Works, Greece

Secretary: **Ms. Josefina Maestu**, Secretary General, Mediterranean Water Network (MWN), Spain

Rapporteur: **Mr. Emad Adly**, Chairman, Arab Office for Youth and Environment (AOYE) / Arab Network for Environment and Development (RAED), Egypt

16.30-16.55

GWP's mission, role and strategy

Presentation on Integrated Water Resource Management

Mr. Ivan Chéret, TAC Member, GWP

16.55-17.15

“Towards a Core Action Plan on Water Management in the Mediterranean: Objectives and Methodology”, **Prof. Michael Scoullios**, Chairman, MIO-ECSDE

21.00 *Reception (Divani Acropolis Palace)*

Morning: Plenary sessions (9.00-12.30)

Session 3: Presentation of GWP/MEDTAC work (9.00-10.15)

Chair: **Mr. Mohammed Benblidia**, Chairman, IME, France

Secretary: **Ms. Emel Anil**, TEMA, Turkey

Rapporteur: **Mr. Fayez Bataineh**, Ass. Secretary General, Ministry of Water & Irrigation, Jordan

9.00-9.20

- Mediterranean Vision
Ms. Aline Comeau, Plan Bleu

9.20-9.40

- Mediterranean Framework for Action
Ms. Josefina Maestu, Secretary General, MWN

9.40-10.00

- Global FFA after the Hague forum
Mr. Alan Hall, FAU

10.00-10.15 Clarification Questions

10.15-10.45

Coffee break

Session 4: Presentation of the Core Action Plan (10.45-12.30)

Chair: **Mr. Michel Soulié**, Chairman, MEDTAC/GWP, France

Secretary: **Mr. Youssef Nouri**, MIO-ECSDE Co-Chairman, APNEK, Tunisia

Rapporteur: **Mr. Tim Lack**, European Environment Agency, ETC Inland Waters, UK

10.45-11.15

- Presentation of Mediterranean Mapping phase I
Mr. Alain Vidal, MEDTAC Mapping consultant, FAO/IPTRID

11.15-11.45

- Presentation of the Draft Core Action Plan
Prof. Michael Scoullios, Chairman, MIO-ECSDE and **Mr. Thymio Papayannis**, Coordinator MedWet

11.45-12.30

Discussion

12.30 - 14.30

Lunch

Afternoon: Plenary sessions (14.30-17.15)

Session 5: Presentation of stakeholders and key players (14.30 – 15.45)

Chair: Ms. Milagros Couchoud, Vice-Chairman IME, Spain

Secretary: Mr. Hassan Hachem, Ministry of Energy and Water, Lebanon

Rapporteur: Prof. Mohammed Ftouhi, Chairman, CMEPE, Morocco

14.30 – 14.45

- The role of various stakeholders in IWRM
Ms. Eveline Bolt, IRC International Water and Sanitation Centre

14.45-15.00

- The role of data and information for water: a necessary tool for all stakeholders
Mr. Tim Lack, European Environment Agency, ETC Inland Waters, UK

15.00 – 15.45

- EUROMED
Mr. Walter Mazzitti, President, EMWIS
- EU Commission (SMAP, Water Framework Directive)
Mr. Basile Papadopoulos, Head of Unit, Commission of the European Union, DG RELEX
- Mediterranean Commission for Sustainable Development (MCSD)
Ms. Aline Comeau, Blue Plan (MAP/UNEP)

15.45-16.15 *Coffee Break*

Session 6: Presentation of stakeholders and key players (16.15– 17.15)

Chair: Mr. Ivica Trumbic, Director PAP/RAC (MAP/UNEP), Croatia

Secretary : Prof. Sotiris Varnavas, University of Patras, Greece

Rapporteur: Mr. Netij Ben Mechlia, INAT/UNDP, Tunisia

- Charter of Alliance of Mediterranean Cities
Mr. Robert Assante, Vice Mayor of Marseilles
- European Partners for the Environment (EPE)
Mr. Raymond Van Ermen, Secretary General, EPE
- International Union for Nature Conservation and Natural Resources (IUCN)
Mr. Jean Yves Pirot, Coordinator, Wetlands and Water Resources programme, IUCN
- Ramsar Convention on Wetlands
Mr. Thymio Papayannis, Coordinator, MedWet
- International Convention for the Protection of the Black Sea
Mr. Eugeny Kutovoy, Alternate Director, International Centre for Black Sea Studies

Side event 1: 17.30-17.40 *Projection of the film “Battle for Marathon”,
Directed by Mrs. Lydia Carras*

Side event 2: 17.40-18.40 *Brief presentation of the MIO-ECSDE Mediterranean Educational Project
on Water*

Co-organised by:

- MIO-ECSDE
- *The University of Athens, Post Graduate Programme on Chemical Education – Environmental Education Course*

16.30 – 20.30 Work on the “Core” Action Plan (MEDTAC, Chairs, Secretaries, Rapporteurs)

21.00 *Reception (MIO-ECSDE premises)*

Morning: Workshops (9.00-11.30)

9.00-11.30

Workshop 1: Mapping

Chair: **Mr. Alain Vidal**, Regional Theme Manager, FAO/IPTRID

Secretary: **Ms. Marta Vahtar**, Institute for Integral Development and Environment, Slovenia

Rapporteur: **Ms Undala Alam**, MEDTAC expert, UK

Workshop 2: Associated Programmes

Chair: **Mr. Christos Markoulis**, Director, Ministry of Agriculture, Natural Resources and Environment, Cyprus

Secretary: **Mr. Sergio Illuminato**, Fondo Euro-Mediterraneo, Italy

Rapporteur: **Ms. Nighisty Ghezze**, Network Officer, GWP, Sweden

Presentations (10 min each):

- Medhycos, **Mr. Marc Morell**, MedHycos
- Gender AP, **Mrs. Eveline Bolt**, IRC International Water and Sanitation Centre
- Med-Tapi, **Mr. Alain Vidal**, FAO/IPTRID
-

Discussion

11.30-12.00

Coffee Break

Morning: Plenary (12.00-12.30)

Session 7: Presentation of the revised Core Action Plan (12.00-12.30)

Chair: **Prof. Michael Scoullios**, Chairman, MIO-ECSDE

Secretary: **Mr. Ridha Dhaoui**, SONEDE, Tunisia

Rapporteur: **Mr. Thymio Papayannis**, Coordinator, MedWet

Presentation of the revised "Core" Action Plan and (eventual) adoption

12.30-14.00

Lunch

Afternoon: Sub-regional Workshops

(for elaboration of specific activities based on the "Core" Action Plan)

14.00-15.30

Workshop 3: North of the Mediterranean

Chair: **Mr. Tarik Kupusovic**, Hydro-Engineering Institute, Bosnia & Herzegovina

Secretary: **Mr. Emmanouil Parlis**, Director, EYDAP, Greece

Rapporteur: **Mr. Manuel Menendez**, Programme Director, CEDEX, Spain

Presentation of the FFA for Northern Mediterranean part

Mr. Ivica Trumbic, Director PAP/RAC (MAP/UNEP)

Discussion on sub regional priorities based on the “Core” Action Plan

Workshop 4: Middle East

Chair : **Mr. François Casal**, Ministry of the Environment, France

Secretary: **Mr. Abdel Rahman Tamimi**, Palestinian Hydrology Group (PHG), Palestinian Authority

Rapporteur: **Mr. Mohammed Ben Hassine**, Head of Unit, Ministry of Environment & Land Management, Tunisia

Presentation of the FFA for Middle East part

Mr. Fayez Bataineh, Ministry for Water, Jordan

Discussion on sub regional priorities based on the “Core” Action Plan

Workshop 5: Mediterranean Islands

Chair: **Prof. Themis Kouimtzis**, Aristotele University of Thessaloniki, Greece

Secretary: **Ms. Majilinda Vasjari**, National Environmental Agency, Albania

Rapporteur: **Mr. Christos Markoulis**, Director, Ministry of Agriculture, Natural Resources and Environment, Cyprus

Presentation of the FFA for the Mediterranean Islands (15 min)

Mr. Nicos Tsiourtis, Ministry of Agriculture, Natural Resource and Environment, Cyprus

Discussion on sub regional priorities based on the “Core” Action Plan

Workshop 6: Northern Africa

Chair: **Mr. Ahmed Hajji**, Planning Director, National Office of Drinking Water, Morocco

Secretary: **Mr. Hussein Elwan**, Director, Ministry of Public Works & Water Resources, Egypt

Rapporteur: **Ms. Nadia Abdou**, Alexandria General Water Authority, Egypt

Presentation of the FFA for Northern Mediterranean (15 min)

Mr. Ahmed Hajji, Planning Director, National Office of Drinking Water, Morocco

Discussion on sub regional priorities based on the “Core” Action Plan

15.30-16.00

Coffee break

(During the coffee break the Rapporteurs prepare their reports on sub-regional workshops)

Afternoon: Plenary (16.00-17.30)

Session 8: Synthesis and Closure of the Conference (16.00-17.30)

Panel: **Ms. Josefina Maestu** (Chair), **Mr. Thymio Papayannis** (Rapporteur), **Mr. Michel Soulié**, **Prof. Michael Scoulios**, **Ms. Aline Comeau**

16.00-16.40

- Presentation of the reports of sub-regional workshops (4 x 10 min)

16.40-17.00

- Synthesis of sub-regional reports
Mr. Michel Soulié, Chairman, MEDTAC/GWP

17.00

- Future steps and Closure of the Conference
Mr. M. Soulié, Chairman, MEDTAC/GWP and **Prof. M. Scoulios**, Chairman, MIO-ECSDE