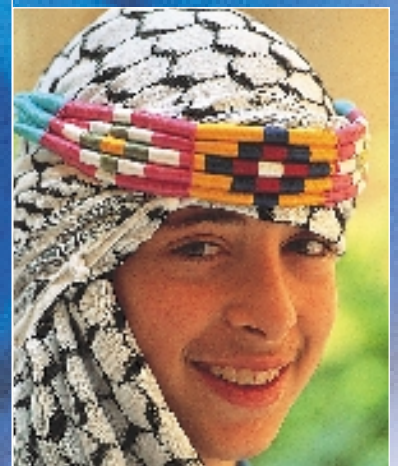


*...is to safeguard and
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Our Vision for Water in the **21st Century**

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THE MEDITERRANEAN

Water for the 21st Century: Vision to Action

SUMMARY – FRAMEWORK FOR ACTION

The key message we seek to get across is that the water situation in the Mediterranean will never be the same again as it has been in the past. Expected increases in water demand cannot be met in most cases by developing additional water resources since such water is increasingly not available.

There is a need to cope and avoid the water crisis that, in some countries, is already a reality. We need to do so with actions that help us solve the most urgent problems while moving towards sustainable water management. We also need to start working today for a more sustainable water future with actions that help us prepare for the transition towards Integrated Water Resource Management.

In this FFA for the Mediterranean we are proposing actions that will help us avoid the water crisis such as strengthening water institutions to be able to govern water efficiently and effectively; a combination of water supply and demand measures; modernising agriculture; promoting co-operation between countries sharing water resources; protecting water quality; being prepared for major risks such as droughts and floods; generating knowledge and helping in the uptake of existing information in relation to water use efficiency, optimising existing supplies, water quality and non conventional resources. We are also proposing actions that prepare us for the transition towards sustainable water management. This includes the development and strengthening of institutions and legislation for Integrated Water Management; generating and incorporating knowledge for sustainable water management; promoting awareness of risks ahead and influencing social and cultural values at the same time as investing in people (human resources).

OBJECTIVES FOR SUSTAINABLE WATER MANAGEMENT

Vision Statement

Safeguard and provide by 2025, sufficient, safe, clean, healthy, reliable and sustainable water for domestic and irrigation needs and for the environment for a peaceful and stable living in the Mediterranean region.

General Objectives of Water Policy

According to the vision and the vision statement the general objectives of sustainable water management policy in the region are:

- › To secure equal access to water for everyone in the region
- › Insure that water allocation and management underpins economic and social well being in the region
- › Insure a environmentally sensitive water allocation.

These general Objectives Translate into:

1. Insuring that appropriate water services are provided to both the urban and rural population, insuring equity and that disruptions of water supply to the population and economic activities do not endanger the prospects for economic development and diversification in the region.
2. Agricultural and rural development is a priority with expansion of irrigated areas, however, dependent on natural resources and socio-economic improvement.

Sustainable water management means to increasingly balance the ratios of water quantities used by economic activities according to their contributions to development (measured by GNP), thus using their capacity to take over internal and external costs of water resources management. At the same time as minimising and dealing with social and economic problems that may emerge as a consequence and in the context of alternative economic opportunities.

3. Limit water stress in the region to preserve the ecosystems and natural resources:

- Limit the stress on resources where it might increase, with acceptable effects on the environment and moderate unsustainable management of irregular surface water.
- Stabilise the stress at its present level where increased exploitation may put at risk the health of aquatic ecosystems, the survival of local communities and traditions and local economic potential. Make present stress decrease where exploitation levels are high and hinder prospects of economic development and diversification in the region.
- At the same time as prevent disruptions between water demand and supply and the water scarcity it implies, in a context of sustainable development and environmental security.

What Types of Appropriate Actions

- Actions need to be related to the main challenges in the region, take present unsustainable trends and risks of inaction into account, and build on and reinforce existing good practice.
- Actions must be taken at the local and national levels, by private and public organisations. It involves important changes from household and companies to policy levels. Mediterranean peoples must accept and be ready for increased weighting of water in their public and private budgets if they value their social and environmental security.
- Actions proposed for the implementation of the strategies proposed are institutional, economic, technical, knowledge and social.
- In some of the richer countries and the Islands there are the structural conditions to move into IWRM.





The economic diversification, the variety of economic opportunities, the degree of openness of the economy, the financial possibilities, the political stability and the opportunity costs of avoiding water demand management and water reallocation are obvious. In other countries the structural conditions that would make the transition possible are mostly absent. There is a strong dependence on agriculture both in terms of contribution to GDP and in terms of employment, the food system is less integrated than in the Islands and the diversification and employment opportunities outside agriculture are limited. The types of strategies and the speed of their implementation would be different. These countries are also subject to strong financial constraints. They would need international support if they are to meet the often much greater challenges they face.

› We are aiming at realistic actions. Examples from less populated countries (e.g., Israel, Cyprus, Malta), show that a more rapid transition towards urbanisation, integration in the international market water demand management and partial reallocation of water to other sectors is possible. The example of Tunisia shows that even where many of the structural conditions are not there it is possible to engage in water demand management and other strategies towards Integrated Water Resources Management.

DEALING WITH HIGH LEVEL OF WATER EXPLOITATION

Water scarcity has always been part of the history of the Mediterranean. Throughout history, water has been the essential element for economic and social development and for the stability of Mediterranean cultures and civilisations. As a basic element for food production, economic development and life itself, water has been an axis and a symbol of our cultures. Water in most countries and regions of the Mediterranean is a limiting factor. For that reason cultures and civilisations have been striving to adapt their lives and agricultural practices to situations of scarcity and to increase their catchment and storage capacities to prevent the worst consequences of irregular water cycles.

The result has been that the level of exploitation of water resources is generally high in most countries and pressure over water resources is increasing. Exploitation ratios over 50%, or even nearing 100% in wide parts of Mediterranean countries (Egypt, Palestinian Authority, Israel, Libya, Malta, Tunisia, most Islands and the Eastern regions of Spain).

Exploitable amounts of water are decreasing, and may become scarce in time or region. Disruptions between water demand and renewable conventional supply may increase. Overexploitation of local character is a reality leading to widespread salt-water intrusion.

Most North African and Eastern Mediterranean countries envisage an increase in pressure over their water resources because of the high population growth in the region. This is specially important because popu-

lation could be doubling in the next 20 years and rural urban migration could provide additional pressures on the water supply and management systems in the big cities that are already badly stressed and on coastal areas where most population concentrates.

National water authorities are faced with this increased pressure at the same time as having to face increasing technical difficulties and the associated greater financial costs of mobilising conventional water supplies. Yields are decreasing for the same financial investment. The best sites have already been used. Still further development of conventional water sources is in the agenda of most countries. Those countries such as Egypt and Morocco that have relied heavily on mobilising surface water are turning into the possibility of relying more on groundwater resources. Avoiding the water crisis will require a combined water demand and supply strategy.

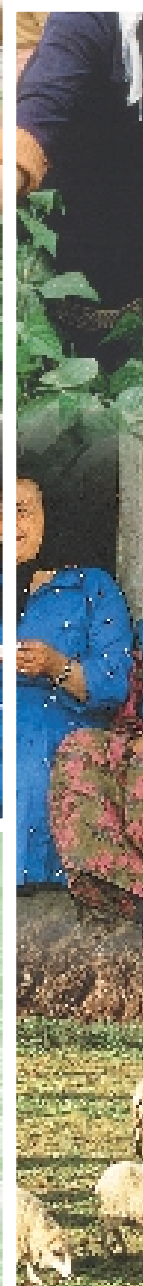
Water conservation measures have not been widely applied in most countries of the region. In spite of the increasing difficulties in the development of new water resources through conventional means the technical efficiency of water distribution networks is low. Losses in distribution systems are high in some cities due to poor maintenance or to the age of networks. This is potentially a great waste of resources. There is an important potential for improvement in most countries.

Reducing unaccounted for water both in urban and irrigation networks have been estimated that can provide from 30%–50% saving of irrigation water and from 28%–50% in urban water. Also the introduction of water saving devices in urban areas and most important the changes of on-farm water irrigation techniques and models of application and changes in crop patters can also lead to important water savings. Very often, population is unaware of high water losses and the potential for saving.

Wastewater reuse will not be a substantial contributor to the water supply of the water scarce Mediterranean countries. However, wastewater reuse has strategic value because it substitutes good quality water for those uses that do not require it (gardens, some irrigation, etc.), and may allow to reduce local overexploitation of aquifers where this occurs. It can be important in coastal areas where there is strong competition for the resource.

Desalination and wastewater reuse are becoming major options. The costs of the desalination option are still high as compared to other conventional sources of supply. Research on increased energy efficiency and use of renewable energy is achieving important results and is expected to make this option increasingly implementable. Desalination provides with a reference of the “opportunity costs” of the implementing of water demand measures, including pricing and resizing of irrigation agriculture.





STRENGTHENING AND REFORMING WATER INSTITUTIONS

A key challenge for sustainable water management in the region is the effective functioning of the water services and the proper maintenance of water networks in urban areas (except for the richer countries of the North of the Mediterranean).

The creation of specialised public organisations or the delegated management together with BOT and BOOT systems are seen as important options. There are important examples of good practice such as ONEP, SONEDE, and ONAS. These options would require in turn the reinforcement of the regulatory functions of government organisations and the effective enforcement's of regulations. Countries need institutional, educational, and financial support to insure effective operation of institutions.

The implementation of Integrated Water Resources management is in its way in most countries. Technically, there is a widespread agreement that River Basin Level type of management is the most appropriate one. The institutional and legal framework for IWRM is in place in many cases. There are Basin Authorities and advanced water laws in countries like **Algeria, Libya, Morocco, France, Italy, and Spain**, and the Water User Associations that have been in place for more than one century in countries such as **Tunisia**, Spain, and so on.

So far a strategic approach to water planning and management is present in almost all the countries. There are major strategies for water demand management in countries such as **Israel, Cyprus and Tunisia** and the preparation of Integrated Basin Management Plans has been a reality for some time in several countries such as Spain and Algeria.

Problems seem to emerge with the effective functioning of IWRM institutions. Effective enforcement of water laws, related to control of water use, to pricing or environmental protection needs to be reinforced. These are fundamental for the implementation of water demand management strategies.

Integrated Water Resources Management is an encouraging opportunity. However, it will succeed only there where there are good possibilities for active and effective stakeholder involvement. What is missing is the management system that will allow the interests of all stakeholders (in addition to major water users) to be fully integrated in the collective decision-making processes, especially if issues related to water quality and protection of health and integrity of aquatic ecosystems, or coastal area management are going to be integrated effectively in plans and projects.

Strong State Budget deficit control is also an important institutional issue in most North African and East Mediterranean countries. There is stronger competition in countries for funds from the State Budget. There are incentives nowadays to attract private capital and to imple-

ment schemes where there is a greater contribution from users, but it also may constrain some other important proposals for action.

REFORMING AND MODERNISING AGRICULTURE AND ENSURING FOOD SECURITY

The role of Agriculture in Mediterranean water scarce countries is a main key issue in relation to sustainable water management. National water policies have aimed at water mobilisation to realise the important potential of irrigation agriculture to increase agricultural productivity and deal with increasing food requirements from the population. Given that rainfall is low and that the evapotranspiration rate is high, the crops have to be irrigated for most of the year, and more so in summer. Irrigation agriculture is the biggest consumer of water.

The expansion of irrigated areas is expected to continue in some countries such as Morocco and Tunisia to provide food for both the internal and export markets. The increasing reliance on the world market for food supplies is felt to be a weakness of the region. The dependency on grain was 33% in 1995, but it is likely that this dependency may rise to 50% or more by the year 2025. Countries expect that major adjustments in the agricultural sector may need to take place to cope with increasing trade liberalisation. There is a challenge of modernising irrigation agriculture to be able to turn into high value export products. This also provides with major possibilities to improve technical efficiency in distribution and water use in the region.

The commitment of countries to the modernisation of the agricultural sector could facilitate the implementation of proposals such as resizing of the agricultural sector linked to increases in efficiency in water use. The application of more stringent water pricing is in the agenda in some countries of the Mediterranean (specially the Islands).

Farmers would need to be better informed about trends in prices of agricultural products and more flexible in terms of decisions on crops, more able to control inputs and their application and better organised for the marketing of their products. Soil conservation measures linked to water use seem vital in the Mediterranean. Increased salinity and loss of top soil because of modern agricultural practices can lead itself to reduction in the water retention capacity and hence the efficiency of application. Advisory services and easily accessible financial resources seem key to this transformation.

IMPROVING SANITATION AND PROTECTING THE RESOURCE

Sewage treatment facilities have tended to lag behind in some parts of the region. This poses two dangers for water resources in the region. The first one is the direct health risk of discharges of untreated sewage to underground and surface water resources, particularly when unregulated settlement occurs in the drainage basins or when fields are





watered with raw sewage. Second, there is a threat to marine ecosystems, as well as to wetlands and other transitional ecosystems which are crucial for maintaining the ecological balance, in case of the discharge of untreated sewage. Management of rapidly growing volume of wastewater due to population growth and urbanisation is a challenge affecting main cities in the region.

Countries need to improve existing sewage and treatment facilities, and develop wastewater master plans for cities and urban areas which will establish targets for providing wastewater collection systems and treatment facilities. Dry sanitation will need to be introduced and/or wastewater treatment improved. The latter would need to be looked at because it provides further opportunities to increase use of wastewater in agriculture and substitute good quality water for less quality demanding uses. This policy requires important financial resources.

Over-abstraction of groundwater and high mobilisation of surface water also has important impact on the health and integrity of aquatic ecosystems in the Mediterranean. The unsustainable abstraction of groundwater and depletion of groundwater aquifers is one of the major problems facing the region. Uncontrolled groundwater abstraction, leads also to seawater intrusion. This is a matter that must be dealt within the context of the safe yield of the aquifer and with measures aimed at controlling pumpage in quantity and in location. In the islands and in the East of the Mediterranean most of the water resources come from groundwater and it is imperative that for sustainable development groundwater quality must be preserved and improved.

In most of the water scarce areas of the region it is important then, to limit groundwater abstraction by direct and indirect measures. Since direct measures over the years have not succeeded it will be more effective to combine direct measures with indirect measures.

Direct regulatory measures include the designation of overexploited aquifers and the implementation of Special Measures limiting and controlling extraction to the level of safe yield. These measures are complicated and expensive and not very effective unless they are accompanied by indirect measures. Indirect measures include imposing charges on the volume pumped, removing any subsidies that may have been given for high water consuming activities, limit the area that can be cultivated and so on.

Specific legislation would need to be prepared and implemented if groundwater quantity and quality status is to be safeguarded. Some countries (Tunisia) apply restrictions of water use from lakes, for example, to insure that ecological needs are provided for. Others (Spain) regulate that rivers have a minimum ecological flow.

Artificial water recharge and use of aquifers as storage of surface water during the rainy years has also allowed, in Tunisia, an increase in the level of the Water Table and improved chemical water quality. Compatibilisation of uses needs to be a main option.

PROMOTING COOPERATION BETWEEN COUNTRIES SHARING WATER RESOURCES

Some countries depend on the natural resources of other countries. This is the case for water for Egypt (nearly 100%), Syria (80%) or Israel (55%). The Nile is the second largest river in the world covering 10 riparian countries. Five countries share the Jordan basin, a relatively small river: Jordan, Israel, Palestinian Authority, Syria and Lebanon. Spain and Portugal also have a number of shared river basins.

Management of shared river basins has contributed to some regional tension but has also led to some important specific agreements in the region to allocate water resources. Today issues of water quality are also important in the management of shared water resources. The success of countries in the implementation of joint strategies will depend on political will, collaboration on sharing information, technologies, best practices and knowledge.

RISK MANAGEMENT IN THE REGION: PREPARING FOR DROUGHTS AND FLOODS

The effect of climate uncertainties — decreasing precipitation, higher frequency of extreme rainfalls and droughts — is a reality in the region and climate change is considered a long-term risk. Flooding is an important issue: frequent and dangerous. Droughts are recurrent events, more difficult to deal with as scarcity increases. Risk management is not sufficiently developed in many countries of the region. Floods and other natural disasters related to water are not being confronted by adequate risk management measures. Considering the size of damages done by these disasters it could be considered as a hindrance to sustainable development in the region.

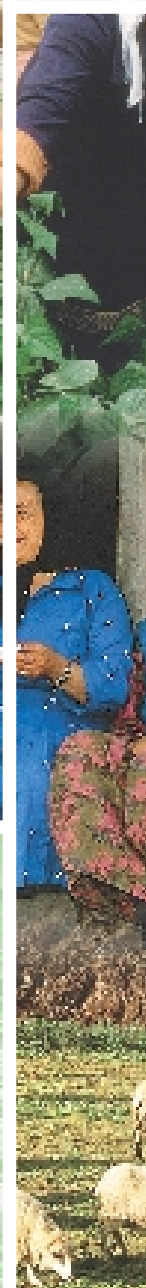
GENERATING KNOWLEDGE AND HELPING IN THE UPTAKE OF EXISTING KNOWLEDGE

Given the shortage of water resources in the region and the growing threats of pollution, it is of extreme importance to carefully monitor and assess the region's water resources. It is also important to help develop and disseminate knowledge in relation to water use efficiency, optimising existing supplies and non-conventional water resources, protecting water quality and the health of ecosystems.

SOCIAL AND CULTURAL CHANGE STRATEGY, ENSURE POLITICAL SUPPORT AND COMMITMENT

In the Mediterranean people are highly aware of the importance of water. The quality of water (salinity and sodicity, pollution, organic matter) and its impact on health and general water availability has also been a concern. Industrial and chemical pollution is becoming fast part of the policy agenda. Now, especially in the most water stressed areas in the East of the Mediterranean but also in the North of Africa and the East of Spain and the Islands, caring for the quality of the resource is fundamental.





Political decisions have often been taken at the higher level to adopt a legal Framework for River Basin level, and to decide on the adoption of the IWRM approach. The challenge is to go beyond commitment at the highest political level that has been reflected in legislation and creation of institutions.

It is important to obtain widespread political and technical commitment and support for the implementation of IWRM measures. This goes hand in hand with the development and dissemination of new information about the risks ahead and the social and cultural change strategy. The dissemination of the new information and research in the mass media, educational establishments, etc. may rise the necessary support for policy makers and politicians to take explicit decisions in this matters, without risking political defeat. The Vision on water would be achievable if IWRM is not only part of the political agenda but if stakeholders support it and play the correct role. The role that each stakeholder will play, the government, the public, the private sector, the NGOs and the users is very important. In order to achieve the Vision a real social and cultural change may be required so to change the government, the managerial, the private sector methods of operation, and the consumers' behaviour.

THE WAY AHEAD FOR THE FRAMEWORK FOR ACTION FOR THE MEDITERRANEAN

This draft Framework for Action for the Mediterranean constitutes a basic consultation paper that has incorporated the work of several experts of the region. There are a number of pending tasks for the development of this Framework:

- › Proceed to a wide ranging consultation process of the Mediterranean FFA with Government officials, experts and stakeholders in the region to check the validity of the proposed actions and the approach followed.
- › Contrast proposals in the draft FFA document with those of International organisations and programmes on going in the Mediterranean (World Bank, Water Initiative, United Nations, Networks of the Medtac, Medwet, Mediterranean Commission for Sustainable Development Water Task Force, etc..). Incorporate their proposals as appropriate.
- › Proceed with a wide ranging consultation process on the basis of the subregional and country draft FFA documents.
- › Evaluate in depth the major challenges identified developing the major implementation challenges for the proposed actions of the FFA document for the Mediterranean.
- › Proceed to collect and incorporate information about financial flows and expenditure in the region.

- › Detail the proposals according to the different agents that may be the protagonists of the different actions proposed (government, private sector, financial institutions, major funding programmes, co-operation agencies, stakeholders, networks, economic and social organisations, research institutions, and so on).
- › Check and develop targets and milestones and monitoring indicators.
- › Contrast major priorities of existing financing mechanism in the region (i.e., MEDA programme) with the proposals of this draft FFA to study the possibilities of funding some of the key major proposals.

Vision to Action

Water is widely mismanaged and unless we change our ways of managing this resource, we will face a serious crisis in the near future. The actions detailed above to redress this situation in the Mediterranean are derived from the document, **Water for the 21st Century: Vision to Action – the Mediterranean**, which was prepared for presentation at the Second World Water Forum and Ministerial Conference at The Hague, the Netherlands, March 17-22, 2000. The consultations resulting in this document were coordinated by the Mediterranean Technical Advisory Committee of the Global Water Partnership.

The Vision was prepared under the guidance of the World Water Commission on Water for the 21st Century – an initiative of the World Water Council. Development of the corresponding Action plans was executed by the Global Water Partnership (GWP).

The Vision to Action process was designed to be as broad-based as possible. Consequently, the building blocks for the development of the Vision and Action documents were constructed through consultations over the last 18 months with the principal stakeholders in the major regions of the world.

Through regional meetings and workshops this consultation process brought many experts together – government agencies, key water practitioners, UN agencies, donors, the private sector, and others – to establish a shared view of appropriate strategies, mechanisms for implementation, and priorities for immediate action and investment. The participatory nature of the whole process will deliver new hope for sustainable water management in the new millennium.





MAP
Mediterranean
Action Plan



The Global Water Partnership (GWP) facilitates the exchange of knowledge and experience, and the practice of integrated water resources management. Through a worldwide network of partners, GWP identifies critical knowledge needs at both global and regional levels, helps design programmes for meeting these needs, and serves as a marketplace for providers and financiers of the required knowledge services.

GWP MEDTAC Secretariat
c/o I.M.E. secretariat
Atrium 10.3 - 6e étage
10 Place de la Joliette
13002 Marseille, France
Tel : +33 4 91 59 87 77
Fax : +33 4 91 59 87 78
E-mail : gwp.medta@mnet.fr

GWP Secretariat, Sida
SE-105 25 Stockholm, Sweden
Tel: +46-8 6985000
Fax: +46-8 6985627
E-mail: gwp@sida.se
Website: <http://www.gwpforum.org>