

10 PAPERS FOR BARCELONA 2010

Environmental and Sustainable Development in the Mediterranean

by Michael Scoullos and Eugenia Ferragina

With an introduction by Cristina Narbona

This is the eighth in a series of ten papers jointly published by the European Institute of the Mediterranean (IEMed) and the European Union Institute for Security Studies (EUISS) which aim to address ten critical topics for Euro-Mediterranean relations. The papers have been commissioned with a view to formulating policy options on a set of issues which are central to achieving the objectives set out in the 1995 Barcelona Declaration and the 2008 Paris Declaration, as well as defining new targets for 2020 in the political, economic and social spheres.

This eighth paper looks at the environmental challenges in the Mediterranean and analyses the numerous initiatives adopted in the region since 1975 to confront them. Over the last five decades the quality of the Mediterranean environment has been increasingly degraded by anthropisation. The authors argue that the environmental problems of the region are closely linked to governance gaps and that the major challenge of the region is water scarcity and pollution. Both point out the need to launch long-term planning and governance policies, such as the Strategy for Water in the Mediterranean (SWM). In this respect, Michael Scoullos and Eugenia Ferragina put forward a set of proposals on how the European Union and its Mediterranean partner countries should cooperate to achieve an environmental and sustainable development in the Mediterranean.

ISBN 978-84-393-8113-6

European Institute of the Mediterranean
Girona 20
08010 Barcelona
Spain
phone: + 34 93 244 98 50
fax: + 34 93 247 01 65
e-mail: info@iemed.org
www.iemed.org

ISBN 978-92-9198-153-3
QN-80-10-008-EN-C

EU Institute for Security Studies
43 avenue du Président Wilson
75775 Paris cedex 16 – France
phone: + 33 (0) 1 56 89 19 30
fax: + 33 (0) 1 56 89 19 31
e-mail: info@iss.europa.eu
www.iss.europa.eu



JUNE 2010

10 PAPERS FOR BARCELONA 2010

Environmental and Sustainable Development in the Mediterranean

by Michael Scoullos and Eugenia Ferragina

With an introduction by Cristina Narbona



The European Institute of the Mediterranean (IEMed)

is a think tank for the identification and interpretation of the challenges in the Euro-Mediterranean area and for the preparation of proposals to confront them. It offers spaces for reflection and debate as well as advice and assistance to cultural and cooperation projects in the Mediterranean. Moreover, it promotes the participation of civil society in the Euro-Mediterranean space through several networks and in collaboration with entities from the social, economic and cultural worlds.

The European Union Institute for Security Studies (EUISS)

was created in January 2002 as a Paris-based autonomous agency of the European Union. Following an EU Council Joint Action of 20th July 2001, modified by the Joint Action of 21st December 2006, it is now an integral part of the new structures that will support the further development of the CFSP/ESDP. The Institute's core mission is to provide analyses and recommendations that can be of use and relevance to the formulation of EU policies. In carrying out that mission, it also acts as an interface between experts and decision-makers at all levels.

In this series "10 Papers for Barcelona 2010", papers will be published alternatively by

the IEMed:

- Energy and Global Economic Crisis: The Chances for Progress
- Education, Research and Gender: The Sources of Progress
- Assessment of the Barcelona Process in the Light of the New International and Regional Situation
- Environmental and Sustainable Development in the Mediterranean
- A Deeper Free Trade Area and Its Potential Economic Impact

and the EUISS:

- No Euro-Mediterranean Community without Peace
- Human Security: A New Perspective for Euro-Mediterranean Cooperation
- Why Europe Must Engage with Political Islam
- Human Rights, Identities and Mutual Understanding
- Les dynamiques de mouvement de personnes
- State and Society: The Democratic Challenge

© European Institute of the Mediterranean & EU Institute for Security Studies 2009. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the European Institute of the Mediterranean and the EU Institute for Security Studies.

Published by the European Institute of the Mediterranean and the EU Institute for Security Studies, printed in Barcelona (Spain) by GAM, graphic design by Hanno Ranck in cooperation with Metropolis (Lisbon).

RECENT IEMed PUBLICATIONS

- Euromed Surveys** **Euromed Survey of Experts and Actors. Assessment of the Euro-Mediterranean Partnership: Perceptions and Realities**
May 2010
- Mediterranean Monographs** **No. 7 Europe – Méditerranée. Enjeux, stratégies, réformes**
Larbi Jaidi, Henry Marty-Gauquié, Iván Martín, Abdelkrim Dahmen, Eneko Landaburu, Diego López Garrido, Senén Florensa et al., December 2009
- DocumentsIEMed** **No. 5 Comment faire avancer le Statut avancé UE-Maroc ?**
Larbi Jaidi and Iván Martín, IEMed/GERM, March 2010
- PapersIEMed** **No. 3 Report on the Euro-Mediterranean Partnership: Status & Progress 2009**
Erwan Lannon and Iván Martín, December 2009
- PapersIEMed** **No. 9 Climate Change and Mediterranean Security**
Hans Günter Brauch, March 2010
- Mediterranean Yearbook** **Med.2010**
More than 60 international experts assess and analyse the main events and political, social, economic and cultural trends that took place in 2009 in the Euro-Mediterranean area.
Catherine Ashton, Andreu Bassols, Jean-Pierre Garson, Joseph Mifsud, Antoni Segura, Pere Vilanova et al., 2010

RECENT EUISS PUBLICATIONS

- Books** **Quelle défense européenne en 2020 ?**
Claude-France Arnould, Juha Auwinen, Henri Bentégeat, Nicole Gnesotto, Jolyon Howorth, F. Stephen Larrabee, Tomas Ries, Jacek Saryusz-Wolski, Stefano Silvestri, Alexander Stubb, Nuno Severiano Teixeira, Álvaro de Vasconcelos, Alexander Weis and Richard Wright; introduction by Catherine Ashton; edited by Álvaro de Vasconcelos, July 2010
- Chaillot Papers** **No. 121 China's Foreign Policy Debates**
Zhu Liqun, September 2010
- No. 120 Nuclear Weapons after the 2010 NPT Review Conference**
Ian Anthony, Camille Grand, Łukasz Kulesa, Christian Mölling, Mark Smith; edited by Jean Pascal Zanders, April 2010
- Occasional Papers** **No. 85 Transforming the Quartet Principles: Hamas and the Peace Process**
Carolin Goerzig, September 2010
- No. 84 Human Rights Challenges in EU Civilian Crisis Management: The Cases of EUPOL and EUJUST LEX**
Wanda Troszczyńska-van Genderen, August 2010
- Reports** **No. 7 A Strategy for EU Foreign Policy**
Esra Bulut, Nicola Casarini, Sabine Fischer, Giovanni Grevi, Damien Helly, Juha Jokela, Daniel Keohane, Erwan Lannon, Rouzbeh Parsi, Luis Peral, Jacques Rupnik, Álvaro de Vasconcelos, Paulo Wrobel, Marcin Zaborowski, Jean Pascal Zanders; edited by Álvaro de Vasconcelos, June 2010

All EUISS and IEMed publications can be accessed via the Institutes' websites:
www.iemed.org and www.iss.europa.eu

10 PAPERS FOR BARCELONA 2010

JUNE 2010 **8**

Environmental and Sustainable Development in the Mediterranean

by Michael Scoullos and Eugenia Ferragina

With an introduction by Cristina Narbona



Project funded
by the European Union



This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of the authors and can in no way be taken to reflect the views of the European Union or European Institute of the Mediterranean.

Contents

Foreword: Ten Topics for 2010-2020	5
<i>Senén Florensa and Álvaro de Vasconcelos</i>	
Introduction	9
<i>Cristina Narbona</i>	
1. Environmental and Sustainable Development Components of a European Strategy for the Mediterranean in 2010	13
<i>Michael Scoullos</i>	
Summary	13
Overview of the Characteristics and Qualities of a European Environmental Strategy for the Mediterranean	14
Overview of the Major Environmental Issues in the Mediterranean Region	16
Mapping of Major Frameworks, Initiatives and Partners in the Mediterranean Environmental Scene	20
Reflections, Suggestions and Comments on the Characteristics and Key Aspects of a European Strategy for the Mediterranean with Emphasis on Its Environmental Component	41
References	51
2. The Water Issue in the Mediterranean	53
<i>Eugenia Ferragina</i>	
Summary	53
The Water Divide	54
The Impact of Climate Change on Water Resources Availability	59
Water as a Driver of Conflicts	63
Water Policy in Mediterranean Countries	68
Euro-Mediterranean Cooperation in the Water Sector	70
Proposal and Recommendations	73
References	77
About the authors	79

Foreword: Ten Topics for 2010-2020

This is a series of ten papers addressing ten critical topics for Euro-Mediterranean relations published jointly by the European Institute of the Mediterranean (IEMed) and the European Union Institute for Security Studies (EUISS). Our purpose is to formulate policy options on a set of issues which we consider central to achieving the aims stated in the 1995 Barcelona Declaration: building a common Euro-Mediterranean area of peace and stability, of shared prosperity, of common understanding and exchanges between civil societies, founded on the rule of law and the democratic development of all its members' political systems.

The main step to achieve this, in line with the European model of economic integration with clear targets to be met by all over a 15-year time span, was setting up a free trade area by 2010, mindful of WTO obligations. This was to gradually cover most aspects of trade, starting with the elimination of tariff and non-tariff barriers in manufactured goods, followed by agricultural products and services, to be "liberalised in stages." This underlines the fact that 2010 was an important date in the view of the founders of the Barcelona Process, in terms of meeting commitments regarded as crucial to fulfilling the promise of "shared prosperity" and ensuring peace and harmony. This is reason enough, along with the soul-searching review of Euro-Mediterranean mechanisms undertaken in 2005 and 2008, to take a fresh look at the aims and goals defined for 2010 and, in the light of the intervening changes in the political landscape and in Euro-Mediterranean mechanisms proper, make suggestions for the course of action to be undertaken in the next ten years.

In the last few years the members of the Barcelona Process, including civil society actors, have produced a series of sobering assessments of its achievements. Resulting revisions of Euro-Mediterranean initiatives led to the launch of the Union for the Mediterranean in July 2008. It is important to note that the Paris Declaration establishing the Union for the Mediterranean has restated the very same goals reaffirmed in the Barcelona 1995 Declaration. However, the constant attempts at re-launching the EMP over the past few years have given rise to many doubts about what it is that we are trying to achieve together, and what ultimately is the common ambition behind the initiative. At the same time, there is the feeling that owing to the difficulties

at the multilateral level, all hopes are now placed in north-generated variable geometry. While this may allow some in the south to deepen their relations with the EU, it is unclear what the spillover effects for the crucial south-south dimension are likely to be.

It is necessary to reopen the debate yet again in order to clarify two basic things: is there a common destiny binding the EU and the Mediterranean countries together? How can the “natural” spread of democracy, prosperity and peace from Europe to the south be accelerated through a voluntary political association process? How is this being affected, lastly, by the kind of interplay between the bilateral association agreements and neighbourhood policy action plans, together with the newer trend-setting project-based approach, and the common multilateral drive?

Defining new targets for 2020, in the political, economic and social spheres, is therefore the purpose we seek to accomplish with this series entitled “10 Papers for Barcelona 2010”.

Senén Florensa and Álvaro de Vasconcelos

Introduction

Cristina Narbona

Michael Scoullos and Eugenia Ferragina provide a very comprehensive picture of the environmental challenges in the Mediterranean, as well as a complete analysis of the numerous initiatives adopted in the region since 1975 (Barcelona Convention). Indeed, it is impressive how much effort has been made to deal with the unsustainable Mediterranean patterns, even before a political partnership was promoted by the Barcelona Process (1995). There are no other comparable trends worldwide. This specificity is the consequence of the combination of the rapid degradation of the Mediterranean ecosystems – due to increasing pressures of urbanisation, tourism and industrialisation, without an adequate legal framework – and the propagation of these pressures through the common marine environment, in the context of non-common institutions.

As a former Spanish Minister of the Environment, I have participated in most of the activities described in these two papers. I would like to recall one of the few outcomes not mentioned in the Scoullos review: the agreement reached in Almería (2005) to promote concrete measures under the Integrated Coastal Zone Management Strategy, in particular to avoid building on the first one hundred metres of coastline. The threat of the sea level rise, provoked by the process of climate change, makes this agreement of utmost importance in the region.

Any European Strategy for the Mediterranean should take into account – as Michael Scoullos correctly pointed out – that the environmental problems of the region are closely linked to governance gaps, including limited implementation and accountability of the rule of law, and the low investment in education, research and innovation. Therefore, if the Union for the Mediterranean is to be the new, effective approach, we need a holistic vision to avoid the insufficient progress achieved so far. This is not to underestimate the very positive results of 35 years of the Barcelona Convention, gradually covering a broader range of issues and territories. The major disadvantage of this regional structure is the lack of a link with compulsory enforcement mechanisms and concrete measures.

I would also mention the importance of the Horizon 2020 Initiative, launched in 2005, during the 10th anniversary of the Barcelona Process Summit, and endorsed in 2006 by the Ministerial Conference on the Environment. This initiative, a key one in the framework of the Union for the Mediterranean, is aimed at substantially reducing pollution in the Mediterranean and has already selected 73 projects for the abatement of pollution in the region. Capacity building and enhanced environmental awareness, at the highest political level, are crucial features of Horizon 2020.

It is worth noting that, other than the de-pollution of the Mediterranean, most of the priorities currently focused on by the Union for the Mediterranean are closely related to environmental issues: land and maritime highways, protection against natural disasters and clean energies (the Solar Plan).

One of the more recent and relevant initiatives is the Strategy for Water in the Mediterranean (SWM), based upon the previous experience of the Mediterranean Component of the EU Water Initiative (MED-EUWI), launched in 2003 and supported by the Euro-Mediterranean Water Director's Forum. The SWM will provide guidance to face the major challenge of the region – the scarcity and pollution of water –, under the increasingly Mediterranean vulnerability related with climate change. Eugenia Ferragina describes the variety of situations across the region, in the context of overuse of renewable resources and an overall growing need for non-conventional water supplies (reuse, desalinisation...).

The few indicators available suggest that measures to increase water efficiency and reduce the impacts of climate change are so far limited because of the weak capacity of the most vulnerable Mediterranean countries and the lack of adequate funding for appropriate actions. Water is also a matter of security, in particular in the context of the Arab-Israeli conflict.

Despite the longstanding regional cooperation in water issues – started in 1990 with the 1st Mediterranean Water Conference, held in Algiers, which established the basis of the Water Chapter of the Barcelona Process (1995) –, very little progress has been achieved, until the development of the SWM in 2010.

Indeed, the SWM had to be adopted in the 4th Euro-Mediterranean Ministerial Conference on Water, held in Barcelona from 12th to 14th April 2010. Unfortunately, the draft was not accepted by Israel because of a reference to the “occupied territories”. Nevertheless, there is a wide consensus on the common need to move towards a “new culture of water”, focused on saving and protecting water, and based on the awareness of the finite nature of water resources and the threat of climate change. The creation of a water agency, promoted at the Union for the Mediterranean level, could foster the political and technical dialogue needed and capacity building across the region.

To sum up, there is a lot of knowledge and a large number of organisations, bodies and actors already involved in the environmental Mediterranean agenda, to be incorporated in the strategic roadmap of the Union for the Mediterranean, enhancing cooperation and ownership and avoiding duplications through a fair distribution of work. The Union for the Mediterranean should – and has to – provide the definitive boost to face the environmental regional challenges from a common understanding and willingness.

1. Environmental and Sustainable Development Components of a European Strategy for the Mediterranean in 2010

Michael Scoullos

Summary

Over the last five decades, the quality of the Mediterranean environment has been increasingly degraded by rapid urbanisation, “littoralisation” and various human activities. These pressures, which are also linked to governance issues, generate major environmental problems expected to be exacerbated by climate change. Consequently, many initiatives have been undertaken at different levels by various bodies and organisations, either international/regional (e.g., the Barcelona Convention), sub-regional (e.g., the Euro-Mediterranean Partnership, Adriatic-Ionian Initiative, etc.) or national and local to contribute to the amelioration of the environmental situation, several of which have had promising results.

What is the future and potential of these initiatives and organisations? The most viable regional structures are seen to be those which, due to their nature, have institutional foundations and operate within major bodies such as the UN and therefore do not change frequently, such as UNEP/MAP and the Secretariat of the Barcelona Convention. The most successful projects and initiatives are usually those of rather medium size, managed jointly by partner and EU countries where non-governmental and other stakeholders are actively involved. Are they really effective? Many are! There has been a delay in many cases in the formal environmental policy cycle sequence in transferring commitments from international to local level, but there have also been important results in the region.

For a European level Mediterranean Strategy and its environmental component to be successful, the current geopolitical realities in the region should be taken seriously into consideration and addressed with long-term visions and concrete measures. Such a strategy should be combined with EU policies with integration of the environmental dimension with a view to encouraging and strengthening the Mediterranean EU Member States in

their efforts for sustainable development beyond their national borders covering the entire region. Since there is a continuity of ecosystems in the Mediterranean “Ecoregion”, the EU should support the Mediterranean countries in accession, in particular the small countries of the Western Balkans in a regionally coordinated way, going beyond the bilateral support, for the “European Geometry” to be completed, while promoting systematically the cooperation at all levels with the non-EU partners of the Mediterranean.

Despite the fact that through the launching of the Union for the Mediterranean (UfM) the Mediterranean issues have been put higher up on the political agenda – and within them the environmental ones – the procedures initiated under the aforementioned framework are being delayed, have not yet secured adequate resources and are slowed down for a number of reasons with a concomitant frustration of EU and non-EU partner countries and other stakeholders. It is therefore important to urgently clarify how the Euro-Mediterranean environmental agenda will be handled, what role will be undertaken by the UfM, how this will not reduce the Commission’s active involvement and drive, and how this arrangement will be communicated properly.

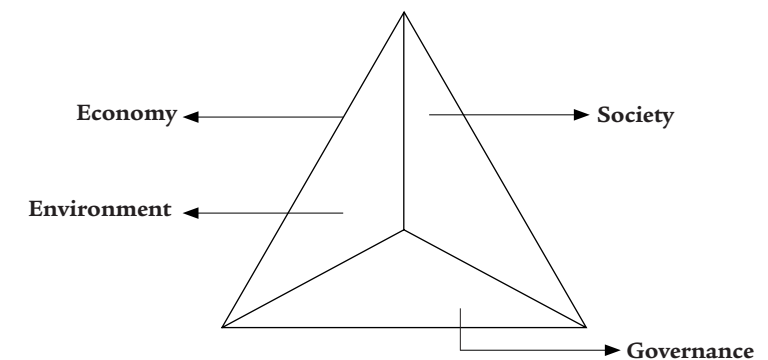
Overview of the Characteristics and Qualities of a European Environmental Strategy for the Mediterranean

A European Strategy for the Mediterranean should refer to all those important elements that the European leadership should take into account in order to contribute effectively and in the most constructive, efficient and coherent way, internally and externally, to strengthening the cooperation of the EU as a whole with its Mediterranean neighbours/partners in order to achieve the vision of both the EU itself and of the Union for the Mediterranean.

In this respect, the European leadership refers not only to the political leaders of the EU institutions and governments of Member States but to all those in governmental, intergovernmental and non-governmental organisations and bodies who shape all aspects of public opinion and influence various initiatives, including investments.

Thus understood, the Strategy may tackle a variety of components which are closely interconnected. To systematically follow the wider scope of the Union for the Mediterranean, i.e., the sustainable development of the region, peace, prosperity, environmental integrity and social cohesion should all be served so that development in the Mediterranean region contains, in a balanced way, all the ingredients included in the pyramid (Scoullos and Malotidi, 2004) where the basis is proper governance.

KEY PRINCIPLES OF SUSTAINABLE DEVELOPMENT



Furthermore, to be effective, the Strategy should go beyond the general aim of sustainable development of the Mediterranean region, recognising and addressing the principal characteristics of the region.

The Mediterranean is not a formal UN region (most people agree that it is an eco-region shared by three continents). Approximately one third of the riparian countries are EU members. Another one third is hoping to join the EU. All of these are on the European (and partly the Asian) coast. The remaining are Muslim Arab countries of North Africa and the Middle East, and Israel, which stands alone. Many of these countries have experienced in the past various kinds of European colonialism and differ substantially in the level of their development. What brings together and, at the same time, divides the neighbours of the region is their culture and history. What unites them are their hopes for a shared future based on the natural environmental capital of the region, the high potential for tourism and renewable energies and, most of all, the common sea, the common marine environment.

Therefore, the overall Strategy should combine elements linked to external affairs, regional environmental development and social, cultural and marine policies. The ingredients needed are found, at a different degree of development, in already established EU policies such as the enlargement/accession policies (mostly for the Balkans) and the neighbourhood policies for the Mediterranean Partner Countries, under the EuroMed/UfM and a series of environmental, social, cultural (much less) and marine ones.

In the present short paper the environmental component of such a strategy is approached by identifying, first, the major environmental problems and the pressures in the region that need to be addressed both at the “impact” and “root” cause level; second, by mapping the existing major players and initiatives; and third, by making a series of reflections and proposals for the development and enrichment of such a Strategy with emphasis on its environmental and related marine components.

Obviously, in a paper of this nature, previous attempts to identify and analyse the problems, as well as to draft, negotiate and agree policies and strategies directly and indirectly affecting the Mediterranean region, are taken into account and utilised, as far as possible.

Overview of the Major Environmental Issues in the Mediterranean Region

Driving Forces Linked to Environmental Pressures

Over the last five decades the quality of the Mediterranean environment has been increasingly degraded and/or threatened by human activities, with a particular impact on the coastal and marine areas. Rapid and insufficiently controlled urbanisation, unsustainable development of industry, agriculture and tourism, poorly managed waste discharges through rivers and from coastal settlements (pollution by wastewater and solid waste), maritime traffic, ship generated oil spills and over-fishing exert severe pressures on the Mediterranean environment.

Urbanisation

Urbanisation is an important process in the Mediterranean region where peri-urban cities and new urban settlements have dramatically increased in numbers and size over the past decades, leading to significant social, economic and environmental challenges. According to the Blue Plan's estimates, urbanisation in the Mediterranean region will continue at a fast pace, while rural populations will decrease considerably, especially in the countries of the eastern and southern Mediterranean. The growth prospects of the Mediterranean cities are closely linked to exacerbated pressure on water resources, pollution of aquifers, inefficient solid waste management, excessive land use followed by irreversible loss of arable land and biotopes and atmospheric pollution, including significant increase of greenhouse gas emissions.

Tourism

Tourism – both international and domestic – is one of the most important economic sectors in the Mediterranean, particularly for regions with limited industrial or agricultural development options. Nowadays, the Mediterranean is the biggest tourist destination in the world, accounting for 30% of international tourist arrivals and for 25% of the receipts from international tourism. In most Mediterranean countries the development of tourism is neither well planned, nor controlled and integrated into a wider sustainable development policy, resulting in a number of pressures which are related to land use, over-consumption of water resources in periods of water scarcity, pollution and waste, as well as to the degradation of coastal and marine ecosystems, including fragile natural habitats.

Agriculture

Agriculture in the Mediterranean is traditionally considered as the “basis” of economic and social structures. However, unsustainable agricultural practices are recorded through the region and are included among the main driving forces for environmental degradation leading to severe impacts on water resources and soils. Irrigation agriculture is the biggest consumer of water (it accounts for up to 80% of total freshwater use in the region). The detrimental effects of unsustainable agriculture practices include water pollution – mostly due to nutrient

and pesticide leaching – and intrusion of seawater into groundwater aquifers, as well as soil degradation due to erosion, desertification, salinisation, compaction and pollution.

Pollution by Solid Waste and Marine Litter

Throughout the Mediterranean region the growth of the population, as well as the currently prevailing high consumerism patterns, result in a continuous increase in solid waste generation and secondary problems arising from this, e.g., water pollution by leachates, damage to biota, etc. The problem of urban solid waste has many facets and aspects in the cases recorded throughout the Mediterranean. There are cases of: total absence of waste collection and disposal schemes; of poorly designed or dysfunctional systems; of non-existent recycling facilities; heaps of recyclable materials laying unprocessed or unused at waste processing plants; uncontrolled dumping sites; rejection of projects for modern sanitary landfills or waste treatment facilities by local communities due to lack of proper information or lack of confidence in the relevant authorities, etc. The problem of urban waste management is connected in numerous ways to many environmental, economic, social and technical issues, while most of its solutions have broader implications. In addition, the Mediterranean Sea faces a very serious marine litter problem. Even the remotest parts of the Mediterranean are affected by marine litter deriving primarily from lack of proper management of land based littering activities, combined with waste contributed by beach users, ships or fisheries. All these have severe negative impacts on marine ecosystems.

Pollution by Wastewater

One of the major environmental problems of the Mediterranean region is the still ongoing discharge of considerable quantities of untreated municipal and/or industrial wastewater in coastal areas or rivers flowing into the Mediterranean Sea. Absence or poor management of wastewater not only leads to pollution and degradation of freshwater and the marine environment but also induces pressures on human health and ecosystems.

Industrial Emissions

There is a large range of different industrial activities scattered all around the Mediterranean basin which are responsible for emissions of different contaminants posing severe environmental threats. Pressures from industry in the basin include the food processing and packaging industry, the energy production sector, chemical/petrochemical, metallurgy sector, surface treatment of metals and the cement industries, tanneries and textile industries, fertilisers, pharmaceuticals and oil refining. The main pollutants that are released by industrial sources include heavy metals, dioxins and phenols, Polycyclic Aromatic Hydrocarbons (PAHs) and benzenes, organohalogenes and nutrients.

Maritime Traffic and Oil Spills

Although land-based pollution contributes more than 80% of the overall pollution of the Mediterranean, maritime transport is also a significant pressure. Maritime transport has significantly grown in the last decade, mainly due to an increase in ship traffic and in the size of ships. It is estimated that about 220,000 vessels of more than 100 tons cross the Mediterranean each year, which is estimated at 30% of the total merchant shipping in the

world and 20% of oil shipping. Apart from the infrastructure related issues, maritime traffic is a source of environmental pressure. Ships and their cargo constitute a direct threat to the marine and coastal environment as the oil market is at the core of commercial links between countries of the north and south Mediterranean. Therefore, the pressure of maritime traffic in connection with maritime accidents is high, taking into account that about 60 maritime accidents occur annually in the Mediterranean, of which 1/4 involve ships causing oil and chemical spills leading to direct ecological effects mainly on birds and marine mammals and less on fish or invertebrates. It is noteworthy that besides accidents and oil spills, certain operational practices, such as tank cleaning and de-ballasting, release various pollutants into the marine environment.

Fisheries and Aquacultures

The Mediterranean Sea is characterised by an abundance and unique diversity of fish and other marine organisms (crustaceans, marine mammals, turtles, shellfish, molluscs, etc.) which are of high ecological, economic and commercial value. However, over-fishing and excessive by-catches due to unsustainable fishing methods, and the impacts of intensive aquaculture have led certain species to a state of alarm, while affecting biodiversity and coastal and offshore biotopes.

Transport

Road and air transport have shown a steady increase during the past decades. Road transport accounts for most of the increase in the final energy consumption of the transport sector due to a massive increase of private cars in the Mediterranean countries throughout the region. In addition, many of these cars use old technologies which, in combination with the poor quality of fuel, result in elevated emissions of pollutants, especially in the large Mediterranean metropolitan areas. Transport related emissions contribute not only greenhouse gases but also a series of toxic substances such as nitrogen oxides, volatile organic compounds, particulate matter, metals, etc.

State of the Environment and Emerging Threats

The exposure of the Mediterranean environment to a combination of the above mentioned pressures generate the major environmental issues/problems which are analysed below. Most, if not all, of these problems, (such as water scarcity, desertification, soil erosion, soil sealing, droughts and floods, biodiversity loss, etc.) are expected to be further exacerbated by climate change.

Eutrophication

The Mediterranean Sea is characterised by low nutrient/phytoplankton levels and therefore is one of the most oligotrophic seas in the world. In general, eutrophication in the Mediterranean seems to be limited to eutrophication events (algal blooms) occurring in coastal or lagoon areas. These events are caused mostly by discharges of untreated municipal and industrial wastewaters, runoff and leaching of agricultural fertilisers and lead to severe ecological effects such as biodiversity loss, changes in species composition and dominance of toxic species (e.g., dinoflagellates, etc.). The most important cases of eutrophication are found along the northern and western coasts of the Adriatic Sea with some less frequent, periodic rare phenomena in other semi-enclosed coastal embayments.

Pollution from Heavy Metals and Organochlorine Compounds

Heavy metals and organochlorine compounds are pollutants that pose severe risks to the health of ecosystems and humans. In the Mediterranean Sea the anthropogenic activities accounting for the emissions of heavy metals into the air are the metal industry (Cd, Pb, Cr, Hg), the cement (Hg) and energy industry (Hg, Ni), while the release of heavy metals directly into water originates from the metal industry (Cd, Ni, Zn), the manufacture of fertilisers (Pb, Hg, Cr), oil refining (Cr) and the tanning industry (Cr).

Organochlorine compounds (e.g., chlorinated pesticides, polychlorinated biphenyls, etc.) which originate entirely from anthropogenic processes, show a wide range of concentrations in the Mediterranean. In general, the concentrations are very low in seawater. However, high concentrations have been reported in sediments in the north-western Mediterranean while the concentrations of these compounds in benthic organisms (e.g., mussels) vary widely and no clear trends can be safely demonstrated.

Oil Pollution

A high number of oil-related sites (pipeline terminals, refineries, offshore platforms, etc.) are scattered along the coastal zone of the Mediterranean. As a result, the Mediterranean Sea waters are particularly rich in petroleum hydrocarbons. However, relatively little information is available on the actual impacts of oil pollution in the Mediterranean.

Climate Change

Climate change is an increasingly urgent global problem with potentially far-reaching consequences for life on earth. The Mediterranean region is predicted to be one of the most severely affected regions with possible threats to its biodiversity and the increase in the intensity and frequency of floods and droughts and repercussions on the qualitative and quantitative state of water resources. These changes are expected to exacerbate the already existing serious water stress in most parts of the Mediterranean region resulting in severe, detrimental effects on the coastal biotopes of the region. Wetlands especially, which constitute important buffer zones for water quality and flood prevention, are under immediate threat due to reduced water availability, further water abstraction and aggravated evaporation due to higher temperatures foreseen. Furthermore, such phenomena will impact on the overall ecological balance and also on the provision of ecosystem services and goods on which people's livelihoods depend.

Desertification, Soil Erosion, Soil Sealing

On a different front, Mediterranean forests and macchia plant-cover, due to reduced humidity, are more exposed to wild fires, thus the vegetation cover will be reduced. This development, in turn, accelerates land degradation and soil erosion in arid and semi-arid areas and leads to further release of greenhouse gases. Phenomena such as recurrent and persistent droughts, overall decrease in precipitation, followed by river flow decrease, more intense rainfall over fewer days, etc., will accelerate soil erosion and serious long-term decrease of soil moisture and the vicious circle continues.

Water Scarcity

In the Mediterranean, water is a scarce and threatened resource, characterised by an unequal distribution in space and time. "Water poor" people in the region account for more than 180 million, while those faced with water shortage exceed 60 million. Increasing water demand,

coupled with the looming climate change threat, make the problem of water scarcity very critical. Intensive abstraction of water for domestic, agricultural and industrial purposes has led to depletion of surface and groundwater bodies and seawater intrusion in coastal aquifers. In addition, discharges of untreated wastewater from domestic, industrial and agricultural uses has led to the deterioration of water quality.

Biodiversity Loss

Biodiversity is a crucial natural asset that directly or indirectly provides or contributes to the maintenance of important ecosystem services. The Mediterranean region is considered to be among the critically endangered hotspots of the world where biodiversity continues to decrease as human development and expansion result in the fragmentation and loss of habitats for flora and fauna.

The environmental problems of the Mediterranean region are closely linked to governance problems, which include the delayed/limited implementation of legislation, the political and social instability of the region (e.g., due to conflicts, lack of dialogue, etc.), the limited productivity and slow introduction and use of innovation, the limited investment in research, the “heavy” bureaucracy, the democratic “deficit”, issues of corruption and inappropriate education.

Mapping of Major Frameworks, Initiatives and Partners in the Mediterranean Environmental Scene

The Barcelona Convention and UNEP/MAP

When the proposal for the establishment of an environmental protection organisation was partially implemented by the founding of the UN Environment Programme (UNEP) at the Stockholm Summit in 1972, one of the priorities which emerged immediately was the need to set up a Regional Seas Programme (UNEP/RSP). The Mediterranean region held particular prominence from the very beginning and as a result the Barcelona Convention was signed in the city in 1975 by the majority of the States bordering the Mediterranean, literally and exclusively. It must be stressed that neither then nor later (mainly for political but also for practical reasons) was an extension to the East to include the Black Sea, nor an extension to the West, outside Gibraltar to include Portugal and Mauritania, ever considered. Portugal had from time to time expressed its desire to join the arrangement and for some years enjoyed observer status but this was gradually left to lapse.

Among the initial signatory parties to the Convention was the European Community, providing its members twofold representation (as EU Member States and as Mediterranean States), as well as twofold obligations which are both economic (the EU is a major source of finance for UNEP/MAP, over and beyond the individual contributions of its Mediterranean Member States) and statutory, since the commitments made by the European Commission become EU Law, thus automatically, albeit indirectly, binding the EU Member States to the Barcelona Convention.

The Secretariat of the Barcelona Convention was to be the Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP), the headquarters of which

were established in Athens while the depository of the Convention is, of course, Spain. The significance of UNEP/MAP and its activities can be seen at many levels:

- It covers only the Mediterranean States and the European Commission. Therefore, there is no third party (e.g., USA, Russia, etc.) involvement or intervention and until recently the interest of northern European States in Mediterranean environmental affairs was very limited in practical terms. It should be noted that UNEP/MAP is supported by its several regional centres (Regional Activity Centres – RACs) that are dispersed around the Mediterranean providing a balance within it. These centres are: the Regional Activity Centre for Specially Protected Areas (RAC/SPA), the Blue Plan Regional Activity Centre (BP/RAC), the Communication and Information Regional Activity Centre (INFO/RAC), the Priority Actions Programme Regional Activity Centre (PAP/RAC) and the Regional Activity Centre for Cleaner Production (CP/RAC).
- UNEP/MAP was the first organisation to introduce active collaboration with and participation of regional/Mediterranean, national and international NGOs in all its meetings and work.
- With the cooperation and support of NGOs, it was decided in 1995 (during the revision of the Barcelona Convention) to establish an advisory body in the framework of the Convention, the Mediterranean Commission for Sustainable Development (MCSD), in which the role of the civil society partners (stakeholders) is of particular significance. MCSD became operational in 1996.

In 1995 a Ministerial Meeting was held in Barcelona on the one hand to celebrate the 20th anniversary of the Barcelona Convention and on the other to revise it. After considerable negotiations (in which a serious function was played by the European Commission and the then Greek President of the EU Environment Council and also by NGOs) the Barcelona Convention was expanded to cover not only the sea but also the broader Mediterranean region and not only the protection of the environment but also the sustainable development of the region. It was also formally decided to establish the Mediterranean Commission on Sustainable Development (MCSD) but the details were left to be determined at the next conference held in Montpellier in 1996.

The Mediterranean Commission on Sustainable Development (MCSD)

Despite the claim by some that there are somewhat similar structures elsewhere in the world, it is certain that the MCSD is the only truly Regional Commission for Sustainable Development of its kind in the whole world. It was founded as a regional (Mediterranean) initiative in full coherence with the Rio “directives”. It acts as an advisory body to the Contracting Parties of the Barcelona Convention, and its members, participating on equal footing, include representatives of the Member States and the European Commission, as well as Civil Society representatives from the region’s local authorities, economic partners (chambers of commerce, etc.), environment NGOs, etc. It is basically a think tank on policies for promoting sustainable development in the Mediterranean Basin and focuses on key issues in its drive for tangible outcomes.

MCSD, which functions through the secretarial support of UNEP/MAP, had for a number of years a set of working (thematic) groups which examined issues of importance for the sustainable development of the Mediterranean region. The groups were led by one or more

task managers (either countries or civil society organisations) appointed by and among the MCSD members. For instance, the task managers of the thematic group on Information, Public Awareness, Environmental Education and Participation were the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE) and the Centre of Euro-Mediterranean Regions for the Environment (CREE). After the findings of the working groups were discussed and the final decisions taken by the plenary session of the MCSD they were recommended for discussion and decision (in most cases a simple matter of ratification) at the next Conference of the Contracting Parties to the Barcelona Convention.

The discussions, negotiations and activities planned within the MCSD were often starting points for the development of new Mediterranean Environmental Policies. Unfortunately, over the last few years for a series of reasons (including difficulties of some representatives of countries to differentiate between their roles in the MCSD and in the meetings of the Contracting Parties), because of poor preparation and/or conducting of meetings, but also because of disagreements within the secretariat of UNEP/MAP itself about the competences profile and handling of MCSD, this body has not functioned as well as it should and its significant potential has not been utilised.

The Nicosia Charter – Lessons to Be Learned

Right from the beginning of the functioning of the Barcelona Convention, many countries and NGO observers expressed their anxiety and dissatisfaction about the slow pace of progress in “de-polluting” the Mediterranean and the fact that pollution control also required significant investment in infrastructures. A first manifestation of the EU interest in assisting on this front was demonstrated in the mid 1980s with the active support of a pioneering and relatively little-known initiative, the so-called Nicosia Charter. The Nicosia Charter was the first attempt to promote concrete commitments of an environmental and – to some extent – developmental character, e.g., mutual promotion of environmental structures in non-Community Mediterranean countries in the context of UNEP/MAP, with parallel economic support from the European Community directly and indirectly through loans from the European Investment Bank (EIB), the World Bank (WB) and the United Nations Development Programme (UNDP).

The Charter envisaged an action plan with specific objectives and deadlines by which certain projects had to be completed, such as waste reception facilities for ships at ports and biological sewage treatment plants in major cities, etc. The programme, strongly promoted by the then Greek Minister of Planning and Environment Antonis Tritsis, also President of the European Environment Council, did not meet the necessary conditions for success and can be described as an example in which European Environmental Diplomacy was lacking. It is therefore worth examining it in some more detail because new initiatives seem to have learned little from it.

Along with the rather hesitant attitude of Turkey on the choice of Nicosia (Cyprus) for the announcement of the initiative and for the Charter’s name, there was a complete failure to substantially involve local actors and the civil society in the initiative and its goals and very little was achieved in raising awareness and visibility about the programme, even within the “beneficiary” Mediterranean countries. The countries, especially those of the South, saw the initiative as yet another classic form of development aid, which they expected to receive rather for free (not as subsidised loans, etc.) without any systematic preparation or reform of

structures or institutional conditions on their part. The European Community, represented by the Commission together with the EIB, the WB and the UNDP, demanded clear guarantees and a proper framework for the management of the initiative. UNEP/MAP wished to take on the major coordination role of the initiative itself, without seriously preparing the ground for credible guarantees of effective management, in a transition period when the powerful leadership of UNEP by Dr. Mostafa Tolba was coming to an end in Nairobi and in Athens the UNEP/MAP Coordinator had been recently changed.

Despite the very good target setting, the attempt fell through in Cairo in 1992. On review of the results of the initiative it transpired that very little of any substance had been achieved. The European Community with the EIB and the WB demanded that there be something other than UNEP/MAP governance with a kind of “Directorate” with real control by the Community/EIB, WB and UNDP. The proposal was not properly and timely prepared. The Secretariat of UNEP/MAP reacted vigorously. The NGOs were unaware of the underlying issues. Their own priority in Cairo was to secure an official role and voice in the ministerial meetings and particularly in the Rio Summit, a few months later. They confined their representations to matters of general principle and like the majority of the Parties to the Barcelona Convention – particularly the non-EU ones – were rather uncomfortable with and suspicious of talks about a “Directorate”. Thus, the European Community found itself isolated, UNEP/MAP maintained and for a moment “strengthened” its original role, but essentially the Nicosia Charter was “killed” and instead of a “win-win” result we had a “lose-lose” one for all involved and most of all for the Mediterranean environment.

Mediterranean Environmental Technical Assistance Programme (METAP)

An indirect result of the failure of the Nicosia Charter was the reinforcement of another independent initiative, this time outside the direct scope of UNEP/MAP, the Mediterranean Environmental Technical Assistance Programme (METAP), which from the beginning enjoyed the support of the European Community, the EIB and the WB. The latter supplied the institutional framework and the Secretariat for the programme, which was based initially in Cairo.

After 2001, it was decided that the programme be run directly from the head offices of the WB in Washington. The programme produced a series of studies including some of the first Environmental Inaction Costs; and carried out several capacity-building activities and helped the establishment of a Mediterranean network of experts on solid waste in North African and Middle Eastern countries, based in Tunisia (Regional Solid Waste Exchange of Information and Expertise Network – SWEEPNET). METAP contributed to the establishment of Ministries of Environment and relevant legal frameworks and identified suitable investment projects. It is noteworthy that the WB did not regularly finance the project through subsidies, but with loans, nor did the European Commission provide economic aid from any fixed budget line. What happened is that a big METAP programme on waste was supported through the SMAP (Short and Medium-Term Priority Environmental Action Programme) absorbing all available funds for solid waste projects of others, leading to strong criticism by NGOs and countries, since METAP was, in a way, in competition with non-EU Mediterranean countries as well as NGOs for the funding of its programmes with EU funds (!) Without judging the cost or

quality of the results of the programme, a lesson learned from the exercise, which should not be repeated, is that the use of EU funds by the WB for a Mediterranean programme is not what Mediterraneans like.

The Strategic Action Programme (SAP MED), the GEF Transboundary Diagnostic Analysis and the National Action Plans (NAPs)

The Strategic Action Programme (SAP MED) is an action-oriented initiative of the MED POL Programme of UNEP/MAP, identifying priority target categories of polluting substances and activities to be eliminated or controlled by the Mediterranean countries through a planned timetable (up to the year 2025) for the implementation of specific pollution reduction interventions.

The SAP MED is the basis for the implementation of the Land-based Sources Protocol (LBS) of the Barcelona Convention by the Mediterranean countries over a rather long period of 25 years, as prompted by the signing of the revised LBS Protocol entitled Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities. It is an action-oriented initiative translating the objectives of the 1995 Global Plan of Action (GPA) of UNEP into specific regional activities.

The reduction and phasing-out targets are formulated in accordance with related regional and international conventions and programmes, including the EU Directives, policies and strategies, and the Stockholm and Basel Conventions.

The key activities addressed in the SAP MED are linked to the urban environment and industrial activities, targeting those responsible for the release of toxic, persistent and bioaccumulative substances into the marine environment, giving special attention to persistent organic pollutants (POPs).

After the adoption of the SAP MED, the Global Environment Facility (GEF) approved a Mediterranean Project for 2001-2005, contributing and mobilising funds for the implementation of field activities. The injection of funds and political support made by the GEF Project into the MED POL initiative produced positive results. Countries in fact prepared inventories and quantified all pollution sources on the coast (the Baseline Budget of emissions and releases) and prepared National Diagnostic Analyses indicating priority issues. Perhaps the major contribution was the preparation, during 2004-2005, through a participatory approach, of National Action Plans (NAPs) to address land-based pollution. They consider the environmental and socioeconomic issues, policy and legislative frameworks, and the management, institutional, and technical infrastructure available in the country. The Plans were formally endorsed by the Contracting Parties at the Barcelona Convention in 2005.

National Action Plans describe the policy and actions that each country intends to undertake to reduce pollution, in line with SAP targets. They incorporate mechanisms for information exchange, technology transfer, and promotion of cleaner technology, public participation and sustainable financing.

Their fundamental goal is to develop and implement concrete pollution reduction projects that: mobilise both stakeholders and resources; become a cyclical process on which to build upon; are mainstreamed into relevant institutional, budgetary and policy frameworks, and incorporate lessons learnt in the process.

The NAPs implementation process is expected to enhance economic, technological and social development at local level, thus making a concrete contribution towards sustainable development.

In the short-term, domestic financial resources were allocated to the actions from the annual budget; longer-term financial mechanisms were also identified, earmarked or developed, to ensure sustainability through the preparation of Investment Portfolios (IP) including: (i) Definition of financial resource needs; (ii) Identification and mobilisation of partners; (iii) Development of Public-Private Partnerships (PPP). A series of other actions were included as well.

The Euro-Mediterranean Partnership (EMP), SMAP, Comité de Suivi and EMP Civil Fora

While the revision of the Barcelona Convention was being discussed in Barcelona in June 1995, it was announced that the Ministers of Foreign Affairs of the EU in cooperation with their counterparts of the non-EU countries decided to establish a new international scheme for the Mediterranean, the so-called Euro-Mediterranean Partnership (EMP).

The overall objective of the EMP was political: to strengthen the “soft underbelly” of Europe, the Mediterranean neighbourhood, inclusive of the Middle East, and more specifically to:

- establish a common Euro-Mediterranean area of peace and stability based on fundamental principles including respect for human rights and democracy (political and security partnership);
- create an area of shared prosperity through the progressive establishment of a free-trade area (EMFTA) by 2010 between the EU and its Partners and among the Mediterranean Partners themselves;
- develop human resources, promote understanding between cultures and rapprochement of the peoples in the Euro-Mediterranean region as well as to develop free and flourishing civil societies (social, cultural and human partnership).

Despite the fact that the environment and its protection had been included in the content of the partnership, up until that point (June 1995), there had been no discussion of the issue at the Environment Council of the European Union; instead the initiative had proceeded independently.

In November (1995), the Barcelona Declaration was adopted in Barcelona (hence the reference to the EMP as the Barcelona Process) by the Foreign Ministers of the then 15 European Union Member States and their counterparts from 12 non-EU Mediterranean countries. It should

be noted that Libya was not invited to participate, nor were Albania and the Western Balkans countries which had emerged from the disintegration of former Yugoslavia. The environmental considerations included in the bilateral and multilateral or regional cooperation schemes and the Euro-Mediterranean Free Trade Zone (EMFTZ) were not regarded as issues of primary importance, while the concept of sustainable development had not been instantly included. It was added explicitly in the Athens Declaration at the 2nd EMP Ministerial Meeting on the Environment held in Athens (2002).

Under the EMP a series of important environmental initiatives were launched. Perhaps the most interesting to be mentioned here are the SMAP programme (I, II and III), the MED EUWI, later on, the Horizon 2020 Initiative to de-pollute the Mediterranean by the year 2020 and the Strategy for Water in the Mediterranean. The last two are continued under the UfM which has succeeded the EMP (see below).

The Short and Medium-Term Priority Environmental Action Programme (SMAP) was decided upon at the first Euro-Mediterranean Ministerial Conference on the Environment, which met in Helsinki in 1997. It was a framework and tool with the objective of strengthening the environmental component of the EMP linked to a rather small fund for the promotion of activities in priority areas linked with the EMP development.

SMAP had three phases and supported a series of projects and capacity-building activities with a very wide repertoire and an equally wide spectrum of efficiency and quality of results.

The major environmental NGOs of the European Union and the Mediterranean with the encouragement of the European Commission joined together to form a light Steering Committee known as the Comité de Suivi (CdS) to monitor the Barcelona Process. These seven organisations were the following: Arab NGO Network for Environment and Development (RAED); Environment and Development Action in the Third World (ENDA-Maghreb); European Environmental Bureau (EEB); Friends of the Earth (FoE/MedNet Programme); Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE); Mediterranean NGO Network for Ecology and Sustainable Development (MEDForum) (which ceased to exist a few years later); World Wild Fund for Nature, Mediterranean Programme Office (WWF/MEDPO).

The CdS remains an informal body wherein each member acts as its Coordinator on a six month rotational basis, monitoring developments in the EMP, and particularly in the SMAP which was replaced by the Horizon 2020 Steering Group in 2006.

Stability Pact and Regional Environmental Reconstruction Programme (REReP)

The idea for the creation of a Stability Pact to deal with the Balkans arose in late 1998 and thus predates the Kosovo war. It was the first serious attempt by the international community to replace the reactive crisis intervention policy in South Eastern Europe with a comprehensive, long-term conflict prevention strategy.

On 10th June 1999, at the EU's initiative, the Stability Pact for South Eastern Europe was adopted in Cologne. In the founding document, more than 40 partner countries and organisations undertook to strengthen the countries of South Eastern Europe "in their efforts to foster peace, democracy, respect for human rights and economic prosperity in order to achieve stability in the whole region." Euro-Atlantic integration was promised to all the countries of the region. At a summit meeting in Sarajevo on 30th July 1999, the Pact was reaffirmed.

The Stability Pact Partners included: the countries of the region: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Moldova, Montenegro, Romania, Serbia and the Former Yugoslav Republic of Macedonia (FYROM); all the European Union Member States and the European Commission; other countries: Canada, Japan, Norway, Russia, Switzerland, Turkey, USA; international organisations: UN, OSCE, Council of Europe, UNHCR, NATO, OECD; international financial institutions: World Bank, International Monetary Fund (IMF), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Council of Europe Development Bank (CEB); regional initiatives: Black Sea Economic Cooperation (BSEC), Central European Initiative (CEI), South East European Cooperative Initiative (SECI) and South East Europe Cooperation Process (SEECF).

The experiences and lessons behind the design and the establishment of the Stability Pact derived from the worldwide international crisis management. Conflict prevention and peace building can be successful only if they start in parallel in three key sectors: the creation of a secure natural and political environment, the promotion of sustainable democratic systems and the promotion of economic and social well being. Progress in all three sectors is necessary for sustainable development.

The Stability Pact had no explicit environmental scope. It was a political declaration of commitment and a framework agreement on international cooperation to develop a shared strategy among all partners for stability and growth in South Eastern Europe. It was perceived as a mechanism and not a new international organisation. It had no independent financial resources nor implementing structures. However, right from the beginning (1999) the environmental dimension was developed and shaped under the Regional Environmental Reconstruction Programme (REReP), aiming to improve the environmental situation in the region in a post-conflict context and to re-establish and facilitate an environmental dialogue between the Western Balkan countries.

The Stability Pact relied, from the organisational point of view, on the Brussels based Special Coordinator and an approximately 30-member team. The most important task of the Coordinator was to bring the participants' political strategies in line with one another, to coordinate existing and new initiatives in the region and, thereby, to help avoid unnecessary duplication of work.

In the founding document of the Stability Pact, the EU, which assumed a leading role in the Pact, undertook to draw South Eastern Europe “closer to the perspective of full integration... into its structures.” Moving toward European structures includes the possibility of full membership of the EU. Therefore, countries wishing to be admitted should first meet the conditions defined by the EU Council in 1993 concerning democratic, economic and institutional reforms (Copenhagen criteria). The latter referred also to a substantial progress in the area of management of the environment.

As a contribution to the Stability Pact and an interim step towards membership, the EU set up a new “generation” of bilateral Stabilisation and Association Agreements (SAAs), aimed at countries which so far had no contractual relationship with the EU, i.e. Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia (FYROM), Serbia and Montenegro. Four of these countries are Mediterranean. The SAAs are the centerpiece of the Stabilisation and Association Process (SAP), which remains a major framework for relations between the EU and the Western Balkan countries.

REReP was endorsed by the Ministers of SEE countries – also including Kosovo (under UNSCR 1244) (and at that time also Bulgaria and Romania, not yet EU Members) at their meeting in March 2000 in Skopje. The guiding body of REReP was the Task Force comprising the Ministers of Environment for the countries of South Eastern Europe (SEE), donors, international organisations, institutions and NGOs. A Secretariat hosted at the premises of the head office of the REC in Hungary coordinated the programme. The countries adopted the programme priorities and translated them into some priority projects. They took the lead in project implementation and reporting to the REReP Task Force. The activities of the Task Force and Secretariat were supported through the EU CARDS programme.

The Thessaloniki EU-Western Balkans Summit (June 2003) reaffirmed the EU-membership perspective for the Western Balkan countries. The Stability Pact has been, over the years, complementary to the SAP and the accession (to the EU) process, providing a bridge between potential EU candidates and candidate countries in SEE including in the same framework also the Republic of Moldova. It is clear that the European perspective has been the key motivator for countries to engage in institutional reforms concerning the environment and in regional cooperation exercises. The official handover of the Stability Pact to the Regional Cooperation Council (RCC) took place at the Sofia meeting in February 2008.

Regional Cooperation Council (RCC) and Regional Environmental Network for Accession (RENA) in Eastern Europe

The Regional Cooperation Council (RCC) is intended to sustain focused regional cooperation in South East Europe through a regionally owned and led framework that also supports European and Euro-Atlantic integration. It is tuned to developmental projects and creation of a political climate susceptible to implementing projects of a wider, regional character, to the benefit of each individual country.

The work of the RCC focuses on six priority areas: economic and social development; energy and infrastructure; justice and home affairs; security cooperation; building human capital; and parliamentary cooperation as overarching themes. The RCC maintains close working relations

with all actors of relevance in the aforementioned six areas, such as governments, international organisations, international financial institutions, regional organisations, civil society and the private sector. Environment is not a priority area per se. However, it has provisions for the enhancement of regional cooperation in the Western Balkans and Turkey in the field of environment in the prospect of accession to the European Union by establishing the Regional Environmental Network for Accession (RENA) with a mechanism assisting the European Commission in providing the Secretariat of RENA.

The specific RENA aims are to: facilitate exchange of experience and best practice; help to jointly tackle environmental challenges; provide a forum for the European Commission to communicate to the whole region; be a supplement to bilateral cooperation between the Commission and the countries; take into account the different stages the countries are at regarding environmental *acquis* in the pre-accession process.

The RCC functions as a focal point for regional cooperation in South East Europe. It is supported by a Secretary General and its Secretariat is based in Sarajevo while a Liaison Office is in Brussels. The RCC provides the South East European Cooperation Process (SEEC) with operational capacities and acts as a forum for the continued involvement of those members of the international donor community which are engaged in the region. It also provides political guidance to and receives substantive input from relevant regional task forces and initiatives active in specific thematic areas of regional cooperation including several with a direct environmental relevance.

The Statute of the RCC forms the basis for its operations. According to it, the RCC Board provides operational guidance and supervision to the organisation. It comprises those RCC members contributing to the budget of the RCC Secretariat, as well as the EU, represented by the Troika consisting of the EU Presidency, the European Commission and the European Council Secretariat.

The annual budget of the RCC Secretariat is rather humble, set at 3 million euros, one third being the contribution by the region, one third by the European Commission and the remaining one third by other RCC members and international partners.

Union for the Mediterranean (UfM)

The Union for the Mediterranean (UfM), launched in July 2008 at the initiative of the French Presidency of the European Union at the level of Heads of States of the Euro-Mediterranean countries, aims at strengthening and deepening cooperation among the countries of the region. This builds on processes that have emerged and progress in the previous years and particularly the Euro-Mediterranean Process, launched in 1995. The UfM is inspired by a shared political will to revitalise efforts to transform the Mediterranean into an area of peace, democracy, cooperation and prosperity. It is based on three operation principles: political mobilisation at the highest level through Summits of Heads of State and Government every two years; governance on an equal footing, in the form of a North-South Co-Presidency and a permanent Secretariat with equal representation; prioritising of concrete projects with a

regional dimension. A major political move under the UfM was the inclusion of the countries of the Western Balkans as Euro-Mediterranean Partners, which secures a balanced opening of the process to all Mediterranean countries.

The UfM aims at increasing cooperation in all vital areas such as business development, trade, the environment, energy, water management, agriculture, food safety and security, transport, maritime issues, education, vocational training, science and technology, culture, media, justice and law, security, migration, health, strengthening the role of women in society, civil protection, tourism, urban planning, ports, decentralised cooperation, information society and competitive clusters. Based on these, the UfM currently focuses on: de-pollution of the Mediterranean, maritime and land highways, civil protection, alternative energy (Mediterranean Solar Plan), higher education and research (Euro-Mediterranean University) and the Mediterranean Business Development Initiative.

Despite its far-reaching objectives and evident momentum, the UfM has encountered up to now substantial political and administrative obstacles, including a political blockage from December 2008 to July 2009 due to the Gaza bombing by Israel and substantial delays in the setting up of the UfM Secretariat and the launching of projects. The Secretariat has been approved and is based in Barcelona but until now (May 2010) without staff and means to act.

Mediterranean Component of the EU Water Initiative (MED EUWI)

The Mediterranean Component of the EU Water Initiative (MED EUWI) aims to assist developing countries of the region to meet the water-related Millennium Development Goals (MDGs) and Johannesburg (WSSD) Targets. Launched in 2003, it constitutes an integral part and one of the four geographic components of the overall EUWI. MED EUWI represents a strategic partnership among stakeholders (national, regional and international) in the Mediterranean region. It seeks to make significant progress in poverty eradication and health and the enhancement of sustainable livelihoods and socio-economic development in the Mediterranean and South-eastern Europe. Through its work, MED EUWI aspires to provide a catalyst for peace and security in a region.

MED EUWI has been led by the Government of Greece (Ministry of Environment, Energy and Climate Change and Ministry of Foreign Affairs), since its launching in 2003, providing political, financial and technical support to the MED EUWI activities. The MED EUWI Secretariat, within the Global Water Partnership-Mediterranean Secretariat, provides technical support and day-to-day running, a function that is supported financially significantly by the Greek Ministry of Environment, Energy and Climate Change. The Euro-Mediterranean Water Directors' Forum provides institutional support for the implementation of MED EUWI activities at regional and national levels, offering advice and guidance on its work and further development. Based on the decisions of the Euro-Mediterranean Ministerial Conference on Water (22nd December 2008, Dead Sea, Jordan), in the context of the Union for the Mediterranean (UfM), the Euro-Mediterranean Water Directors' Forum has evolved into the Water Expert Group (WEG), currently mandated with the development of the new Strategy for Water in the Mediterranean (SWM).

MED EUWI develops its activities through annual work programmes, supported through the participation of a variety of institutions and stakeholders. According to MED EUWI's

precedence, activities up to the year 2015 will focus on: prioritisation of national needs for the water sector in order to meet national targets; implementation of national planning activities including assistance to countries for the preparation, implementation and monitoring of IWRM plans including national climate change adaptation strategies; development of sustainable financing strategies for the water sector; and improved donor coordination, harmonisation and alignment on the ground. Moreover, MED EUWI contributes actively to the follow-up and implementation of the decisions taken at the 2008 Jordan Ministerial Conference, including support to the development of the SWM and, as a next step, the consequent preparation and implementation of the SWM's Action Plan.

MED EUWI activities are demand-led and utilise consultative and participatory methodologies in order to maximise inclusiveness and ownership. Given that lasting changes require political will and substantial timeframes in order to be sustainable and sturdy, MED EUWI promotes ongoing activities with catalytic effect, benefiting from its neutral platform and existing and potential synergies with involved stakeholders at all levels.

Support to MED EUWI activities has been thus far provided by the: Greek Ministry of Environment, Energy and Climate Change, Greek Ministry of Foreign Affairs, MEDA Water Programme of the European Commission (Phase I of National Policy Dialogues and regional activities including in relation to the SWM), UNEP/MAP-GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem (Phase I & II of National Policy Dialogue), UNECE, UNDP, UNESCO-BRESCE Venice Office, African Development Bank, WHO, UNEP UCC, Government of Germany, Swedish Environmental Protection Agency, Swiss Development and Cooperation Agency as well as by the Governments of the beneficiary countries (Lebanon, Egypt, Tunisia, Morocco, Libya).

Mediterranean Water Strategy

The Strategy for Water in the Mediterranean (SWM) aims at providing a guiding document with orientations and objectives on water resources management and protection agreed by all countries in the Union for the Mediterranean, supported and enriched through inputs from stakeholder groups including civil society.

The long-term SWM's objectives are to conserve water quality and to balance quantity of used and available water to achieve regional sustainable economic growth, social prosperity, access to water for all and environmental protection and rehabilitation. The SWM aims at stimulating the development of policy, cooperation and technological tools, promoting the exchange of knowledge and contributing to peace and stability.

The SWM is structured around four main thematic fields, i.e. effective water governance, water and climate change adaptation, water demand management, efficiency and non-conventional resources as well as water financing optimisation and valuation.

Follow up action-planning and concrete projects development with a focus on sustainability will be essential to the successful implementation of the SWM, addressing specific water challenges and helping to achieve solutions to problems of regional concern.

The decision for the elaboration of the SWM was taken at the Euro-Mediterranean Ministerial Conference on Water (Dead Sea, Jordan, 22nd December 2008). A Euro-Mediterranean Water Expert Group (WEG), chaired by France and Egypt as UfM Co-Chairs, was entrusted to work on preparing the SWM, which has followed a structured, open and inclusive regional preparatory process involving national governments, local authorities and regional stakeholders. A reduced Technical Drafting Group (TDG), chaired by Spain, prepared the draft SWM texts through an elaborate process. The intensive SWM preparatory process was administratively and technically assisted by the Mediterranean Component of the EU Water Initiative (MED EUWI is led by Greece and is serviced by the Global Water Partnership-Mediterranean) with the financial support of the European Commission and other partners.

The SWM was intended to be approved at the Euro-Mediterranean Ministerial Conference on Water (Barcelona, Spain, 13th April 2010). Though the meeting reached full agreement on the contents of the Ministerial Declaration and the annexed SWM, two political matters reflected in the SWM prevented its final agreement. Currently, effort is made by the UfM political partners to reach full agreement and move dynamically with the preparation of the related Action Plan for the SWM and the implementation of its provisions.

Horizon 2020 Initiative

During the 10th Anniversary of the Barcelona Process Summit in 2005, the Euro-Mediterranean Partners committed themselves to increasing efforts to substantially reduce the pollution of the Mediterranean by 2020 in what is called the Horizon 2020 Initiative (H2020). Horizon 2020 was endorsed during the Environment Ministerial Conference held in Cairo in November 2006 and is one of the key initiatives “blessed” in 2008 and run under the Union for the Mediterranean (UfM). It specifically tackles the following sources of pollution: municipal waste, wastewater treatment and industrial emissions. A 2007-2013 Roadmap has been adopted, which focuses on the following four pillars:

- Identification of projects to reduce the most significant sources of pollution.
- Identification of capacity-building measures to help neighbouring countries create national environmental administrations that are able to develop and police environmental laws.
- Use of the EC’s research budget to develop greater knowledge of environmental issues relevant to the Mediterranean and ensure this is shared.
- Development of indicators to monitor the success of Horizon 2020.

Horizon 2020 is an “umbrella” initiative to enhance and catalyse coordination between the various actors present in the Mediterranean. It aims to improve the efficiency and effectiveness of environment activities in the region. It was intended from the outset that Horizon 2020 would build on existing institutions and results, filling gaps where it could bring added value. It operates within the framework of existing and developing policy instruments, and supports the implementation of the commitments undertaken in the framework of the Barcelona Convention.

Under Horizon 2020, the Mediterranean Hot Spot Investment Programme (funded by the European Union – FEMIP Support Fund) assessed, on the basis of the Hot Spots resulting

from the NAPs, the potential pollution prevention investments for nine countries of the area. The criteria for determining the project potential are linked inter alia to their contribution to the de-pollution of the Mediterranean, the importance to the country and the sub-region and their “bankability”.

Under the Horizon 2020 Capacity Building Component, the H2020 Capacity Building Programme aims to support the implementation of the Horizon 2020 Initiative Road Map and Work Plan through capacity-building and awareness-raising activities, and to promote integration of environmental issues in other sector policies. The main objective of this project is to support the implementation of H2020 with a special focus on environmental mainstreaming. It aims to address the following problems: low political priority given to the environment; insufficient integration of the environment in the different sector policies (agriculture, tourism, transport or energy) and lack of inclusion of the different actors from local to international level; insufficient capacities and resources at institutional and civil society level. The project is implemented by a Consortium led by the National and Kapodistrian University of Athens and the beneficiaries are the ENPI Southern Partner countries and territories, namely: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, occupied Palestinian territory, Syria, and Tunisia. Albania, Bosnia and Herzegovina, Croatia, Montenegro and Turkey are also covered by an extension of the project.

Also, under the Review, Monitoring and Research Component a project is implemented by the European Environment Agency aimed at the development of a shared environmental information system (SEIS) in the European Neighbourhood.

GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem

In the framework of the Mediterranean Action Plan, the countries of the Mediterranean have joined forces with the World Bank, regional and international organisations as well as non-governmental organisations to create a Strategic Partnership for the Mediterranean Large Marine Ecosystem. The GEF Strategic Partnership for the Mediterranean LME, implemented by UNEP/MAP and the World Bank, responds directly to priorities of the countries of the Mediterranean Sea basin as identified in the Transboundary Diagnostic Analysis (TDA), and agreed interventions as outlined in the two Strategic Action Plans, SAP-BIO and SAP-MED.

This MedPartnership enables a coordinated and strategic approach to catalyse the policy, legal and institutional reforms, and the investments necessary to reverse the degradation trends affecting this unique large marine ecosystem, including its coastal habitats and biodiversity.

With the financial support of the Global Environment Facility (GEF) and other partners, including the EU and all participating countries, the project will be implemented in close association with other relevant initiatives, such as Horizon 2020 for the de-pollution of the Mediterranean, the European Integrated Maritime Policy, and the World Bank/GEF Sustainable Mediterranean Programme, amongst others. The project also contributes to the sustainable development objectives of the Union for the Mediterranean.

As one of the MedPartnership’s most important goals is to stimulate policy change in tackling the pollution problems in the region, one of the most important tasks of the project is, thus,

to monitor institutional and policy changes taking place in the region, and to participate in as many of these as possible, in order to create conditions to adapt to this constantly changing regional context. The MedPartnership is now under the “umbrella” of the Sustainable Med (see below).

Mediterranean Environmentally Sustainable Development Programme (Sustainable Med)

The Mediterranean Environmentally Sustainable Development Programme (Sustainable Med) approved by the GEF Council in 2008, is linked with the MedPartnership and has a defined pipeline of investment and regional capacity-building projects. Sustainable Med is the successor of the Mediterranean Environmental Technical Assistance Programme (METAP), described in a previous section. Following the activities of METAP, the World Bank decided to continue investing in the countries of the region. The rationale for the new programme was based on recognition of: the accentuated pressure on natural resources in the region, with particular reference to water and land, due to economic and population growth; the costs of environmental degradation; food shortages; increased water stress from droughts; climate change risks; the continued need for institutional strengthening; and the renewed and strengthened regional political commitment, including the creation of the Union for the Mediterranean (UfM).

The overall goal of the Sustainable Med project is to integrate the environment within the economic development agenda of the Mediterranean following a shared common approach. The main areas of intervention include:

- Sustainable natural resources management, integrated coastal zone management, protection of marine resources and vulnerable ecosystems.
- De-pollution – corrective and preventative measures – water treatment, solid and hazardous waste, industrial pollution, sea transportation, maritime safety.
- Climate change: resilience to reduced surface and groundwater reserves, and increased occurrence of droughts and floods (weather-related disaster management), carbon finance.

The programme has three components: (1) Governance Component: Common shared vision, Sectorial integration, Commitment of resources, (2) Knowledge Generation and Technical Assistance: Know-MED, (3) Investments: first-order environmental priorities.

The UN Economic Commission for Europe (UNECE)

The UN Economic Commission for Europe is of relevance to the Mediterranean strategy. Three key documents/processes of UNECE should be considered:

The Aarhus Convention

The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was adopted on 25th June 1998 in the Danish city of Aarhus at the 4th Ministerial Conference in the Environment for Europe process. The Aarhus Convention is a new kind of environmental agreement linking the environment to human rights and government accountability to environmental protection. It focuses on

the interactions between the public and public authorities in a context of transparency and democracy. The Convention also acknowledges that sustainable development can be achieved through the active and responsible involvement of all stakeholders. The Convention is open to all (non-European) countries. On a number of occasions the Mediterranean Ministers have discussed in one way or another the accession of non-European Mediterranean countries to the Aarhus Convention and the promotion of all points of the Aarhus Convention, which aim to strengthen:

- Rights of access to environmental information.
- Rights to participate in environmental decision-making.
- Rights of access to justice in environmental matters.

The above are known as the three “pillars” of the Aarhus Convention: access to information, public participation and access to justice. These three pillars depend on each other for the full and effective achievement of the Convention’s objectives.

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes

This Convention aims to strengthen national measures for the protection and ecologically sound management of transboundary surface waters and groundwaters. The Convention obliges Parties to prevent, control and reduce water pollution from point and non-point sources. It also includes provisions for monitoring, research and development, consultations, warning and alarm systems, mutual assistance, institutional arrangements, and the exchange and protection of information, as well as public access to information.

So far, the Mediterranean countries which have ratified the Convention besides the EU ones are the Western Balkan countries: Albania, Croatia, Montenegro, Serbia, and the Former Yugoslav Republic of Macedonia (FYROM). The Convention is open to other countries as well.

The UNECE Strategy for Education for Sustainable Development (ESD)

The green light for the development of a UNECE Regional Strategy on ESD was given during the 5th Ministerial Environment for Europe Conference (Kiev, 2003). The drafting of the Strategy was a challenging exercise for everybody: environment and education ministries, UNESCO, NGOs and other stakeholders through a participatory process. The Strategy on ESD was finalised in 2005 and adopted at the UNECE high level meeting in Vilnius (March 2005). The goal of the Strategy is to encourage the 56 developing and developed countries of the vast UNECE region (and beyond) to develop and incorporate ESD into their formal education systems, in all relevant subjects, as well as in non-formal and informal education and to serve as a flexible framework in order to be adapted to each country’s priorities, specific needs and circumstances. According to the Strategy, key themes of SD that need to be incorporated in all education systems are poverty alleviation, peace, ethics, democracy, justice, security, human rights, health, social equity, cultural diversity, economy, environmental protection, natural resource management. An evaluation mechanism has been developed in order to monitor both aspects of the mandate: “the implementation” as a process, and “the effectiveness of

the implementation,” as qualitative features of the process and the outcome. To this end, a particular set of Indicators has been developed. Currently, an Expert Group is working on the finalisation of the Competencies for ESD Teachers to be presented and approved by the next (2011) Meeting of the UNECE Steering Committee for ESD. The ESD Strategy is open to all countries and has been the inspiration for a compatible Mediterranean Strategy on ESD under preparation (see: Conference for the Official Launching of the UN Decade of Education for Sustainable Development in the Mediterranean Region, Athens 2005, <http://www.medies.net>).

Some Sub-Regional Initiatives

Adriatic – Ionian Initiative for the Sustainable Development of the Adriatic and Ionian Seas Region

The Adriatic-Ionian Initiative (AII) was formally established as a political initiative at a conference held in Ancona, Italy, in May 2000. Seven countries cooperate within the framework of AII: Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Montenegro, Serbia and Slovenia.

The aim of AII is to link the coastal countries of the two connected seas for the purpose of cooperating in the development and safety of the whole area. The issue of environmental protection which is central for socioeconomic development in the sub-region is the high sensitivity of the maritime and coastal areas of the semi-enclosed Adriatic Sea.

Three projects are at the heart of the environmental aspect of the AII: (I) Contingency Plan, (II) Strategic Environmental Assessment of Maritime Activities Including Ballast Water Issues, and (III) Integrated Coastal Zone Management.

RAMOGE Agreement

The RAMOGE Agreement, signed in 1976 and amended in 2003, is the tool which France, Italy and Monaco adopted in order for the coastal zones of the Provence-Alps-Côte d’Azur Region, the Principality of Monaco and the Liguria Region to constitute a pilot zone of integrated management for the coastline, the prevention and control of marine pollution.

The League of Arab States

The League of Arab States (LAS) has an environment and water agenda that is developed through related Ministerial Councils. The Environment Ministerial Council, which has been active for some years, is concerned with environmental conditions within and related to LAS Member States. Issues such as water rights, agricultural chemicals, and long-term environmental sustainability are among those discussed in this council. Recently, a Water Ministerial Council was also formed and its constitutional meeting was held in June 2009 in Algeria. Issues of interest include water and climate change, water economics and legal aspects for safeguarding and protecting Arab water interests with non-Arab countries. Currently, an Arab Water Strategy is under preparation and is expected to be discussed at the next annual meeting of the Ministerial Council.

Furthermore, in 1996, LAS founded the Centre of Water and Arab Water Security Studies (COFWS), based in Damascus, and attached it to the LAS Secretariat. Its main objective is

to safeguard Arab interests and establish a common position on water issues. Its mandate includes evaluation and forecasts on water resources; assistance to implement plans and global policies on water resource management, preparation of draft water agreements; and training and exchanges between experts.

The Euro-Mediterranean Parliamentary Assembly

The Euro-Mediterranean Parliamentary Assembly (EMPA), established in Naples on 3rd December 2003 by decision of the Ministerial Conference of the Euro-Mediterranean Partnership, was one of the last institutions initiated under the Barcelona Process. The EMPA opened its proceedings in Athens, 2004.

The EMPA is the parliamentary expression of the Barcelona Process/Union for Mediterranean, and plays a consultative role: it provides parliamentary impetus, input and support for the consolidation and development of the Euro-Mediterranean Partnership/UfM; it expresses its views on all issues relating to the Partnership, including the implementation of the association agreements; it adopts resolutions or recommendations, which are not legally binding, addressed to the Euro-Mediterranean/UfM Conferences.

The EMPA consists of parliamentarians appointed by: the national parliaments of the EU Member States; the national parliaments of the Mediterranean partners; the European Parliament. The EMPA consists of 280 members, 130 EU members (81 members of the 27 EU national parliaments, on the basis of equal representation, and 49 members of the European Parliament), 10 members from the parliaments of the European Mediterranean partner countries (2 members for each of the delegations from Albania, Bosnia and Herzegovina, Croatia, Monaco and Montenegro), 130 members of the parliaments of the ten founding Mediterranean partners, on the basis of equal representation, and 10 members from the Mauritanian parliament. It is organised on the basis of national delegations and of the European Parliament delegations, and meets in ordinary plenary session once a year.

The Mediterranean Parliamentary Assembly (PAM)

PAM’s primary mission is to assert the centrality of the Mediterranean area and reaffirm the key role of the Organisation’s Members in addressing their common interests and shared concerns through a forum specifically created for this purpose. PAM promotes the development of forms of cooperation, to ensure that the wealth of land and sea-based human and natural resources available to the region are used in an optimal and sustainable manner. Through PAM, political dialogue and understanding between the Member States will be strengthened and this can be achieved, notably, by: fostering and building confidence among Mediterranean states; guaranteeing regional security, stability and promoting peace; consolidating the endeavours of Mediterranean states; presenting opinions and recommendations to national parliaments and governments, regional organisations and international fora.

The Assembly is serviced by a permanent Secretariat, with international status, located in Malta and is run by the Secretary General of the Assembly assisted by international and local staff. It is responsible for following-up on the decisions taken by the Assembly, as well as providing coordination, assistance and support to the work of the Committees and other bodies established under the auspices of the PAM. It is also responsible for the promotion and the visibility of the Parliamentary Assembly of the Mediterranean.

The “5+5” Initiative

A forum of cooperation where defence and security matters are discussed. First launched in 2004, it sees the participation of ten Western Mediterranean nations, namely Algeria, France, Italy, Libya, Malta, Mauritania, Morocco, Portugal, Spain and Tunisia.

Through practical activities and a permanent exchange of ideas and experience, the “5+5” Initiative aims at enhancing mutual understanding and trust in order to cope with security-challenging issues in the region. Three major cooperation fields or dimensions have been identified so far:

- The contribution of Armed Forces to maritime security, which includes – among other things – the activities related to search and rescue, prevention and fight against illegal trafficking and fight against marine pollution.
- The contribution of Armed Forces to Civil Protection, with special reference to responding to serious natural disasters caused by men, supporting the military medical service, and fighting against locusts.
- Air security, since the exchange of information among the military about air traffic – which can complement the civilian air traffic control networks – allows for defensive measures to be suitably prepared in case of improper use of air spaces.

The initiative is, by its nature, open to new cooperation fields. With the beginning of training activities developed at various levels, “Education” is becoming the fourth cooperation field.

Major NGO/Civil Society Actors and Initiatives

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

It is a Federation of Mediterranean Non-Governmental Organisations (NGOs) for Environment and Sustainable Development. MIO-ECSDE acts as a technical and political platform for the presentation of views and intervention of NGOs in the Mediterranean scene. In cooperation with governments, international organisations and other socio-economic partners, MIO-ECSDE plays an active role for the protection of the environment and the promotion of the sustainable development of the Mediterranean region and its countries. MIO-ECSDE has as its guiding operational philosophy and strategy to be actively involved in and contribute to the formulation of environmental and environment-friendly policies within the framework of sustainable development for the Mediterranean with emphasis on the relevant EU policies. It advocates participatory decision-making through appropriate institutions and instruments in the entire sphere of the environment (natural, cultural and socio-economic) in the Mediterranean and Euro-Mediterranean region. It actively promotes environmental awareness of the wider public and Education for Sustainable Development (ESD) and contributes to the increase of capacity of the weaker national NGOs as well as of other important groups (e.g., educators, journalists, parliamentarians, etc.) of the Mediterranean region. Apart from being internationally recognised as being the most significant Mediterranean Network of Environmental, Cultural and Development NGOs, MIO-ECSDE has also been recognised as a key international player and skilfully brings together Mediterranean stakeholders on issues crucial for the sustainable future of the region and beyond.

Mediterranean Education Initiative for Environment & Sustainability (MEdIES)

This is a WSSD Type II Initiative on Education for Sustainable Development, which is supported by the Hellenic Ministry for Environment, Energy and Climate Change and GWP-Med. Leading partners are also UNEP/MAP together with UNESCO and MIO-ECSDE, which facilitates the Initiative’s Secretariat. Its confirmed partners include several Ministries of Environment, Universities, IGOs and NGOs as well as schools. MEdIES aims to facilitate the educational community to contribute in a systematic and concrete way to the implementation of Agenda 21 and the Millennium Development Goals, through the successful application of innovative Educational Projects. The core of this initiative is the e-network of more than 2,800 educators (www.medies.net) that implement integrated educational projects in Mediterranean countries on cross-cutting themes (i.e., water, waste, food) as a vehicle to sustainable development.

Circle of Mediterranean Parliamentarians for Sustainable Development (COMPSUD)

The Circle, which was created in 2002 and involves an ever-growing number of Mediterranean Parliamentarians, is governed by a Core Group composed by 6 Parliamentarians from different Mediterranean countries. COMPSUD is jointly facilitated by MIO-ECSDE and GWP-Med and has been organising annual conferences since its establishment supporting the dialogue among Members of Parliaments (from EU and non-EU Mediterranean countries), politicians and other stakeholders on the protection of the Mediterranean environment and the necessary socioeconomic conditions for the sustainable development of the region.

Circle of Mediterranean Journalists for Environment and Sustainable Development (COMJESD)

Its main objective is to strengthen information and communication specialists: in their capacity of sensitising and informing Mediterranean societies, in improving democratic and participatory processes and in directing more effectively the flow of information produced by scientists, NGOs, etc., to the decision-makers.

Arab Network for Environment & Development (RAED)

This network involves more than 100 NGOs from Arab countries who share their experiences and exchange information on environmental and developmental issues in North Africa, the Middle East and the entire Arab world.

WWF Mediterranean Programme Office (WWF-MEDPO)

WWF-MEDPO’s goal is to conserve the natural wealth of the Mediterranean and to promote sustainable environment-friendly practices for the benefit of all. The geographical scope of the WWF-MEDPO includes all countries bordering the Mediterranean as well as Jordan, the Former Yugoslav Republic of Macedonia (FYROM) and Portugal. It is based in Rome, Italy, with a project office in Tunisia, the Across the Waters capacity-building programme in Barcelona, Spain, and a project coordinator in Morocco. The programme works in close collaboration with WWF offices in France, Greece, Italy, Spain and Turkey, and runs several projects in partnership with national and local NGOs in Croatia, Lebanon, Libya, Morocco, Portugal, Algeria, and Tunisia.

Global Water Partnership-Mediterranean (GWP-Med)

GWP-Med is a Regional Water Partnership of the Global Water Partnership (GWP). GWP-Med, in its present form, was created in 2002 and it is the successor partnership to the Mediterranean Technical Advisory Committee of GWP (MEDTAC). GWP-Med’s goal is to promote and

exchange knowledge on IWRM for the sustainable use of the region's water resources. GWP-Med is a platform bringing together competent organisations working regularly on water issues in the Mediterranean region. Its members may come from all over the Mediterranean and beyond.

MEDCITIES

MEDCITIES is a network of Mediterranean coastal cities created in Barcelona in November 1991 at the initiative of the Mediterranean Technical Assistance Programme (METAP). This network is a tool to strengthen the environmental and sustainable development management capability of local administration, but it is also useful in order to identify the domains where a common activation could be the most useful means to improve the regional environmental conditions.

The Commission Internationale pour l'Exploration Scientifique de la Méditerranée (CIESM)

CIESM was created early in the last century to promote international research in the Mediterranean Sea and the Black Sea. It acts as a focus group for the exchange of ideas, the communication of scientific information and the development of scientific standards across the Mediterranean basin. In service to science, the Commission promotes communication and active cooperation among marine scientists of various disciplines and from diverse horizons engaged in research on the Mediterranean and the Black Seas. CIESM organises research workshops and synthesises up-to-date scientific knowledge in the form of workshop Monographs, biodiversity Atlases, or high-resolution digital maps of the seabed.

Euro-Mediterranean University (EMUNI)

The Euro-Mediterranean University, based in Slovenia, is one of the six priority areas of the Union for the Mediterranean. It was established as an international network of universities (141 members from 37 countries in 2010). The mission of the University includes: approving the quality of higher education through the implementation of postgraduate (master's and doctorate) study and research programmes with a special focus on cultural diversity.

Network of the Mediterranean Universities for Sustainable Development (SD) Focusing on Education for Sustainable Development (ESD)

The network was established as an urgent demand in order to revitalise the Higher Education system towards sustainable development aiming to establish a Mediterranean Master Course on ESD. The Network was launched following a series of initiatives in Athens, on 18th-19th November 2008 under the auspices of the Vice-Rector of the University of Athens. Following the launch, a Memorandum of Understanding was developed and signed by the Members. Currently the Network is working on the development of the Curriculum of a Master Course on ESD. The Administrative Component of the Secretariat is undertaken by MIO-ECSDE and the Scientific Component by the University of Athens. Twenty universities from the Mediterranean are participating in the Network.

Institute de Prospective Économique du Monde Méditerranéen (IPEMED)

IPEMED stands at the interface between corporations from the North and South of the Mediterranean and the region's cities, regions and states, European and Euro-Mediterranean bodies and institutions, and experts from the North and South. IPEMED's aim is to nurture a new approach to North-South relations and to formulate proposals that will benefit the

populations of the Mediterranean countries in real and tangible ways. Its task is to work on building complementarities between Europe and the South and East Mediterranean over the coming years in order to give the Euro-Mediterranean region and, one day, the Euro-African region, the clout and respect they need in a multi-polar 21st century.

European Institute of the Mediterranean (IEMed)

The IEMed is an actor in the dialogue between the EU and other Mediterranean countries, a centre of reflection and debate on Mediterranean societies and a think tank specialised in Euro-Mediterranean relations. The main aims of the IEMed are to encourage knowledge, through research and study; to carry out training and promotion activities; to encourage the participation of civil society in the Barcelona Process; to contribute to the Mediterranean projection of Catalan and Spanish institutions; to promote and participate in development cooperation projects; to promote Mediterranean networks; to act as an observer of the Mediterranean reality. The IEMed is governed by a Board with the participation of the Government of Catalonia, the Spanish Ministry of Foreign Affairs and Cooperation, and Barcelona City Council; a Board of Trustees formed by companies, universities and institutions from civil society; and, an Advisory Council made up by Mediterranean personalities of recognised prestige.

Reflections, Suggestions and Comments on the Characteristics and Key Aspects of a European Strategy for the Mediterranean with Emphasis on Its Environmental Component

Some Organisational Framework Considerations

The review of the organisations, key actors and initiatives in the Mediterranean, presented in the present paper, cover very briefly the last fifty years with more emphasis on the last decade and the ongoing processes. Most of them have produced positive results while others have yielded some less encouraging products and signals that need to be taken seriously into account.

The most viable regional structures are those which, due to their nature, do not change frequently, such as the Barcelona Convention, which is, nevertheless, lacking a direct link with implementation and enforcement mechanisms and investment on remedial measures. The stability of the Barcelona Convention is mostly the result of four elements: (1) The "equal" and balanced representation of all the "proper" riparian countries of the Mediterranean in a UN Framework which enhances ownership; (2) the participation of only Environment Ministries in it, which are not very "political"; (3) the very active and constructive participation of strong regional NGOs in its work; (4) the fact that its involvement and role in promoting and handling investment is extremely limited.

Advantages (2) and (4) are, at the same time, key disadvantages that have not been remedied by the establishment of the Mediterranean Commission on Sustainable Development (MCSD), the activities of which are frequently restricted by some rather indifferent countries. The meetings of this "advisory" body are considered by some as adding meeting "fatigue" to their busy schedules without substantial return. This is because the countries often appoint the

UNEP/MAP Focal Point also as their representative in MCSD, so in the end the people sitting there “advise” themselves!

To a certain degree, the UNEP/MAP Secretariat and the structure as a whole, including several of its own Regional Activity Centres (RACs) are also responsible for this weakness, each one of which has a different attitude, interest and vision vis-à-vis MCSD and its role.

Another weakness of UNEP/MAP is that it is part of the Regional Seas Programme of UNEP, which as a whole is frequently criticised as not very efficient – even internally within UNEP. The fact that MAP is one of the best cases does not help it, apparently.

The EU needs to become more engaged as a driving force in the Barcelona Convention and in the MCSD where EU Member States’ coordination, at the moment, is rarely substantial.

The needed enhancement of dynamism in the Barcelona Convention and the links with implementation and enforcement of policies through investment have been approached both by the EU/EIB and the WB, sometimes independently and sometimes jointly. At the beneficiary countries’ end, however, both approaches have been perceived primarily as traditional “external aid”, more or less similar in nature, and were dealt with, at least until very recently, in typical, rather old fashioned ways.

The numerous capacity-building components within the aforementioned schemes, not generating direct financial input for the countries, were frequently downgraded to very small-scale interventions, with limited medium and long-term impacts.

Experience has shown that the most successful results in environmental policy improvements and sustainability strategies are those of rather medium-sized projects managed jointly by partner and EU countries and mostly those where non-governmental partners were partly or exclusively involved.

The formal environmental policy cycle sequence (from regional strategies to national “translation” and implementation of these strategies into concrete national ones by preparation and adoption of policy documents and legislation, and, finally, enforcement of this legislation) is not always easily visible in the majority of the countries. However, it will be totally unjust to say that the work done in the Mediterranean fora has not produced useful results influencing clearly and in very positive ways the legislation and practices adopted in nearly all the Mediterranean countries.

The governmental and non-governmental regional bodies and schemes of today which, although sometimes complex, are not as efficient as required, and of a different type as it concerns their legitimacy, representativeness and mandate, need to be utilised wisely, with due recognition of their strengths and weaknesses. After all, not all of them will deliver in the end. This is the best way of testing them and deciding which will carry on.

The EMP, after a first period of inertia, was a good institutional and operational framework with the EU governing bodies directly involved and the support and management of the European Commission services, a very positive aspect, despite any bureaucracy. The handling

during the last few years of bilateral projects, etc., by the permanent EU Delegations in each Partner Country has changed the picture in an overall positive way, with few unavoidable negative side effects. The most positive is the closer link and direct negotiation with local actors and easier monitoring of progress, while the most negative, the loss of the sense and character of (a common Mediterranean) “regionality” and the less coherent, on behalf of the EU, homogeneous approach of similar issues.

The UfM is supposed to bring in a new governance scheme, with a clear benefit being a strengthened “southern ownership”. However, until now, it has demonstrated considerable weaknesses (or rather a vacuum) in terms of supportive mechanisms and operations. The Secretariat of the UfM has been until now (spring 2010) virtually nominal, restricted to only the Secretary General and very few persons, while its competences are still totally unclear. Prolongation of this situation practically annuls all previous achievements under the EMP. Under the current circumstances, a way to proceed in a productive, light and inexpensive manner in such a complex landscape as the Mediterranean is by involving – for strategic and policy development and implementation issues – on the one hand the European Commission and on the other “champion” countries supported by relevant and competent regional institutions.

This model was tested with success in the case of the Strategy for Water in the Mediterranean (see relevant paragraph), where a formal with parallel non-formal processes for the development of this policy document was developed.

The Needed “Ingredients”

There are twenty-three “proper” riparian Mediterranean countries – and Portugal, Jordan, Mauritania, in one way or another frequently linked or included in the Mediterranean context. These countries – which belong to three continents: Europe, Asia and Africa – are populated by people of different faiths (the Mediterranean has been the cradle of many ancient religions and the three most widely-followed monotheistic religions: Judaism, Christianity and Islam). They speak different languages (with Arabic spoken by the largest part of the population), have significant differences in cultural roots and values, different political and economic systems and widely varying levels of economic and social development.

The Mediterranean Sea, with its ports, trade and ancient influences between people and civilisations, has been the theatre of harsh conflicts. It has also been a melting pot of ideas and features, to the extent that terms such as “Mediterranean character” or even “Mediterranean civilisation” are often used and widely accepted. At the same time, the Mediterranean is an actual North-South interface and the theory of “cultural clash” is based exactly on this concept. All these contrasting “elements” can, to some extent, be explained not only by referring to cultural, historic and ethnological origins and relationships, but also by addressing the influence of the region’s natural environment on the character, social conditions, customs and diet of the centuries-old peoples and of societies coexisting, living and thinking within the Mediterranean space.

To be effective, the Strategy should go beyond the definition and description of its aim, which is indeed encapsulated in the “achievement of the sustainable development of the Mediterranean region”, and recognise what the principal specificities of this region are. The most critical ones seem to be the following: It is not a UN region, but is rather shared by three UN regions where

approximately one third of the riparian countries are EU Member States, another one third are hoping to join the EU (all of them on the European or Asian coast), while another one third are Muslim Arab Countries of North Africa and the Middle East, many of whom have experienced in the past various kinds of European colonialism and differ substantially in the level of their development. In addition, Israel stands alone in the middle of its Arab neighbours. What brings together the Mediterranean neighbours are their prospects for a shared future based on the important natural environmental capital of the region, the high potential for renewable energies and tourism and, most of all, the common sea, the common marine environment. Therefore, the overall Strategy should combine elements of geopolitical considerations as well as environmental, marine and socio-cultural aspects.

The aforementioned ingredients needed are already developed in different degrees in a series of established EU policies and strategies. Several of them are already to a certain extent “integrated”, such as the enlargement/accession policies mostly for the Balkans and the Neighbourhood policies for the EMP, now the UfM. Others are well developed or developing, such as the environmental, energy linked with climate change and marine-maritime ones, and to a lesser extent the socio-cultural ones not to be elaborated within this paper (though extremely important, relevant and dynamically interlinked) for reasons of space and time.

Geopolitical Aspects

The key directions for the overall European Mediterranean Strategy and consequently its Environmental Component should follow three parallel tracks dictated by the current geopolitical realities in the region:

1. Coherent EU policies relevant and suitable for the Mediterranean EU states, such as those for fisheries, energy, marine and maritime, water, agriculture, etc., with full integration of the environmental dimension in view of strengthening and supporting mostly the Mediterranean EU Member States (including Portugal). The biodiversity, cultural and natural renewable resources capital of the European South are important assets for the whole of Europe. Equally, if not more important, is the understanding and “osmosis” of the EU Mediterranean peoples with their neighbours of the rest of the Mediterranean. However, the use of EIB funds for the support of renewable energies and environmental projects is considerably lower in the less mature markets of the European South (e.g., Greece) compared to the more developed ones. This is due, mainly, to the still existing legal framework barriers and inconsistencies that, obviously, need to be removed as soon as possible. The internal cohesion of the EU is of the utmost importance for any “external policies” to be efficient. In addition, the EU cannot “preach” to the others on environmental and sustainability issues and good governance if its own Member States cannot deliver properly. Also, difficulties in new environmental regulations for neighbours should first be tested and solved within the EU “garden”. This track is entirely within the EU competence and framework and may need particular and renewed attention and solidarity. Though not an EU member, Monaco, the smallest of the members of the Barcelona Convention and a very special case – for its efforts to become a model of a highly developed and anthropogenically modified sustainable urban environment – fits in this group as it is also included in the UfM.

2. Essential support to the Mediterranean countries in accession, in particular the small countries of the Western Balkans, for the “European Geometry” to be completed. This geometry obviously also reflects the continuity of ecosystems and ecological functions of the region while these countries bring in important water resources and high renewable energy (hydro, etc.) potential for Europe. Within this group, but with some distance from the rest and with many specificities, stands Turkey. This second track is, to a large extent, within the direct EU competence, though other “international frameworks” are also relevant and interact on various issues and need to be better utilised by the EU without “superiority” or other complexes and syndromes. Such a framework is the UN Economic Commission for Europe (UNECE), where the Environment for Europe process needs to be strengthened and mainstreamed in a much more systematic and substantial way. The RCC, and within it RENA (totally in the hands of the European Commission), also offer important opportunities and mechanisms not always fully utilised and understood by those who conduct Mediterranean EU policies and handle the relevant agendas. The EU needs to be an effective actor in all these organisations but at the same time try to condense, reduce, consolidate and harmonise its positions to speak and act with one will and voice in all fora and become fully coherent and clear.

3. Genuine commitment combined with careful and balanced interaction with the “original” EuroMed Partners. Here we have differentiations: the three francophone Maghreb countries (Morocco, Tunisia and Algeria – with some differentiations); Libya, still not formally a partner country (which, however, needs to be included sooner than later); the Middle East Arab countries with their own internal differentiations: Egypt, Lebanon, Syria, the Occupied Palestinian Territories and Jordan (not a proper “Med” country); Israel a very particular case in every respect. The ongoing Middle East conflict among these states directly affects the Environmental Agenda. The failure to agree on the Strategy for Water in the Mediterranean in April 2010 was proof of this. Lately, Mauritania has been trying to acquire some “status” within the wider, “outer sphere” of the Mediterranean. The countries in this category (except Jordan, the Occupied Palestinian Territories and Mauritania) are partners to the Barcelona Convention and the MCSD. The EU through the European Neighbourhood Policy, facilitated by the ENPI, interacts with these countries (except Libya), with bilateral “Association” agreements, related Action Plans and within regional frameworks such as the Euro-Mediterranean Partnership (Barcelona Process) which “evolved” (as explained in a previous chapter) into the UfM.

For both categories 2 and 3 above, a major assistance to address their most urgent needs in the areas of solid waste, urban waste waters and industrial pollution is the Horizon 2020 Initiative, through all its components. It is extremely vital for the Commission, the Council and the European Parliament to support the initiative politically and financially because, at the moment, it is one of the most “tangible” EU contributions under the EMP and the UfM, and the partner countries are embracing it with a lot of enthusiasm and confidence.

The parallel processes of the Mediterranean Partnership supported by GEF and the “Sustainable Mediterranean” announced by the World Bank, as well as the very recent “5+5” Initiative are all complementary, while the H2020 is offering the backbone for the relevant investment and capacity-building and this should be clearly understood.

Clustering Environmental Aspects

For the European Mediterranean Strategy the purely environmental – SD concerns and components should be coherent with: (a) the still valid but very general Mediterranean Strategy for Sustainable Development (MSSD) approved in Portoroz in Slovenia (2005), (b) the existing and valid international conventions (e.g., the Ramsar convention, etc.), and (c) the EU *acquis communautaire* which can be used as a “pool” for inspiration and eventual guideline for the non-EU countries. The relevant EU legislation could be classified in three clusters:

- The first cluster includes all those elements related to basic pollution parameters and conservation measures which are, in one way or another, already included in the Barcelona Convention through MED-POL and the various Protocols (e.g., BOD, heavy metals, petroleum hydrocarbons, etc.). In this cluster the EU standards are, in general, more stringent and “show” the tendencies for the future.
- The second cluster may include more coherent strategic legislation such as EU legislation related to the protection of the marine environment: the Birds Directive, the Habitats Directive, the Marine Strategy Framework Directive,¹ the Water Framework Directive,² the Environmental Impact Assessment Directive³ and the Strategic Environment Assessment Directive.⁴ Furthermore, in the same cluster, all Policies and Strategies related to the EU’s response to the climate change challenge (e.g., the unilateral commitment to cut its emissions in 2020 to at least 20% below 1990 levels) and the linked energy issues need to be included. For many of the issues covered in this group (e.g., for protected areas, etc.) there are provisions in the Barcelona Convention and its Protocols but of much more “restricted” scope. EU legislation could inspire and contribute to the development of compatible Mediterranean legislation. The Strategy for Water in the Mediterranean is an example where the EU Water Framework Directive has also been considered, and is the only strategy, until now, of its kind.
- The third group of EU Environmental legislation refers to issues underdeveloped or not developed at all in the rest of the Mediterranean. Issues such as on chemicals (REACH) or on nanotechnologies, etc. These need to be gradually introduced in a subtle and simple way through awareness-raising and capacity-building initiatives. Indeed, this is happening in several cases through various actors. It is noteworthy that for both issues mentioned above special campaigns were carried out by MIO-ECSDE (for more info on the Chemicals campaign: <http://www.mio-ecsde.org/articles.asp?cMC=&cID=6&aID=35>, on Nanotechnologies: <http://www.mio-ecsde.org/articles.asp?cMC=&cID=6&aID=33>) addressing NGOs, university students through university departments and the wider public. Undoubtedly the scale needed for such campaigns and interventions is much bigger in size and duration.

1. The Marine Strategy Framework Directive aims to promote the sustainable use of the seas and conserving marine ecosystems.

2. The Water Framework Directive specifies the EU requests for the protection of inland surface waters, transitional waters, coastal waters and groundwater.

3. The Environmental Impact Assessment Directive stipulates that Member States shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue inter alia of their nature, size or location are made subject to an assessment with regard to their effects.

4. The Strategic Environment Assessment Directive aims to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.

It is noteworthy that one of the important objectives of the capacity-building component of Horizon 2020 is the enhancement of the environmental awareness at political level, the promotion of the integration of the environment within other policies and the institutional strengthening concerning environmental mainstreaming, particularly in the priority areas of solid waste, waste waters and all aspects of industrial pollution.

If the already short-listed 73 projects for the abatement of pollution go on, an investment of 5.6 billion euros will be completed within the next few years, and the result expected will be considerable improvement of the quality of the environment, which will not be confined only in the marine waters.

Integrating Marine and Maritime Aspects

The European Strategy for the Mediterranean should integrate elements from the marine and maritime EU policies which are currently being developed very dynamically and include: the EU Integrated Maritime Policy and its Action Plan; the Integrated Maritime Policy in the Mediterranean, the Integrated Coastal Zone Management; the EU Roadmap for Maritime Spatial Planning; the Motorways of the Sea aiming to stimulate the development of maritime transport resources; the Communication on offshore wind energy; and, of course, in dealing with the biological capital of the sea: the Common Fisheries Policy; the Communication on a sustainable future for European Aquaculture; etc.

Furthermore, a series of research studies such as the role of Maritime Clusters to enhance the strength and development in European maritime sectors⁵ and explore the benefits of Maritime Spatial Planning⁶ could offer valuable elements for the Strategy.

Connecting with the Overall Europe 2020 Strategy

It is obvious that whatever “European Strategy for the Mediterranean” is decided should be integrated into and coherent with the overall Strategy of the new Commission, the so-called “Europe 2020 – A Strategy for Smart, Sustainable and Inclusive Growth” (COM2010, 3.3.2010).

The spring 2010 European Council endorsed the main elements of the Europe 2020 Strategy which called for a strong European leadership and common ownership of this Strategy. At the core of this approach are clear EU and national targets for a new economic governance and the development of “flagship” initiatives to guide the joint work of the EU and the Member States in key areas. The June 2010 European Council is expected to confirm the cornerstones of the strategy and the Commission will then work with Member States to deliver results. The new strategy has three axes.

Under the first axis (“exiting from the crisis”) it is clear that the EU Mediterranean countries are the most vulnerable in economic surveillance and the sustainable path of their public finances, including those linked with the environment. In this respect they may require closer monitoring and support within a spirit of a common vision and solidarity.

5. *Policy Research Corporation*, 2008, on behalf of the European Commission, DG Mare. The study includes an assessment of the structure and economic key figures of the maritime clusters in the European Union and Norway.

6. *Policy Research Corporation*, 2010, on behalf of the European Commission, DG Mare.

Under the second axis (“advancing the Europe 2020 flagship initiatives”), the Horizon 2020 initiative to de-pollute the Mediterranean by the year 2020 should be substantially promoted with adequate provisions and resources for its second phase with an ambitious Action Plan for the period 2013-2020.

The European plan for research and innovation and the “Innovation Union” should create framework conditions for the European and Euro-Mediterranean research and technology, on the one hand, on Mediterranean issues, including Environmental and Marine issues and, on the other, on innovation, with emphasis on eco-innovation.

Research is one of the pillars of Education, at least at the Higher Education level, while another pillar could be linked with the Youth on the Move initiative. It is imperative that Education for Sustainable Development (ESD) is introduced and promoted throughout the EuroMed. This implies that the ESD Strategy developed and adopted in the framework of the UNECE in Vilnius 2005, should be expanded systematically to the rest of the Mediterranean (practically to the Med-Arab countries). A first meeting on this issue was already initiated in Athens by MIO-ECSDE, UNESCO and other collaborating organisations in combination with the launching of the UN Decade on ESD (Athens, 2005) and there are prospects for the completion of the process for a Mediterranean Strategy on ESD compatible with that of the UNECE during the Cypriot EU Presidency (second half of 2012).

The Resource Efficient Europe flagship initiative needs to be linked with the Renewable Energy prospects in the Mediterranean, tapping the unlimited sun and wind potential of the region. The relevant ambitious and promising projects (Mediterranean Solar Plan) announced under the UfM need to be tuned, in coherence with this initiative and could indeed provide an alternative, decarbonised future not only for the Mediterranean region, but also for at least a considerable part of the non-Mediterranean Europe.

The Former Commissioner Mr. Stavros Dimas has demonstrated that an EU Economy based on 30% renewable energies by 2020 (produced largely in the Mediterranean region) is both feasible and profitable, creating more jobs and increasing the medium and long-term independence and competitiveness of Europe. Such an option may also support the EU on the diplomatic front of its negotiations with all partners in view of the post-Copenhagen COP15 discussions on Climate Change.

In the conjunction of geopolitical and environmental aspects, the issue of making the EU Mediterranean South a hub connecting pipelines for natural gas originating from Russia, the Black Sea Area, as well as North and West Africa, is an on-going undertaking to provide energy differentiation. This major project requires particular encouragements coupled with great attention in each strategic design and its environmental repercussions.

In the area of Transport, including marine transport and mobility for leisure/tourism (which also figures under the third axis, see below) there are in the Mediterranean both great needs and formidable opportunities for significant reductions in energy consumption as well as considerable reduction of the heavy environmental footprint of transport in the region.

Finally, under the same heading, the Commission needs to thoroughly review its common Agricultural and Fisheries policies taking into account the Mediterranean realities and

specificities. That means that in the European Mediterranean Strategy the elements of food security, employment potential, regional development and sustainability of natural resources and biodiversity need to be balanced, enhanced and connected with new generation policies such as the Integrated Maritime Policy.

Under the third axis (“tackling Europe’s bottlenecks and missing links”), a lot needs to be done for the Mediterranean. The goal and procedure to achieve the Mediterranean Free Trade Zone has been heavily criticised by the Civil Society of the region for not taking seriously into account the environmental and social costs. This undertaking needs to be linked directly and/or indirectly to the approach and report of Professor Mario Monti which will lay the groundwork for the development of a major package for tomorrow’s single market, expected by 2012. For such a market, provisions for environmental goods and services need to appear in a very clear and comprehensive way with connections to whatever European Strategy for the Mediterranean will be produced.

The new Commission’s stand on “building a citizen agenda which puts people at the heart of Europe’s action”, though mainly addressing key issues of the Euro-Mediterranean social agenda within the Sustainability Cluster (mobility, immigration, demographic ageing, cross-border criminality, terrorism, etc.), cannot avoid a vital link crucial for Mediterranean environmental issues such as the impacts of Climate Change and the ability of the region to respond to environmental and other disasters (e.g., forest fires, floods, etc.). These issues and the relevant connections and references need to appear in the European Strategy for the Mediterranean.

Under the main axis dealing with the role of the “EU as a coherent and influential actor”, it is imperative that the Mediterranean profile of the EU and its role in the region should be considerably enhanced. Its neighbourhood policy should not be understood only in the framework of promoting governance through human rights, freedom, stability and prosperity in general terms. It has to further enhance both its bilateral and regional activities according to the needs and opportunities offered and they are many. The enlargement process in the Balkan Countries needs to be linked to progress in all three dimensions of the sustainability agenda.

The opportunities offered by the Lisbon Treaty for a more coherent external representation of the EU and the establishment of the European External Action Service (EEAS) need to be fully utilised in dealing with the Mediterranean Partner Countries and their networks (e.g., League of Arab States). There is need for development of modalities for meaningful distribution of tasks and work, e.g., between EEAS, the European Commission and the UfM Secretariat and even other bodies, the role of which is not yet properly and fully defined.

These delineations and considerations need to be done urgently with full consultation with all relevant governmental and non-governmental partners and keeping in mind the very long history of European environmental policies and environmental diplomacy in the region, which has been exercised not only by governments in intergovernmental bodies but also by European and Mediterranean regional non-governmental organisations and think tanks. There is a very long and successful tradition in this field in the region and nothing should be lost.

What has been experienced with the announcement of the UfM and since then is actually a paradox which needs due analysis and adaptation to lessons learned. Despite the fact that

Mediterranean issues have been put higher on the political agenda – and within them the Mediterranean Environmental ones – the procedures initiated under the Euro-Mediterranean Partnership regime are being delayed and slowed down with a concomitant frustration of EU and non-EU Partner Countries and other stakeholders. It is therefore important to urgently clarify how the Euro-Mediterranean Environmental agenda will be handled and by whom.

Finally, on the axis of modernisation of the EU Instruments and ways of working, the level of the interdepartmental cooperation on Mediterranean fundamental issues within the EU structures needs to be raised and closely followed up. The socioeconomic and environmental impacts of all relevant initiatives and plans need to be observed more carefully than in the past.

The developments in the UfM, which until now have followed a somewhat ad hoc approach, need to be fully aligned to follow the same trend. For sure, the simplification and implementation of the EU legislation relevant to the Mediterranean within the overall EU Strategy would be a most welcome development. However, it should allow for Mediterranean specificities to be dealt with using the necessary flexibility. It is of particular importance for the EU Mediterranean policies and activities to be well communicated. Also, in the European Commission's three priorities ("driving the economic recovery", "mobilisation of new sources of growth" and "climate action") and in its efforts in making the Lisbon Treaty work for citizens, the Mediterranean relevance should be developed, specified and linked to proper initiatives, and integrated within the overall EU environmental and sustainable development agenda. It is of the utmost importance that the environmental components of a European Strategy for the Mediterranean are reflected and followed up/complemented by a "strategic roadmap" which will specify which organisations and bodies or actors – from inside and outside the EU – will undertake to deliver what, by when and with what resources.

This will allow for fair distribution of work among the different actors and stakeholders and will enhance the cooperation and ownership by using existing and proven competences together with new, emerging ones, and by avoiding duplication and reducing costs and administrative burden. This will require good preparation by a relatively small team of experts with good knowledge of the technical and political specificities of the region.

The recently completed drafting of the Water Strategy for the Mediterranean offers an interesting example of a model that may also be utilised in the future for other sectoral strategies.

Acknowledgements

I would particularly like to thank Dr. Thomais Vlachogianni for her valuable assistance and contribution in the compilation of the data used in this paper.

References

- EUROPEAN INSTITUTE OF THE MEDITERRANEAN (IEMed), <http://www.iemed.org>.
- GEF STRATEGIC PARTNERSHIP FOR THE MEDITERRANEAN LARGE MARINE ECOSYSTEM, <http://www.medpartnership.org>.
- GLOBAL WATER PARTNERSHIP-MEDITERRANEAN (GWP-Med), www.gwpmed.org.
- INSTITUTE DE PROSPECTIVE ÉCONOMIQUE DU MONDE MÉDITERRANÉEN (IPEMED), <http://www.ipemed.coop>.
- MEDITERRANEAN COMPONENT OF THE EU WATER INITIATIVE (MED EUWI), <http://www.euwi.net>.
- MEDITERRANEAN EDUCATION INITIATIVE FOR ENVIRONMENT AND SUSTAINABILITY (MEdIES), www.medies.net.
- MEDITERRANEAN ENVIRONMENTAL TECHNICAL ASSISTANCE PROGRAMME (METAP), www.metap.org.
- MEDITERRANEAN INFORMATION OFFICE FOR ENVIRONMENT, CULTURE AND SUSTAINABLE DEVELOPMENT (MIO-ECSDE), www.mio-ecsde.org.
- MIO-ECSDE and GWP-Med, Report on the CSD-16 Side Event *Addressing Climate Change Adaptation Challenges in the Mediterranean*, New York, UN Headquarters, 15th May 2008.
- RAMOGE AGREEMENT, <http://www.ramoge.org>.
- REGIONAL COOPERATION COUNCIL, <http://www.rcc.int>.
- SCOULLOS, M. and A. RONIOTES, *The Evolution of Environmental Policies in the Mediterranean from an NGO Perspective*, Athens, MIO-ECSDE, 2003.
- SCOULLOS, M. and V. MALOTIDI, *Handbook on Methods Used in Environmental Education for Sustainable Development*, Athens, MIO-ECSDE, 2004.
- STABILITY PACT AND REGIONAL ENVIRONMENTAL RECONSTRUCTION PROGRAMME (REReP), <http://rerep.rec.org/default.html>.
- STABILITY PACT FOR SOUTH EASTERN EUROPE, <http://www.stabilitypact.org/default.asp>.
- THE EURO-MEDITERRANEAN PARLIAMENTARY ASSEMBLY, <http://www.europarl.europa.eu/intcoop/empa/default.htm>.
- THE MEDITERRANEAN PARLIAMENTARY ASSEMBLY (PAM), <http://www.apm.org.mt>.
- UNION FOR THE MEDITERRANEAN, <http://www.ufm-water.net/UfM>.
- UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE (UNECE), <http://www.unece.org>.
- UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) and EUROPEAN ENVIRONMENT AGENCY (EEA), *State and Pressures of the Marine and Coastal Mediterranean Environment*, "Environmental Issues Series", No. 5, 1999.
- UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) and EUROPEAN ENVIRONMENT AGENCY (EEA), *Priority Issues in the Mediterranean Environment*, Report No. 4, 2006.
- UNITED NATIONS ENVIRONMENT PROGRAMME/MEDITERRANEAN ACTION PLAN (UNEP/MAP), <http://www.unepmap.org>.
- UNITED NATIONS ENVIRONMENT PROGRAMME/MEDITERRANEAN ACTION PLAN-PLAN BLEU, *State of the Environment and Development in the Mediterranean*, Athens, UNEP/MAP-Plan Bleu, 2009.

2. The Water Issue in the Mediterranean

Eugenia Ferragina

Summary

The Mediterranean region has a supply of renewable water resources distributed in an extremely inhomogeneous way. The shortage of water is focused in the Southern and Eastern Mediterranean Countries (SEMCs) of the region. In the last fifty years, the aggregate water demand has doubled resulting from demographic pressure and from the development of water intensive activities such as tourism and some manufacturing in sectors such as food, textiles and tanning. Indeed, most of the water is used in the agricultural sector, which presents high rates of inefficiency.

The shortage of water has been affected by the impact of climate change (increase of temperatures, variation of precipitations...). Once again, the impacts have different effects in the region: the SEMCs are exposed to desertification, increasing soil aridity and exhaustion of water sources. Meanwhile, the northern shores of the Mediterranean (due to the lack of an efficient soil management policy) appear more vulnerable to the increase of floods and landslides, damage to infrastructures... Climatic change will also alter the marine environment, with an expected rise in sea level modifying several shores of the Mediterranean countries. The most striking effects will be the submersion of land in delta areas (the Nile, Po and Rhone rivers) in the coastal zones and in the densely populated cities and suburbs close to the Mediterranean Sea. The less developed economies will be the most affected by the climate change.

In order to overcome the consequences of water scarcity and climate change, the aquifers and groundwater seem to be the solution. But some of the most important water projects in the SEMCs focused on fossil water create a sort of "pumping race" between the countries that share common aquifers. These projects escape from any supervisory control by the international community and produce strong environmental and political impacts.

The connection between water and security is evident in the entire world (struggle for the control of water resources, destruction of natural resources due to a conflict, environmental refugees...). In the Mediterranean, despite the numerous water sources disputed between different countries, no conflict in the area has been exclusively caused by water, although this natural resource has played a crucial role in the Arab-Israeli conflict and the disputes around the Tigris-Euphrates and the Nile basins.

During the 1990s, different Euro-Mediterranean conferences were held in order to share the experience of water management between countries and to implement an efficient and common strategy for water management in order to achieve sustainable growth. The main achievements of this cooperation have been, under the Euro-Mediterranean Partnership, the Short and Medium-Term Action Programme (SMAP), the Euro-Mediterranean Information System on Know-How in the Water Sector (ENWIS), the long-term Strategy for Water in the Mediterranean (SWM) and recently the De-pollution Programme of the Mediterranean Sea under the Union for the Mediterranean (UfM). Euro-Mediterranean cooperation is based on the conception of water as a resource essential for socioeconomic development and as a key element to contributing to poverty eradication, peacekeeping, progress in human development, gender equity, and the safeguarding of public health within the region. The main objective is the need for a common strategy for water management to ensure sustainable development.

The environmental problems troubling the Mediterranean region require a new water strategy able to identify strong links and interactions between the environment and development and to launch long-term planning and governance policies. They should be two-tier strategies, local and global at the same time. In the SEMCs, it is necessary to promote the idea of a "new ethic" in the use of water resources, in which the water is no longer considered as an unlimited resource. Also, the creation of a water agency promoted at the UfM level would be desirable for coordinating the various requests, initiatives and activities in this sector.

The Water Divide

Taken as a whole, the Mediterranean region has a supply of renewable water resources of about 1,452 km³, which is distributed in an extremely inhomogeneous way between the North (74%), the East (21%), and the South (5%). Precipitation tends to be scarce and is concentrated in certain periods of the year; moreover, high rates of evapotranspiration mean that a sufficient and stable supply of water is not assured over time. In the southern and eastern parts of the Mediterranean basin, 180 million inhabitants have at their disposal less than 1,000 m³ per capita each year, and 80 million experience a situation of serious shortage, with an availability of water of less than 500 m³ per capita per year.¹ The Southern and Eastern Mediterranean Countries (SEMCs) with less than 1,000 m³ per capita are Morocco, Egypt, Cyprus and Syria, while those facing water shortage – less than 500 m³ per capita – are Libya, Algeria, Tunisia,

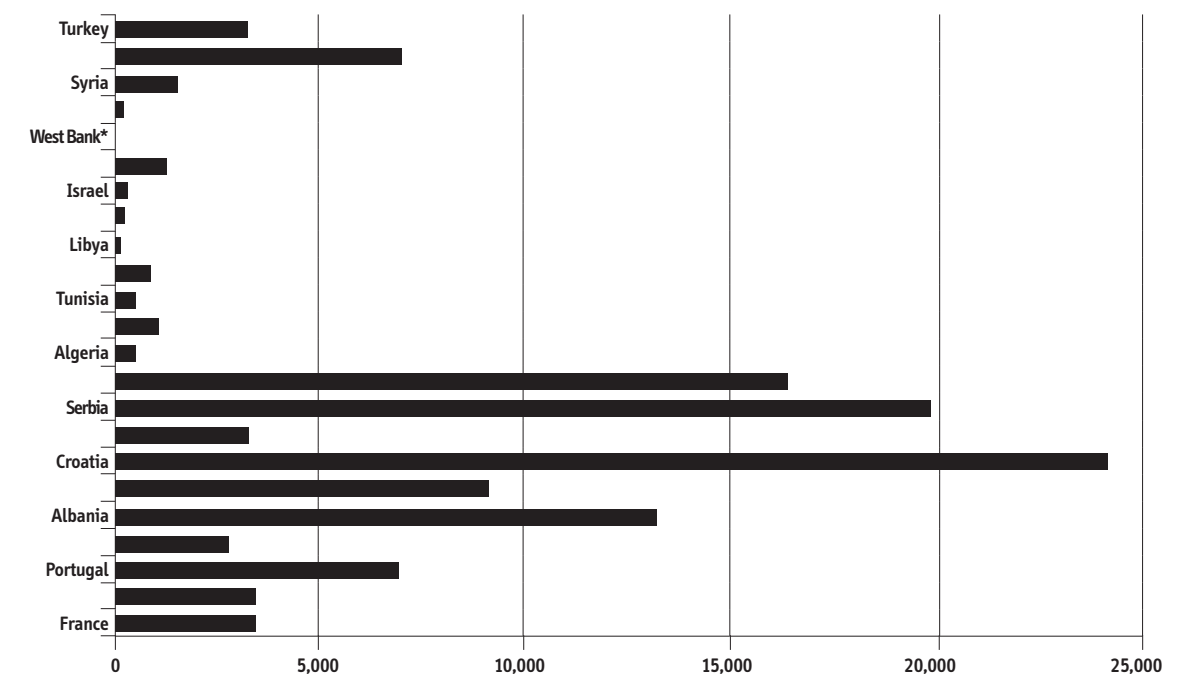
1. The minimum threshold of water required to fully meet water needs is 1,700 m³/capita/year.

Israel, Jordan and the Palestinian Territories. Some SEMCs are also strongly dependent on outside resources: 97% in Egypt (the Nile), 55% in Israel (the Jordan River and Mountain Aquifer) and 43% in Syria (the Euphrates).

In the Southern and Eastern Mediterranean countries, the water issue is quantitative as well as qualitative. There is, in fact, a constant increase in water demand resulting from demographic pressure and from the development of water intensive activities such as tourism and some manufacturing in sectors such as food, textiles and tanning. Indeed, water supplies tend to remain fixed due to a lack of new sources of exploitation, and a decrease is evident in some countries. The imbalance between supply and demand can be perceived by the reduced availability of water resources on a per capita basis (Figure 1).

An extreme water divide in the Mediterranean emerges from the data: total per capita water demand in the South and in the East, at 600 m³/capita/year and 680 m³/capita/year respectively, is below the demand in the North, while per capita demand for drinking water varies from approximately 65 m³/capita/year (175 litres/day) in the South and East to almost 120 m³/capita/year (330 litres/day) in the North. In terms of access to improved water sources, the Northern Mediterranean countries and Israel have achieved a 100% rate of access to drinking water, while the SEMCs still stand at 90% with a strong internal imbalance between urban and rural areas. More than 20 million Mediterranean inhabitants, mainly in rural areas, have no access to improved water sources.

FIGURE 1: RENEWABLE WATER RESOURCES PER CAPITA (M³ PER PERSON)

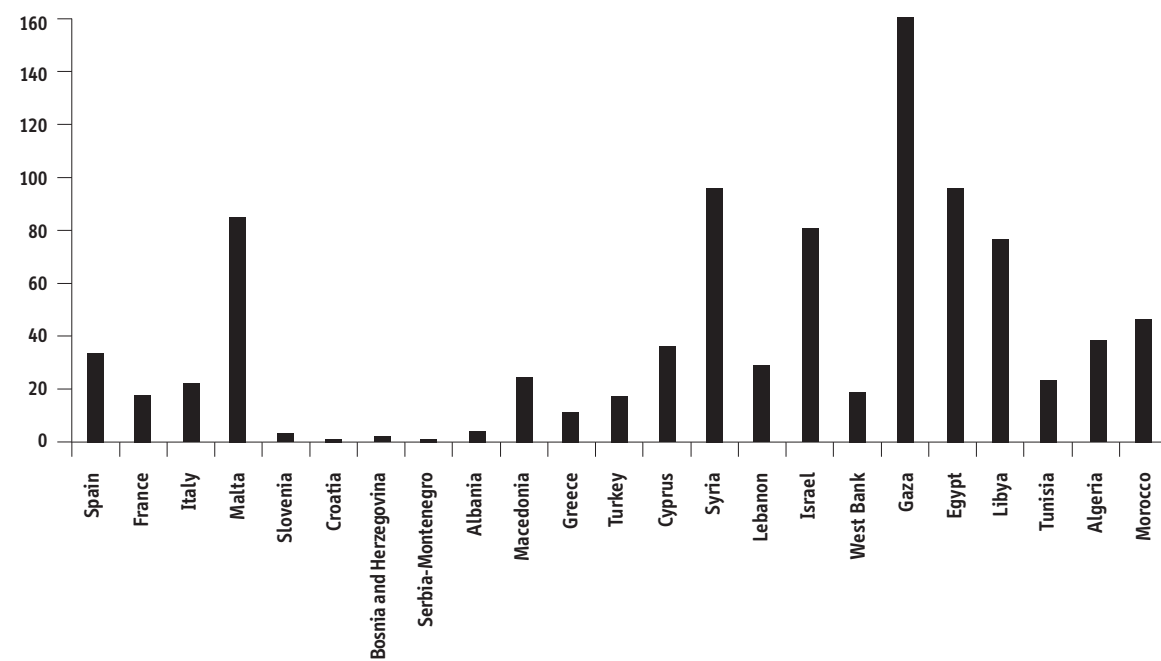


*Based on Palestinian Central Bureau of Statistics data, 2004.
Source: Based on World Resources Institute data, 2005.

The growing water demand creates a strong human pressure over water resources, as measured by the Water Exploitation Index (WEI), which is defined as annual total water abstraction per year as a percentage of renewable freshwater resources. It indicates which countries have a high water demand compared with their available resources. The WEI threshold which distinguishes a non-stressed from a stressed country, is approximately 20%. Severe water stress can occur where the index exceeds 40%, indicating unsustainable water use. Calculation of this index for Mediterranean countries highlights a variety of situations. European countries present a low percentage, except for Malta (84%) and Spain (33%). An exploitation index equal to or greater than 100% indicates that all renewable water resources are already being utilised and countries have had to meet the growing part of their water demand from non-renewable sources. The countries that show an exploitation index greater than 100% are Libya, Egypt, Jordan, Gaza, Israel and Jordan (Figure 2).

Technological progress and the improvement of pumping techniques have led to intensive exploitation of aquifers, above all in arid countries, and many farmers in the SEMCs are experiencing what some authors have called “the silent revolution of groundwater exploitation” (Llamas, 2005). Pumping technology costs are very low and the control of government institutions over the drilling of new wells and rates of extraction from aquifers is limited. Uncontrolled exploitation of groundwater has often led to aquifer depletion and pollution with significant social and environmental impact.

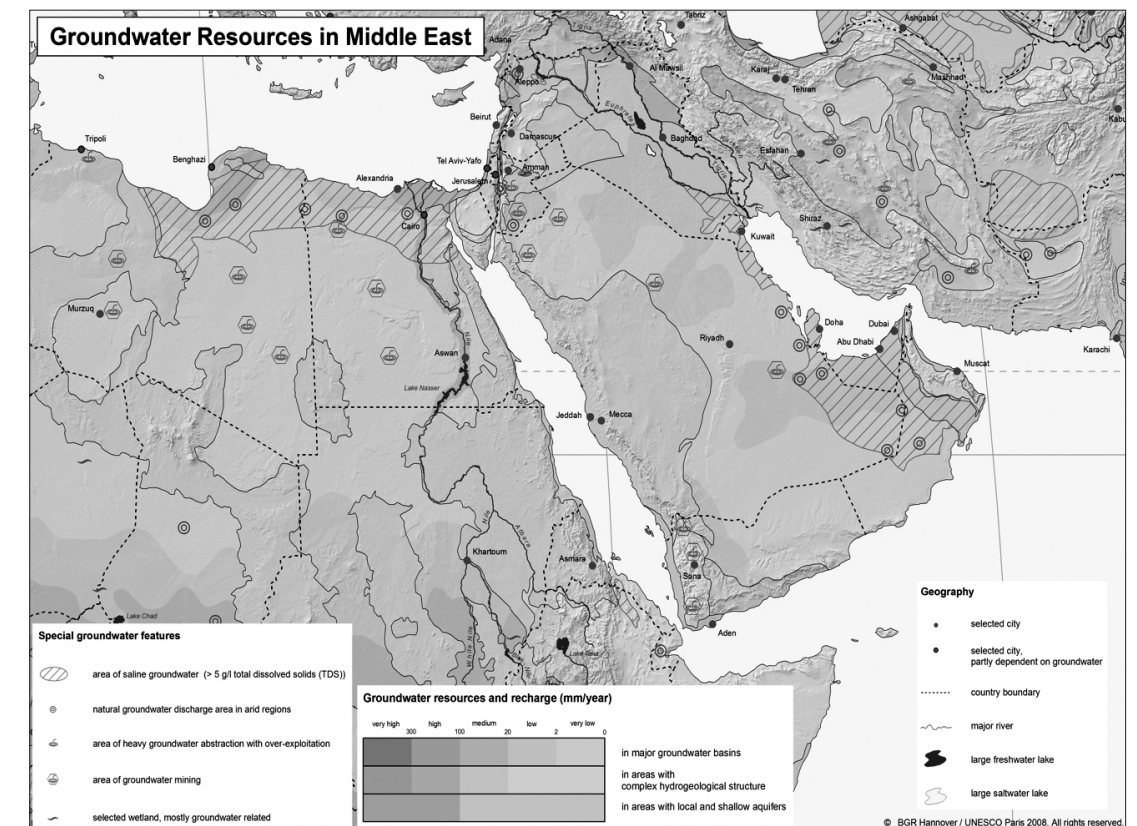
FIGURE 2: EXPLOITATION INDEX OF RENEWABLE WATER RESOURCES 2007 (%)



Source: Eugenia Ferragina and Désirée Quagliarotti (2008b).

Overuse of non-renewable water resources is one of the challenges in the Mediterranean. With a changing climate and a growing scarcity of water, groundwater could be a buffer during shortages of surface water supply, as aquifers have a high storage capacity and are less sensitive to climate change. Presently, some of the most important water projects in the SEMCs are focused on fossil water. This is the case of the Great Man-Made River Project in Libya and of the South Valley Development Project in Egypt, both exploiting the Great Nubian Sandstone Aquifer; moreover, implementation of the Disi Water Conveyance Project will begin in August 2010, aimed at an intensive exploitation of an underground fossil aquifer shared between Jordan and Saudi Arabia.² All these projects create a sort of “pumping race” between the countries that share common aquifers which fuels an unsustainable and therefore unethical exploitation of non-renewable water sources (Figure 3).³

FIGURE 3: GROUNDWATER RESOURCES IN THE MIDDLE EAST



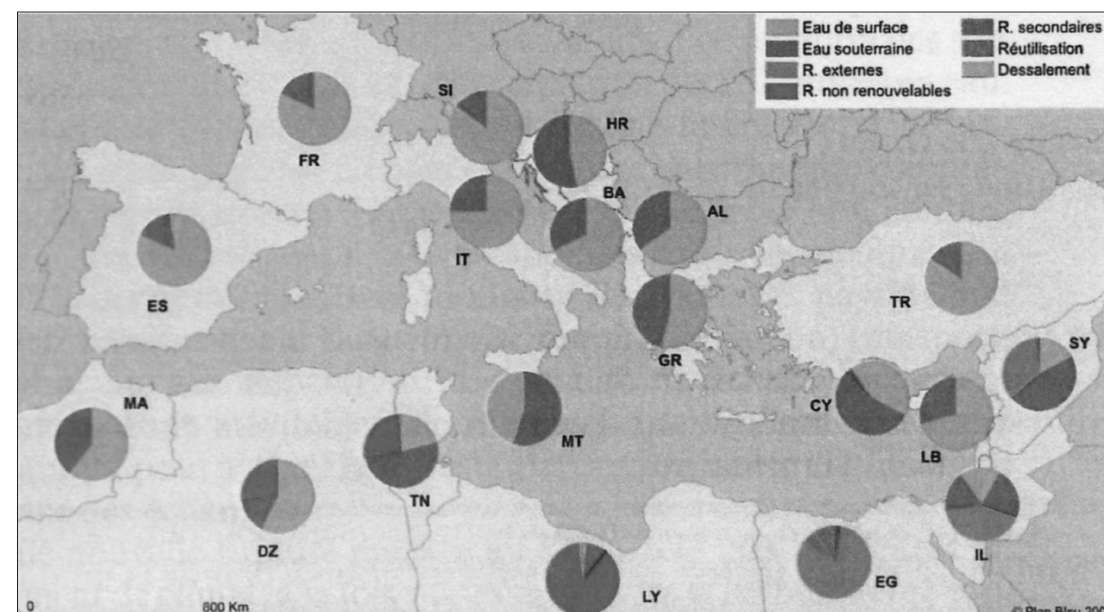
Source: World-wide Hydrogeological Mapping and Assessment Programme (WHYMAP), 2008.

2. Eugenia Ferragina and Francesca Greco (2008).

3. Ramón Llamas (2005).

In order to overcome water scarcity, all the countries in the region have previously invested heavily in technology and infrastructure in order to store and divert water resources and to deliver water services to households, industries, and farmers. Today, increasing water supply meets with financial, social and environmental impediments.⁴ New prospects are offered by non-conventional water supplies.⁵ Currently, the desalination of seawater or brackish water in Mediterranean countries has a total installed capacity of 1,825 Mm³ per year and the reuse of treated seawater is about 30 Mm³ per year (Figure 4).⁶

FIGURE 4: SOURCE OF WATER SUPPLY IN THE MEDITERRANEAN 2000-2025 (%)



Source: Jean Margat (2009).

During the last fifty years, aggregate water demand for all sectors of activity in the Mediterranean region has doubled, reaching 280 km³/year in 2007.⁷ The sector that consumes the most water is agriculture with 64%, followed by industry at 22%, and then the domestic sector at 14%. The average water demand for irrigation in the SEMCs is almost double that of European Mediterranean Countries, with 5,000 m³/hectare/year and 9,600 m³/hectare/year respectively.

4. There are many factors that reduce the exploitable portion of water resources: reduction of new exploitable sources; distance between the sources of supply and the point of use, resulting in financial and technical constraints; social impact of dams; and increasing environmental concerns regarding the implementation of new water infrastructures. All increase the environmental, economic and social costs of exploitation of new water sources.

5. The price of desalinated water is becoming very competitive: around a half dollar per m³. See Eugenia Ferragina and Desirée Quagliarotti (2005).

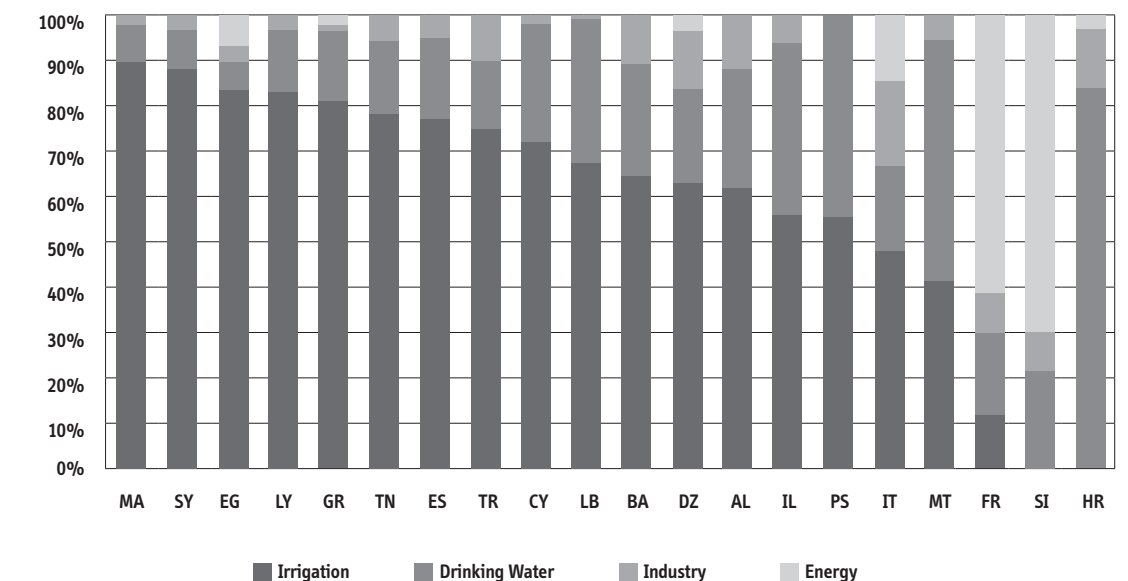
6. UNP/MAP-Plan Bleu (2009).

7. Ibid.

Most of the water used in the agricultural sector is misused since superficial irrigation still prevails in many areas instead of sprinkler and drip irrigation systems (Figure 5).

Water efficiency is still very low in the entire Mediterranean region: losses, leakages and wastage account for almost 40% of the total water demand. Losses are mainly due to poor network maintenance and operation as well as inadequate irrigation techniques. In European Mediterranean countries, efficiency in the use of water is over 60% for the domestic sector, but is lower for agriculture, with Italy not reaching 40%. With the exception of Israel, most SEMCs have a level of efficiency below 60% in the domestic sector and below 50% in the agricultural sector (Figure 6).

FIGURE 5: TOTAL WATER DEMAND PER USE 2005-2007



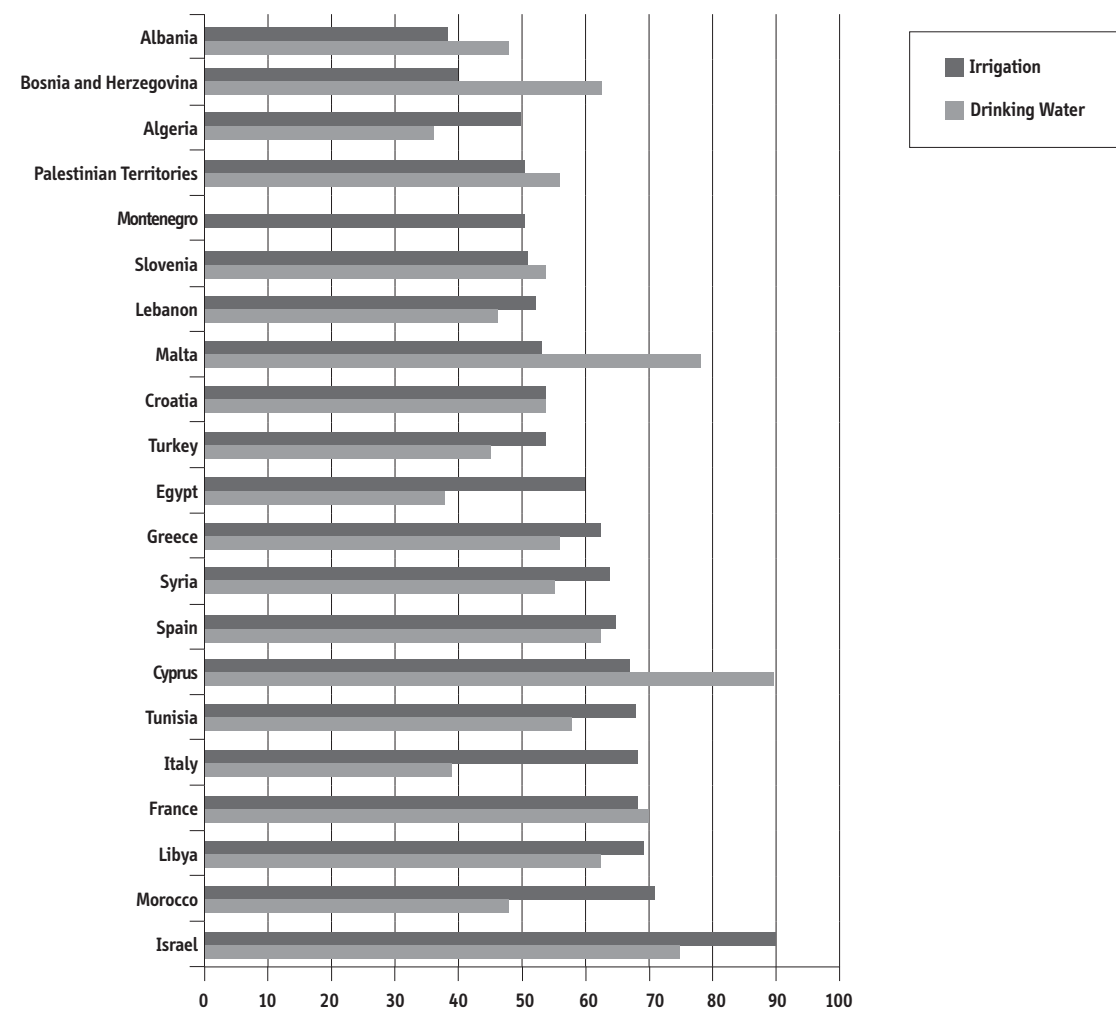
Source: UNEP/MAP-Plan Bleu (2009).

The Impact of Climate Change on Water Resources Availability

The impact of climate change on the environment is already noticeable in the Mediterranean and is producing observable effects on human activities. According to the International Panel of Climate Change (IPCC), an increase in average global temperature of 2 °C was registered in the southwest of Europe over the course of the twentieth century, with acceleration after 1970. A similar increase appears to have taken place in North Africa and the Middle East, but a reliable estimate is difficult to obtain due to the lack of data. Average levels of precipitation increased

to the north of the Alps and decreased in Southern Europe. Some Southern Mediterranean regions have recorded a 20% reduction of precipitation in recent decades and this phenomenon has been even more evident in the SEMCs. Concerning the forecasts, the trend for the 21st century in the region is towards a rise in temperature between 2.2°C and 5.1°C in 2080-2099 compared with 1980-1999.⁸

FIGURE 6: EFFICIENCY OF THE WATER USE IN TWO SECTORS (DRINKING WATER AND IRRIGATION) 2005 (%)



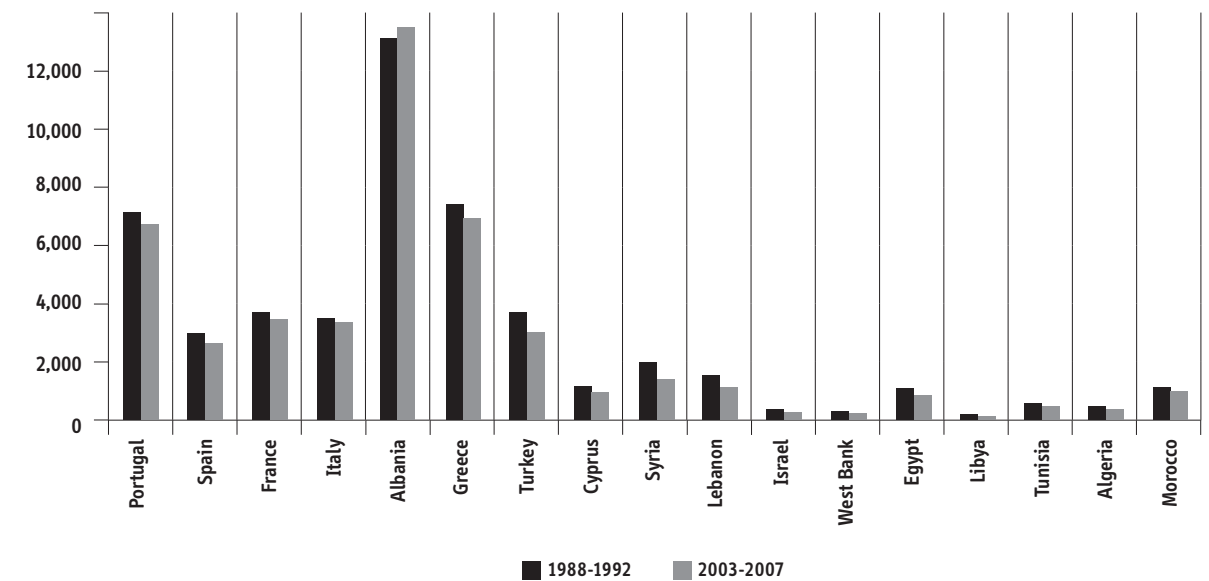
Source: Plan Bleu from National Sources.

8. Eugenia Ferragina and Desirée Quagliarotti (2008a).

The northern shores of the Mediterranean appear more vulnerable to climate change than those in the south. The SEMCs are exposed to desertification, increasing soil aridity and exhaustion of water sources. Less-developed economies are also more dependent on the exploitation of natural resources and at the same time have neither the scientific data and technical instruments needed for monitoring climate change nor the financial means to implement programmes of adaptation. The more marked rise in temperature in the Middle Eastern countries will produce an increase in the number of very hot days. Extreme events such as heat waves, drought and floods could be more frequent and stronger. The major risk of climate change is exacerbation of an already strong human pressure over the scarcest natural resources: water and land.

Water is the most vulnerable natural resource to climate change. In recent years, all Mediterranean countries with the exception of Albania have registered a fall in per capita water availability, a circumstance which is also related to climate change (Figure 7). Global warming is expected to make water resources even scarcer in the SEMCs because of a decrease in average annual precipitation, increased variability in the frequency and intensity of precipitation events, increased average temperatures that result in higher evaporation from dams and reservoirs, and increased urban and irrigation water demands.⁹ Shrinkage of water tables, saltwater infiltration in aquifers and groundwater salination are also expected in the most vulnerable areas.

FIGURE 7: PER CAPITA WATER AVAILABILITY 1988-1992 AND 2003-2007 (M³)



Source: Based on FAOSTAT, 2008.

9. The high evapotranspiration rates could increase the concentration of pollutants in rivers and the salinity rates in lakes and reservoirs.

In European countries, the implications of climate change appear to be less devastating, but the effects could be amplified by the lack of an efficient soil management policy. Particularly in recent decades, hilly and mountainous regions have experienced a process of gradual depopulation that has led to unfulfilled slope maintenance, variations in vegetative covering on the versants, and the quarrying of building materials. All these factors may contribute to the increase of floods and landslides during intensive precipitations. Infrastructures as well as crops and agricultural land may be damaged or lost and economic activities may be destroyed.¹⁰ Perhaps more significantly, irreversible damages may occur to unique cultural heritage, art masterpieces and buildings. Natural ecosystems and biodiversity may be lost or displaced.

Climate change will also affect the marine environment, with an expected rise in sea level affecting several shores of Mediterranean countries. The most striking effects will be the submersion of land in delta areas (the Nile, Po, and Rhone rivers), in the coastal zones and in the densely populated cities and suburbs close to the Mediterranean Sea.

The environmental and socioeconomic characteristics of the SEMCs make this area particularly vulnerable to the adverse impacts of climate change. The vulnerability of countries to climate change varies according to the share of their economy that is sensitive to climate; that is, agriculture, tourism and infrastructures. Estimates indicate that the costs of not taking action to curb climate change are likely to be more significant for agricultural countries (Syria, Egypt, Morocco, and Tunisia): between 2% and 9% of the countries' agricultural GDP by 2050.¹¹ Studies focusing on specific regions reveal that for a 2.5°C increase in temperature, losses will be around 7% of GDP per capita on the average for North Africa by 2100.

The main consequence of climate change affecting all sectors of the economy will be the scarcity of water resources. Economic analysis of adaptation in the Mediterranean countries has been fairly limited to date. The few indicators available – particularly in agriculture – suggest that appropriate measures to adapt and reduce vulnerability are likely to have a cost lower than the benefits that they might yield. However, the capacity of SEMCs to adopt this measure is limited. A public-private partnership and the role of international cooperation are important in helping the region to adapt to a changing environment. The issue of financing the actions remains a key question currently under discussion.

Up to now the lack of common regional projects in order to reduce greenhouse gas emissions has mainly been the result of the weak environmental governance in the Mediterranean. At the regional and international levels, the 1980s saw a veritable surge of environmental laws with a total of nearly 300 documents, treaties and conventions. The Euro-Mediterranean Partnership emerging from the Barcelona Declaration in 1995 launched a priority programme for the environment, the Short and Medium-Term Action Programme (SMAP), focused in 1997 around five priorities: integrated water management, waste management, pollution and

10. Economic losses resulting from weather and climate related events have increased significantly in the last 20 years, from an annual average of less than USD 5 billion to about USD 11 billion. The average number of disastrous weather and climate related events in Europe doubled over the 1990s compared with the previous decade, while non-climate events such as earthquakes remained stable (European Environment Agency, 2004, p. 70).

11. Guillaume Benoit and Aline Comeau (2005).

biodiversity, integrated coastal area management, and combating desertification. But resources remained weak and most supported projects in water and sanitation sectors.

The Union for the Mediterranean, which has followed the course launched by the so-called Barcelona Process, was created to strengthen the Partnership by making environmental cooperation the focus of integration between the two shores of the Mediterranean. The six lines of priority are: the protection of the Mediterranean Sea, the creation of maritime and land highways, common efforts to face natural and man-made disasters, a plan for solar energy, and support to medium and small-size enterprises.

Water as a Driver of Conflicts

Today, the great global challenges, such as environmental change or the depletion of natural resources, are turning into strategic issues capable of influencing international peace and security.¹² The connection between water and security comes to the fore whenever a struggle for the control of water resources aggravates political tension in a regional context or, conversely, when a conflict causes the destruction of natural resources, as well as when the increasing frequency of extreme climate events determines migrations of so-called “environmental refugees” and leads communities to compete for the two fundamental resources for survival: land and water. In 1993, Norman Myers indicated environmental degradation as a potential risk for international peace and security, although he did not regard it as the exclusive cause of political instability: “National security is no longer about fighting forces and weaponry alone. It relates to watersheds, croplands, forests, genetic resources, climate, and other factors rarely considered by military experts and political leaders, but that taken together deserve to be viewed as equally crucial to a nation's security as military prowess.”¹³

In the Mediterranean, despite the numerous water sources disputed between different countries, no conflict in the area has been exclusively caused by water, although this natural resource has played a crucial role in the Arab-Israeli conflict and in a relevant way has conditioned international relations between countries sharing the Tigris and Euphrates basin and the Nile River basin.

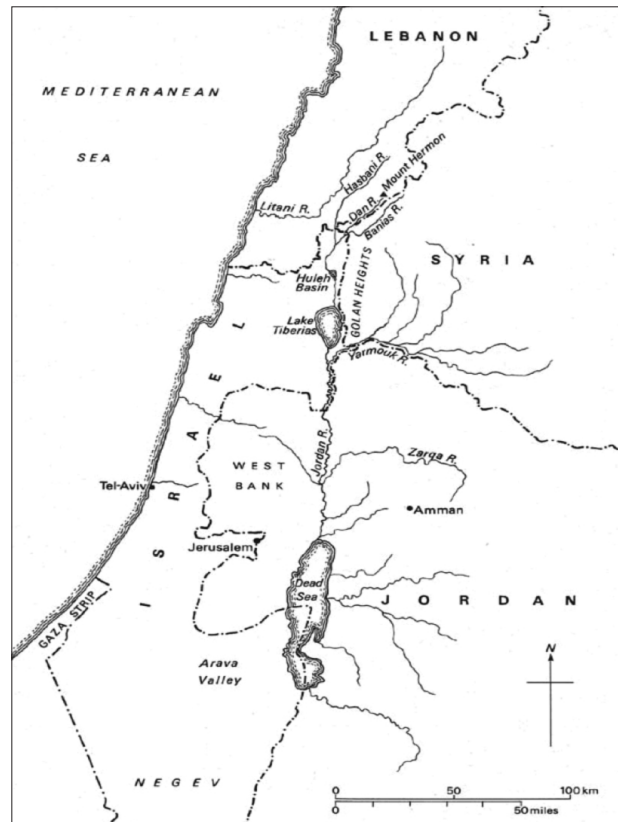
An emblematic example of the connection between water and security in the Mediterranean is the Israeli-Palestinian conflict. Here we find competition for both land and water – the one inseparable from the other – and the devastating effects of prolonged conflict on the environment and natural resources. A historical reconstruction of the water dispute in the Middle East shows that a situation of prolonged political instability has led Israel to follow a policy of appropriation of the main surface and underground resources of the Jordan basin.¹⁴ This policy, aimed at guaranteeing the country's hydraulic security in a hostile regional context, has legitimised a race for the exploitation of water resources among the other riparian countries, a race that has pushed the issue of saving and protecting water resources into the background (Figure 8).

12. Barry Buzan, Ole Weaver and Jaap de Wilde (1998).

13. Norman Myers (1996), p. 20.

14. Eugenia Ferragina (2008).

FIGURE 8: JORDAN RIVER SYSTEM



Source: Miriam R. Lowi (1993).

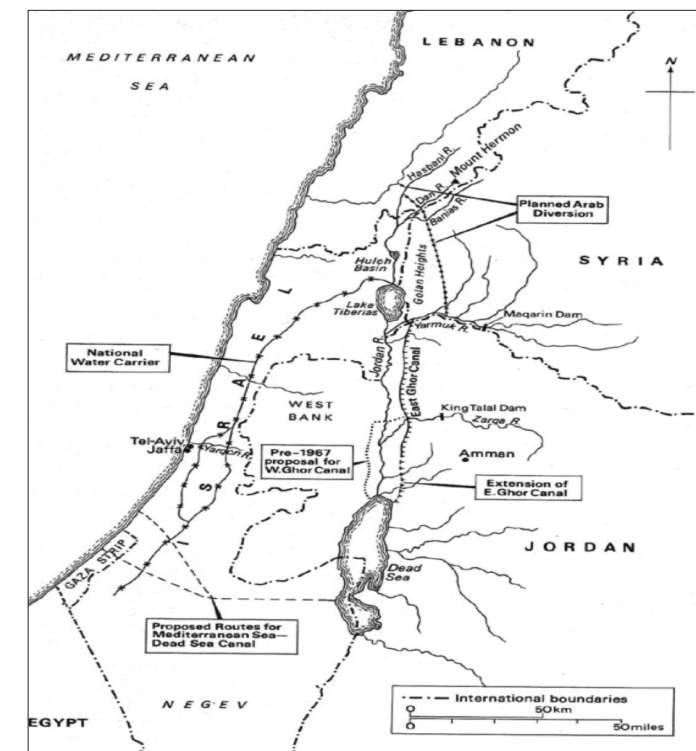
The dispute over the Jordan Basin waters is the oldest and most sensitive one and precedes the Arab-Israeli conflict. It intensified in the years immediately following the birth of the state of Israel, especially since 1953, when Israel began the construction of the National Water Carrier. This great aqueduct, destined to convey the waters of the Jordan stored in Lake Tiberias along the Mediterranean coast all the way to the distant and arid Negev, diverted the course of the river outside of its basin, de facto snatching it from the control of the other countries of the basin (Lebanon, Syria, and Jordan).

As the United States gradually came to the fore as a hegemonic actor on the Middle Eastern scene, it sought to come up with solutions for the main regional strategic issues. Realising the conflict potential inherent in the question of the control of hydraulic resources, the USA sought to act as mediator. The Johnston Plan, presented in 1955 by an envoy of President Eisenhower, was the result of an accurate hydrological analysis and careful negotiations in which all the countries of the basin were involved. The plan proposed an allocation of the water of the Jordan and its tributaries, taking into account both the available water and the supplements required to meet the water needs of all the regional actors involved.

The Johnston Plan eventually failed, essentially for political reasons, because the geopolitical objectives of security and control of sources outweighed strategic considerations which would have called for an effort to reach an agreement on the allocation of the Jordan waters and the undertaking of joint projects. The rejection of the Johnston Plan put an end to all hopes for regional cooperation in the water sector and was followed by the launching of national hydraulic plans. The resulting dynamics took the form of a zero sum game where water gained by one country was water lost to the others. The consequences were an amplification of political tensions and a strong pressure on water sources. Thus over the decades water became an increasingly scarce resource and a limiting factor for the socioeconomic development of the region.

Israel completed its National Water Carrier in 1964. In the same year, the Arab countries responded by launching a plan to divert the waters of the Banyas and the Hasbani, both tributaries of the upper course of the Jordan, to the Yarmuk river. Their objective was twofold: on the one hand, to increase the flow of the Yarmuk, which was mainly utilised by two Arab countries (Syria and Jordan); on the other, to reduce the flow of the Jordan, which fed Israel's National Water Carrier, by approximately 35%. Israel saw the Arab diversion project as a serious attack against its water interests. After several battles along the Syrian border – two months before the outbreak of the Six Day War – the Israeli army bombed the Arab deviation structures (Figure 9).

FIGURE 9: THE JORDAN BASIN: MAJOR EXISTING AND PROPOSED PROJECTS



Source: Miriam R Lowi (1993).

A joint project between Jordan and Syria – the Maqarin dam on the Yarmouk river, the main Jordan affluent – met with firm opposition from Israel, which feared a reduction in the Jordan's flow. In this case, too, no punches were pulled in the struggle for the control of water resources: the first structures of the Maqarin dam were destroyed shortly before the Six Day War.¹⁵

The 1967 war, although it was not a “war for water”, did have water as one of its main stakes. The conflict was concluded with Israel acquiring a positional advantage along the upper Jordan, and thus taking de facto control of the main regional water resources. Israel achieved this through its occupation of: the Golan Heights, which are crossed by the tributaries of the upper course of the Jordan (the Dan and Banyas); the West Bank, with the rich Mountain Aquifer; and the coastal aquifer of Gaza. Throughout its control of the Golan Heights, Israel gained total control of the Jordan River and was able to use water as a negotiating weapon. After 1967, Israel took direct control of the aquifer and introduced strict restrictions on its use by the local Palestinian populations, notably:

- Digging of wells was prohibited by military ordinance.
- Pumping was forbidden along the mountain ridge overlying the Yarkon-Taninim aquifer.
- The use of earlier wells adjoining Israeli wells was prohibited.

These restrictions were imposed because the aquifer's replenishment area lies to the West, and West Bank rainwater hence feeds into areas within Israeli territory. Thus, these limitations to Palestinian exploitation of the area uphill of the aquifer resulted in an increased availability of water in the downhill area exploited by Israel. The years after the occupation witnessed an almost total freeze on levels of Palestinian water use: consumption increased very slightly, especially when taking into consideration the high rate of demographic growth of the Palestinian population.

During the peace process opened in Madrid in 2001, plans for partitioning water between Israelis and Palestinians were delayed to the final phase of the negotiation, together with some of the most sensitive issues of the conflict, such as the final status of Jerusalem and the refugee problem. With the failure of the peace process, control over water resources has come up again as a factor strictly linked to the control over territory.¹⁶ Israel decided to maintain and increase the settlements in the Occupied Territories, and to go ahead with the building of the Separation Wall, whose construction was not to follow the border between Israel and the Occupied Territories but rather to go beyond the green line, thus enclosing to the West of the wall both Israeli settlements and Palestinian wells.¹⁷

Another important hydro-conflict area is the Tigris and Euphrates basin, involving as upstream country Turkey and as downstream countries Syria and Iraq.¹⁸ In this basin, the geopolitical

setting was altered in 1977 by the launch of the South-East Anatolian Project (GAP) that forecast the implementation of 22 dams and 19 hydropower stations in the Kurdish area. This project can be considered emblematic of the geopolitical factors affecting the water issues in the Middle East.

This project aims to integrate the Kurdish minority in the economy of Turkey by reducing the high unemployment rate and improving living conditions; at the same time, however, the government wishes to impose a strict political control throughout the territory and over its population. As concerns the geopolitical equilibrium, the implementation of the GAP project will strengthen the hegemonic power of Turkey in the Middle East and will influence the exploitation of water resources in the basin by downstream countries, thus becoming a strong instrument of pressure and political blackmail for Turkey.¹⁹

Concerning the Nile basin, we see a reversal of the assumption that an upstream country will dominate the downstream one. In fact, Egypt has historically exerted an almost exclusive control over the waters of the Nile basin, granting only a small amount of the Nile flow to Sudan on the basis of an agreement signed in 1929 and renegotiated in 1959. In 2009, both Egypt and Sudan refused to accept a more equitable partition plan of the Nile water.²⁰

An even more silent war is going on, however, between different countries involving the exploitation of underground fossil water fields that are held in common. These sources are very ancient and not renewable and their role is going to become more and more strategic in the future, considering how global climate change is affecting surface water sources. In 2002, the United Nations highlighted the need to implement a mapping of large international underground water fields and, with Resolution 63/124, a corpus of international rules of international law concerning the use of transboundary water fields was prepared. The International Hydrologic Programme (IHP) of UNESCO has registered 274 transboundary water fields.

In the Mediterranean, three large water projects are currently being carried out which involve the exploitation of non-renewable fossil water fields. The strong environmental impact of these projects risks deteriorating relations between the countries involved in their use. One is the Disi-Amman Conveyance System starting to be implemented in Jordan, involving a fossil water field shared with Saudi Arabia.²¹ The others are the Great Man-Made River Project in Libya and the South Valley Development Project in Egypt, both of which use the same underground fossil field: the Nubian Sandstone Aquifer. One effect of these projects is to encourage a sort of “pumping race” between the countries of the area which escapes any supervisory control on the part of the international community, and which produces strong environmental and political impacts.

In short, in the Mediterranean, the effects of global problems such as climate change tend to be amplified at the regional scale. This is because the ancient war for water is now taking place

15. Eugenia Ferragina (1998), p. 337.

16. Eugenia Ferragina (2007).

17. Palestinian Environmental NGOs Network (2003).

18. Nurit Kliot (1994).

19. Pierre-Alain Clément (2010).

20. Frédéric Lasserre (2007).

21. Eugenia Ferragina and Francesca Greco (2008).

within an environmental context subject to strong human pressure and gradual parching of the soil. Water is thus a strategic resource, capable of influencing peace and regional security. The connection between water and security is increasingly influenced by current global dynamics, a challenge that calls for a level of environmental management at the global scale that our weak international institutions are incapable of providing. We hear many declarations of principles, but there is no international consensus on the strategies to be followed to face environmental crises and their political and economic effects.

Water Policy in Mediterranean Countries

The way water is used is strongly linked to the relation between man and nature and how this relation has changed throughout history. A turning point in the use of water resources was determined by scientific and technological progress in the 20th century, affirming the principle of domination of man over nature. This structuralist model made possible the implementation of large-scale water infrastructure such as dams, infrastructures for irrigation and waterways.²²

During the 21st century, new guiding principles emerged, influenced by a growing awareness of the environmental limits of economic growth.²³ The crisis of hydraulic structuralism in recent decades has made the real challenge not to gain control over nature but to reach a better integration between the environment and economic development. The focus has gradually been shifting towards sustainability based on the principles of wise and responsible use of natural resources and safeguarding the rights of future generations. Supply-side strategies paved the way to demand management strategies based on a reduction of water use in all the economic sectors, an increase in water efficiency and the protection of water ecosystems.

The European Union, through the Water Framework Directive (WFD) adopted in 2000, introduced new water legislation in the water sector establishing a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater. It is intended to ensure that all aquatic ecosystems – with regard to their water needs, terrestrial ecosystems and wetlands – achieve “good status” by 2015.²⁴ With the WFD, European countries have agreed to shift from their traditional supply-side strategies which require large-scale infrastructures to demand-side strategies based on water saving, efficiency improvements and the introduction of new water technologies. This policy is considered one of the most advanced examples of environmental legislation in the world. The Directive aims at tackling the crisis by adopting an ecosystemic approach: introducing new criteria for an efficient economic use of water resources governed by the full recovery cost principle; implementing a

participatory approach, that is, opening up water management activities to citizen participation; and promoting a sustainable and equitable management of transboundary river basins.

The central objective of this legislation is the adoption of an ecosystem management approach focused on the recovery and conservation of the ecological status of rivers, lakes, wetland and coastal waters. The need to ensure a healthy quantitative status for aquifers has been introduced, in addition to the protection of qualitative status already considered in the previous legislation. Another concern of the WFD is to take into account the interaction of underground water resources with wetlands and other water ecosystems. Despite the clarity of the principles enunciated, governments have shown some uncertainty and have experienced delays in the transposition of this directive to their national legislations, leaving a broad margin for improvement, above all in relation to domestic water quality controls and recovery programmes for rivers and lakes.

With the WFD, European countries fully adopted the principles of Integrated Water Management. This new water vision opened a debate regarding water that involves civil society, governments and scientific community. The Foundation for a New Water Culture was a Spanish initiative aiming to involve researchers, experts and academic professors in exchanging views and formulating proposals concerning this new water management. In 2005, this process finally led to the signing of the European Declaration for a New Water Culture that proposes a sustainable and equitable management of water resources in Europe and in the world starting from the principles of the Water Framework Directive 2000/60/CE.²⁵

In the SEMCs, this new water knowledge characterised by environmental awareness is still in a period of evolution. A factor influencing water policy in this area is the perception of water as a gift of God, which is deeply rooted in Muslim culture.²⁶ The cultural value system created a perception of water as a free resource, giving rise to the expectation of paying a low price for it. This view has been reinforced by the national propaganda around the big water projects. During the seventies, under the influence of the structuralist model, the SEMCs developed many civil engineering projects which launched very intensive exploitation of most of the superficial and underground water sources. Presented as a solution to the water shortage, these projects strengthened the perception of an unlimited availability of water. All these cultural and political factors oriented water policies towards a supply-side approach supported by huge public investments in dams and conveyance systems, the so-called “hydraulic mission” of SEMC governments.²⁷ The lack of new exploitable sources and the decrease in available funding have emerged in recent decades as the main obstacles to the fulfilment of this policy.

In the SEMCs, demographic and economic pressure has given rise in recent decades to a growing gap between supply and demand of water, and to a deterioration in the quality of superficial and underground water sources. Surface water has been polluted by urban and industrial

22. T. Allan (2002).

23. Donella H. Meadows et al. (1972).

24. The Directive entered into force in December 2000 and Member States were required to transpose it into national legislation by December 2003. The Directive has a series of implementation deadlines which stretch to December 2015, the date by which environmental objectives must be met.

25. *European Declaration for a New Water Culture*, Madrid, 18th February 2005.

26. T. Allan (2002).

27. This concept, formulated by Marc Reisner, is a theoretical framework advocating massive recourse by governments to macro-engineering works in order to modernise. See Marc Reisner (1986).

wastewater discharges, while inputs from agriculture (fertilisers and pesticides) threaten the quality of groundwater fields. The need to carry out reform in the water sector has emerged in the last decade as a priority in order to deal with a scarcity of water affecting economic development and the living conditions of populations.

Currently, the SEMCs are evolving towards a demand-side water policy, but at the core of the water sector reform there is the problem of water pricing.²⁸ Water tariffs are a fundamental tool for creating incentives to save and allocate water in an efficient way. Above all in the agricultural sector – the most consuming one – appropriate water pricing could serve to promote more efficient use of water, reduce the burden on the tax-payer, and give incentive to farmers to introduce water-saving irrigation systems. Often, pricing policy is influenced by two conflicting goals: efficiency and equity. The apparent trade-off between the two can be overcome, however, by a differentiation of water price according to place, consumption and type of allotments.

In sum, Southern and Eastern Mediterranean countries are still torn between old and new water policies, between the need to reduce an excessive and uncontrolled exploitation of surface and underground water on the one hand, and the difficulty of promoting an efficient water resources allocation on the other, an allocation that involves increasing the price of water for agricultural use and reducing the subsidies.²⁹ At present, the legal and institutional frameworks are under revision and one of the driving forces to adopt an Integrated Water Resources Management (IWRM) is represented by perspectives of EU accession.

Euro-Mediterranean Cooperation in the Water Sector

The countries of the Mediterranean have similar water resource problems, and the great experience of water management in several European countries could be transferred to SEMCs in order to achieve IWRM. Aware of the fundamental importance of regional cooperation and information exchange in the water sector, the international community has launched many initiatives in this field. The 1st Mediterranean Water Conference organised by the European Commission in May 1990 in Algiers stressed in its final Declaration the importance of an efficient and common strategy for water management in order to achieve sustainable growth. Two years later, in 1992, Italy, supported by the European Commission, organised the 2nd Mediterranean Water Conference in Rome. As a result, the twelve Mediterranean Countries taking part in this Conference drew up The Mediterranean Water Charter where they undertook to implement measures concerning water planning and management based on regional, international and Euro-Mediterranean cooperation.

In November 1995, a Euro-Mediterranean Conference was organised in Barcelona in which the EU Member States and representatives of the non-Community Mediterranean countries signed the Barcelona Declaration, establishing the Euro-Mediterranean Partnership which involved a variety of sectors in an articulated and extensive working programme. The Barcelona Declaration contained a chapter specifically devoted to a new water culture and recalled those principles laid down in the Rome Charter, thus providing instruments for a more rational management of water resources.

In November 1996, France organised in Marseilles the 1st Euro-Mediterranean Conference on Local Water Management where the Ministers responsible drew up the Marseilles Declaration stressing the importance of sustainable water use and identifying policy options to strengthen human rights on questions of water and sanitation. Moreover, the ten participating countries decided on the need to set up an information processing system with the use of advanced communication technology so information could be easily transferred over the network. This project named EMWIS was approved at the Naples Conference in December 1997 by the 27 Directors General for Water. This high-speed communication network connected to Internet provides a strategic tool for exchanging information and knowledge in the water sector between and within the Euro-Mediterranean Partnership countries and represents the first concrete example of cooperation for exchanging information on water management know-how between policy makers and different operators involved in water-related issues within four priority areas: documentation, training and research, institutions, and data handling.

The Short and Medium-Term Priority Environmental Action Programme (MAP) adopted at the Euro-Mediterranean Ministerial Conference on the Environment in Helsinki in November 1997 and the 3rd Euro-Mediterranean Foreign Ministerial Conference held in Stuttgart in April 1999 both emphasised the utmost importance of integrated water resources management to facilitate a cooperative sustainable development of water among Euro-Mediterranean countries. Organised by Algeria and Italy, the 2nd Euro-Mediterranean Conference on Local Water Management took place on 18th-19th October 1999 in Turin in order to reinforce and further the European policy resolutions made in the previous Conferences. The Turin Ministerial Conference focused on the importance of identifying the challenges and problems arising from changes in water demand as a consequence of structural changes in production patterns as the Euro-Mediterranean Free Trade Area was developing. Attention was given to particular aspects of water management and the need to adapt environmental sustainability to socioeconomic needs.

During the World Summit for Sustainable Development held in Johannesburg in 2002, the European Union launched the European Union Water Initiative (EUWI) in order to create suitable conditions for mobilising all available European resources and to coordinate them to achieve the water-related Millennium Development Goals in the SEMCs. With the EUWI, the European member countries tried to introduce a new partnership approach aimed at improving cooperation and coordination in the water sector, with the involvement of national governments, representatives of water industry and donors.

28. Eugenia Ferragina, Mita Marra and Desirée Quagliarotti (2002).

29. Allocative efficiency is more difficult to introduce and encounters strong opposition from agricultural lobbies resulting in a high political price and strong internal opposition. See Eugenia Ferragina (2003).

After years of intense collaboration among the Euro-Mediterranean Partners, major importance has been attributed to water as a resource essential for socioeconomic development. At the same time, however, economic growth can easily entail a non-sustainable exploitation of water resources which inevitably leads to environmental and social instability and involves huge costs for future generations. Countries within the Mediterranean area, aware of these significant drawbacks, are now actively reviewing their policies and legislations, addressing their priorities and practices towards an Integrated Water Resources Management Approach (IWRM), and promoting and implementing their water demand management policies.

Progress based on implementation of water governance reforms is documented in most Mediterranean countries. Notwithstanding, a greater effort is needed in approaching a more sustainable governance at a local, national and transboundary level, inspired by IWRM principles and practices. Many Mediterranean countries are still suffering from a lack of Integrated Water Management (IWRM) that is related to institutional weaknesses: governmental authority and responsibility are fragmented, law enforcement and policy implementation are weak, technology is backward, and management and implementation capabilities are inefficient and inadequate to face water challenges. Moreover, financial constraints limit the implementation of policies.

Although IWRM provides a framework of principles and efficient practices for water governance there is no “one solution for all” at the national level. This is mostly due to the peculiarities of each country, the number of sectors involved, and the complex managing and balancing of public and private interests and of different pressure groups in competition with one another. The situation is even more difficult to deal with when it involves the management of shared water resources, as in the case of international water courses or shared fossil water, since this involves national sovereignty. In other words, water has a holistic dimension involving environmental, economic and social aspects not easy to integrate with each other.

Regardless of the achievements reached by the various countries, it is important to encourage a truly effective and efficient Euro-Mediterranean cooperation. In the declaration adopted at the 2008 Paris Summit, the heads of state underlined: “The importance of water is acknowledged, the Euro-Mediterranean Ministerial Conference in Jordan in October 2008 will define a strategy for water in the Mediterranean, promoting conservation of water resources, diversifying of water provision resources, and efficient and sustainable use of water.” During the 3rd Euro-Mediterranean Ministerial Conference on Water held in Jordan in December 2008, the Environment Ministers for the Euro-Mediterranean countries agreed that it was necessary to define a long-term Strategy for Water in the Mediterranean (SWM).

A double goal was reached during this ministerial conference: first, the identification of climate change and its impacts as priority challenges; second, the implementation of a series of projects within the framework of the Union for the Mediterranean (UfM). The first concrete step has been the launch of a programme called Sustainable Water Management and De-pollution of the Mediterranean funded by the European Neighbourhood and Partnership Instrument (ENPI). This \$22 million programme is to be launched in the coming months, and will be aimed at enforcing sustainable project management, disseminating good practices in the region and

supporting the initiative Horizon 2020 for the depollution of the Mediterranean. It will focus action on the adoption of a new model of water consumption and the support of SEMCs in implementing an Integrated Water Management Policy.

A preparatory process involving regional stakeholders and water institutions led to the development of an SWM prepared by a Euro-Mediterranean Water Expert Group (WEG). This SWM aims at providing a common policy framework for achieving integrated water resources management in the Mediterranean region in order to foster effective cooperation between Euro-Mediterranean partners within the overall context of sustainable development. It aims at contributing to poverty eradication, peacekeeping, progress in human development, gender equity, and the safeguarding of public health within the region.

The main objective of the SWM is to create a common basis for the implementation of plans and programmes, whereby it will be possible to reach established objectives. The 4th Euro-Mediterranean Ministerial Conference on Water, held in Barcelona from 12th to 14th April 2010, was the framework chosen for approval of a water strategy for the Mediterranean region.³⁰ This attempt was not completely successful because a reference to the “Occupied Territories” was included in the proposed draft text. This term was not accepted by Israel, while at the same time the Arab nations opposed the alternative phrase “territories under occupation” proposed by the European participants.

Proposal and Recommendations

Water is the core problem of development and is one of the elements that contribute to social and territorial imbalances in the Mediterranean. The environmental problems troubling the Mediterranean region require a new water strategy able to identify strong links and interactions between the environment and development and to launch long-term planning and governance policies. They should be two-tier strategies, local and global at the same time, where the international approach must identify the guidelines of top priority actions without leaving out the specifics of local contexts. The differences between territorial gaps, social-economic development and technological progress create the need for different kinds of intervention. So, it is also necessary to think global and act local in the water sector.

In the SEMCs, changes in national water policies require measures able to affect changing water demands through the introduction of tariffs and rules. It seems necessary to change consumption habits, taking into consideration the fundamental role played by women in the arid zones in order to promote the idea of a “new ethic” in the use of water resources.

30. Participation in the conference included ministers from the 43 UfM countries, representatives of the European Commission and the Arab League, as well as civil society and financial institutions.

Water is a primary resource which assures the reproduction and the preservation of life. Its use strongly depends not only on economic and administrative contexts but also on social and cultural customs. Traditional societies have considered water resources the life blood of the ecosystem and, from a symbolic point of view, a source of purification and a sign of “God’s benevolence”. This belief has created a strong cohesion between culture, economy and society and has contributed to the affirmation of water management systems which ensure that the sustainability of the resource is based on socially-shaped values. On the other hand, modern technology has made it possible to attain exceptional results when compared to traditional water systems. An example of this is the excavation of deep wells, which has made large quantities of water available, but which at the same time causes the water table to lower, leads to soil salinisation, and results in progressive exhaustion of non-renewable resources from the fossil water table. This new approach has caused the loss of social and cultural traditions: water resources are no longer managed by the community but instead have become a matter of profit and a source of social differentiation. Nowadays, the essential problem is the recovery of an equilibrium that has been broken by a rapid modernisation mainly imported from outside. This equilibrium can only be made possible by developing operative and cognitive tools that are able to integrate old and new water practices, developing modern networks and efficient water resource distribution systems, and involving water users and the local community to a greater extent.

Water has long been considered a natural and unlimited resource; however, its economic and social value has been underestimated for too long. Today strong links between peace, environmental degradation and water availability in many Mediterranean areas are more evident, especially in international river basins. We only need to look at the role of the River Jordan and its tributaries in the political instability in the Middle East, or at the growing tensions between Iraq, Turkey and Syria for the control and exploitation of the Euphrates river, or at the emerging but troubled attempts to launch a cooperation strategy in the Nile river basin. The world water problems require more policies, more institutional skills and stronger international relations as well as a new scientific and technological approach.

Better management of water in the Mediterranean region would also require a continuous training process. There is an urgent need for adequately trained professionals for an integrated management of water resources. Public awareness campaigns are fundamental to refining the perception of water as a scarce and common resource. The development of a new approach in the use of water should be supported by technical and scientific research that is open to ongoing dialogue with other Mediterranean countries and that, at the same time, is carried out with due consideration for local characteristics, emerging problems and the needs of the local environment.

Despite the importance of the water problem for the development of the Mediterranean, and despite the proliferation of studies, research and scientific initiatives that focus on water, a lack of cooperation can be already noted in the Mediterranean. The creation of a water agency promoted at the UfM level would be desirable for coordinating the various requests, initiatives and activities in this sector. The creation of such a body could foster dialogue between the two shores of the Mediterranean, mobilise the political and business worlds, sensitise users to the

problems of saving water and protecting it and, above all, could contribute to the spread of a new “culture of water” amongst the countries of the region.

The cultural dimension linked to the management and use of water resources should be considered as particularly important, since it concerns the awareness that Mediterranean populations have of the finite nature of water sources and of the need to conserve them for the sake of future generations. This initiative launched by the UfM countries should answer the demand for integration coming from the Mediterranean Partner Countries, who have been asking for programmes aimed at transferring information on water resources management (collection and analysis of qualitative and quantitative data concerning water) between the two shores of the Mediterranean; identification of priority intervention plans, and formulation of regional-scale research programmes in the field of water and biotechnologies.

An innovative aspect of this initiative could be the flow of information among the UfM member countries on water resource management and the increasing involvement of water users in policy-making. This water agency could foster exchanges of technologies and know-how as well as the creation of financial tools for the implementation of common projects. It could also become a place where Mediterranean-scale water governance policies are formulated, and an observatory of national and international changes in water management strategies.

The aim of this proposed operation should be to create a permanent structure promoting cooperation and exchange of information on the water governance problems of the Mediterranean, a structure that would act as a catalyst of all the initiatives in this field. The responsibilities of such a body should include: fostering dialogue among relevant water-sector institutions, mobilising the political and business worlds, sensitising users to the importance of saving water, offering tools for better water resource management in the Mediterranean, and increasing cooperation among the institutions in this field. The task would be to strengthen capacity building; that is, to begin a long-term learning process which would allow people and institutions to acquire skills and develop competences that would enhance water services.

Capacity building in the field of water governance depends on three factors: political and legal contexts, institutional frameworks, and scientific and technological skills. These factors depend, in turn, on the availability of human resources able to set rules as well as to create and adequately staff institutions; that is, they mainly depend on education, training and research. The principal aims of the agency could be to:

- contribute to a strategic economic sector;
- strengthen regional cooperation as an essential tool for the attainment of a steady environmental and economic balance;
- promote collaborative research among the Mediterranean countries on aspects of technology and management;
- set up actions in order to protect the scarce, easily-deteriorated resource that water is;
- give a concrete, operative character to cooperation in the field of water exploitation;

- foster the creation of stable forms of coordination among international bodies, Mediterranean partners and management bodies at different levels of intervention: local, national, and international;
- develop technical and managerial competences for water management and environmental services;
- support actions of water companies that could be strategic for investment and employment in order to make the most of financial and entrepreneurial opportunities in this field, under a strong national and regional supervision and control.

The strategic path for the fulfilment of this programme would require the following activities:

- Analysis of water resources management in the Mediterranean countries as well as consideration of the nature of the problems and the differences between countries.
- Identification of a theoretical model concerning demand management and the interaction between the supply and demand of water resources.
- Comparative analysis of the policies of European countries, their levels of efficiency and their management systems.
- Evaluation of the possibilities for transfer of European know-how to the Mediterranean Partner Countries.
- Definition of new educational contents and models capable of providing operators in this field with specific skills that will enable them to successfully face challenges, such as the protection of the quantitative and qualitative status of water resources, and the introduction of measures to reduce hydro-geological instability, regulate consumption, control pollution, and monitor and manage dams.

References

- ALLAN, T. (ed.), *The Middle East Water Question: Hydropolitics and the Global Economy*, London, I.B. Tauris, 2002.
- BENOIT, G. and A. COMEAU (eds.), *A Sustainable Future for the Mediterranean: The Blue Plan's Environment and Development Outlook*, London, Earthscan, 2005.
- BUZAN, B., O. WEAVER and J. DE WILDE, *Security: A New Framework for Analysis*, London, Lynne Rienner Publishers, 1998.
- CLÉMENT, P.-A., dossier "La géopolitique de l'eau au Moyen-Orient", *Géopolitique*, No. 4, 2010, pp. 18-49.
- FERRAGINA, E., *L'acqua nei paesi del Mediterraneo*, Bologna, Il Mulino, 1998.
- FERRAGINA, E. (ed.), *Acqua e sviluppo*, Bologna, Il Mulino, 2003.
- FERRAGINA, E., "Ambiente e sicurezza in Medio Oriente. Gli effetti del conflitto israelo-palestinese sulle risorse idriche del bacino del Giordano", *Quaderni dell'Istituto di Studi di Politica Internazionale*, No. 5, 2007, pp. 51-65.
- FERRAGINA, E., "The Effect of the Israeli-Palestinian Conflict on the Water Resources of the Jordan River Basin", *Global*, No. 2, 2008, pp. 152-160.
- FERRAGINA, E. and F. GRECO, "The Disi Project in Jordan: An Internal/External Analysis", *Water International*, No. 3, 2008, pp. 451-464.
- FERRAGINA, E. and D. QUAGLIAROTTI, "Ambiente", in Paolo Malanima (ed.), *Rapporto sulle economie del Mediterraneo 2005*, Bologna, Il Mulino, 2005.
- FERRAGINA, E. and D. QUAGLIAROTTI, "Climatic Change in the Mediterranean", *New Medit: Mediterranean Journal of Economics, Agriculture and Environment*, No. 4, 2008a, pp. 4-13.
- FERRAGINA, E. and D. QUAGLIAROTTI, "Ambiente. Povertà e crisi idrica nel Mediterraneo", *Rapporto Economie Mediterranee 2008*, Istituto di Studi sulle Società del Mediterraneo, Consiglio Nazionale delle Ricerche, Bologna, Il Mulino, 2008b.
- FERRAGINA, E., M. MARRA and D. QUAGLIAROTTI (eds.), "The Role of Formal and Informal Institutions in the Water Sector: What Challenges for Development?", *Forum Plan Bleu (UNEP) Avancées de la gestion de la demande en eau en région méditerranéenne*, Fiuggi, 3rd-5th October 2002, pp. 1-35, www.planbleu.org.
- KLIOT, N., *Water Resources and Conflict in the Middle East*, London, Routledge, 1994.
- LASSERRE, F., "Conflits hydrauliques et guerres de l'eau : un essai de modélisation", *Revue Internationale et Stratégique*, No. 66, 2007, pp. 105-118.
- LLAMAS, R., "Coping with the Silent Revolution of Intensive Groundwater Use", *International Water Demand Management Conference: Bridging the Gap*, Amman, 29th May-3rd June 2005.
- LLAMAS, R. (ed.), *Water Ethics*, London, CRC Press, 2009.
- LOWI, M.R., *Water and Power: The Politics of a Scarce Resource in the Jordan River Basin*, Cambridge, Cambridge University Press, 1993.
- MARGAT, J., *Gestion durable et équitable de l'eau douce en Méditerranée. Mémoire et traditions, avenir et solutions*, Vèmes Rencontres Internationales Monaco et la Méditerranée, Monaco, Association Monégasque pour la Connaissance des Arts, 2009.

MEADOWS, D.H. et al., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, Rome, Pan, 1972.

MYERS, N., *Ultimate Security: The Environmental Basis of Political Stability*, New York, Norton, 1996.

PALESTINIAN ENVIRONMENTAL NGOS NETWORK, *The Wall in Palestine*, Jerusalem, 2003

REISNER, M., *Cadillac Desert: The American West and Its Disappearing Water*, New York, Viking, 1986.

UNEP/MAP-PLAN BLEU, *State of the Environment and Development in the Mediterranean*, Athens, 2009.

About the authors

Michael Scoullis is Chairman of MIO-ECSCE. He is an environmental chemist (MSc, DSc University of Athens) and oceanographer (PhD, University of Liverpool), Professor of Environmental Chemistry at the University of Athens, and Director of the Laboratory of Environmental Chemistry. He represents, as an expert, the European Parliament on the Management Board and the Executive Bureau of the European Environmental Agency (EEA). He has acted as scientific advisor to the EU, UNEP, UNESCO, IFAD, IUCN, several Governments and is now the Co-Chair with the European Commission of the Capacity Building Component of the Euro-Mediterranean Horizon 2020 Initiative. President for many years of many scientific and environmental organisations and bodies, such as the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE), the Global Water Partnership-Mediterranean (GWP-Med), the EEB (European Environmental Bureau), and Elliniki Etairia (Hellenic Society for the Protection of the Environment and Cultural Heritage), the Greek National Committees of MAB/UNESCO and of UNEP, etc.

Eugenia Ferragina is Senior Researcher at the Institute of Studies on Mediterranean Society (ISSM – Istituto di Studi sulle Società del Mediterraneo), of the National Research Council of Italy (CNR). She is also Professor of Economy and Institutions of the Mediterranean Countries at the University of Naples “L’Orientale”. At present, she is a member of the Scientific Committee of the European Association for “A New Water Culture” and a member of the Executive Board of the European Society for the Study of Africa and the Middle East (SESAMO – Società Europea di Studi sull’Africa e il Medio Oriente).

Cristina Narbona is an economist, university professor and Spanish politician. She holds a doctorate in Economics from the University of Rome, and for seven years was a professor at the University of Seville. In 1982, she was appointed Deputy Minister of Economy at the Junta de Andalucía in the first autonomous government. In the successive governments presided by Felipe González she held management posts in Banco Hipotecario, was Director General of Housing at the Ministry of Public Works in 1991 and Secretary of State for the Environment and Housing in 1993. She was elected Deputy to the Congress in 1996 for Almería and Councillor in 1999 at Madrid City Council. In the Spanish legislature of 2004 to 2008 she was appointed Minister for the Environment by José Luis Rodríguez Zapatero’s government. Currently, she is Spanish Ambassador to the OECD. She forms part of the United Nations Panel on Global Sustainability, as well as the High Level Working Group of the World Meteorological Organisation.

