

**Reference Guide for Advancing
National Integrated Water Resources Management Planning
and
Brief Status Assessment
in the Mediterranean Countries**

D R A F T

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**PDF B of the
GEF Strategic Partnership
for the Mediterranean Large Marine Ecosystems**

**Regional Component on
Integrated Water Resources Management**



**MEDITERRANEAN COMPONENT
of the EU Water Initiative
(MED EUWI)**

GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem (GEF SPM)

The GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem (GEF SPM) aims to assist basin countries in implementing reforms and investments in key sectors that address transboundary pollution reduction, biodiversity decline, habitat degradation and living resources protection. Priorities for GEF SPM have been identified in the two Strategic Action Programmes, SAP-Med and SAP BIO, developed at the previous face of the programme. The Strategic Partnership will serve as a catalyst in leveraging policy, legal and institutional reforms as well as additional investments necessary for reversing degradation of damaged large marine ecosystem and their contributing freshwater basins, habitats and coastal areas.

The Partnership would achieve its objectives through the implementation of two components:

- Regional Component: Implementation of supporting actions in the countries for the Protection of the Environmental Resources of the Mediterranean and its Coastal Areas - UNEP and partners;
- Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership - World Bank.

Within the general objective to supplement and support the achievement of the targets established by SAP MED and SAP BIO, the immediate objective of the Sub-Component on Integrated Water Resources Management (IWRM) is to facilitate action to promote IWRM planning at the national, transboundary and regional levels as a mean to reduce pollution from land based sources into the Mediterranean.

To achieve this objective, the Sub-Component on IWRM will:

- Promote policy dialogue with stakeholder participation including the private sector and support catalytic actions at the transboundary, national and local levels, assisting countries to meet water-related MDGs and WSSD targets with an emphasis on IWRM including related environmental concerns.
- Support demonstration projects and capacity building at local, national and transboundary levels, aiming amongst others in maintaining environmental flows and functioning of water related coastal ecosystems and habitats/sensitive areas.
- Address biodiversity concerns and issues related to vulnerable habitats in national IWRM planning processes through consultation and assessment.
- Identify investment needs related to IWRM, taking into account biodiversity and water quality concerns.

GEF SPM was launched by GEF, UNEP and the World Bank as a collective effort open to all the countries of the Basin and to all international and bilateral cooperation agencies. The IWRM Sub-Component is led by Global Water Partnership – Mediterranean, in close collaboration with the GEF SPM Unit in UNEP/MAP.

More information can be obtained in www.medsp.org

Mediterranean Component of the EU Water Initiative (MED EUWI)

The Mediterranean Component of the EU Water Initiative (MED EUWI) constitutes an integral part and one of the geographic Components of the overall EUWI. It represents a strategic partnership among all related stakeholders (national, regional and international) in the Mediterranean region, aiming at contributing to the implementation of the water-related MDGs and WSSD targets. It, thus, seeks to make significant progress in poverty eradication and health, in the enhancement of livelihoods, and in sustainable economic development in the Mediterranean and Southeastern Europe, providing a catalyst for peace and security in the region which is a vulnerable and sensitive one from both an environmental and political view point.

MED EUWI is led by the government of Greece (Ministry for Environment, Physical Planning and Public Works and Ministry of Foreign Affairs). The MED EUWI Secretariat within the Global Water Partnership-Mediterranean Secretariat provides technical support and day-by-day running. The Euro-Mediterranean Water Directors Forum, serving as institutional support of the implementation of MED EUWI, provides advice and guidance on the MED EUWI further development and implementation. MED EUWI develops its activities through annual work programmes, supported and with the participation of a variety of institutions and stakeholders.

More information can be obtained in www.minenv.gr/medeuwi

This is Update of October 2007.

The document will be updated with new information throughout the GEF SPM and MED EUWI implementation.

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ABBREVIATIONS

AfDB	African Development Bank
AFW	African Water Facility
AWC	Arab Water Council
EU	European Union
GEF	Global Environment Facility
GEF SPM	Global Environment Facility Strategic Partnership
GWP	Global Water Partnership
GWP-Med	Global Water Partnership – Mediterranean
GWP TEC	Technical Advisory Committee of GWP
ICZM	Integrated Coastal Zone Management
IRBMP	Integrated River Basin Management Plan
IWRM	Integrated Water Resources Management
MAP/UNEP	The Mediterranean Action Plan of the United Nations Environment Programme
MCSD	Mediterranean Commission for Sustainable Development
MDGs	Millennium Development Goals
MED EUWI	Mediterranean Component of the European Union Water Initiative
MIO-ECSDE	Mediterranean Information Office for Environment, Culture and Sustainable Development
SAP BIO	Strategic Action Programme for Biodiversity
SAP MED	Strategic Action Programme for the Mediterranean
UCC-Water	United Nations Environment Programme – Collaborating Centre on Water and Environment
UN ESCWA	United Nations Economic and Social Commission for West Asia
WFD	Water Framework Directive (of the European Union)
WSS	Water Supply and Sanitation
WSSD	World Summit on Sustainable Development

Forward

The Mediterranean, a water scarce area, lies at the crossroads of three continents and it has been the cradle of major civilizations. Though the century-old experiences are largely shared, diverse natural and cultural backgrounds have resulted in uneven levels of economic development and a variety of socio-political systems. The region is encountering a rapid, unbalanced demographic growth and increased urbanization trends, mainly in the coastal areas. At the same time, the Mediterranean region is rich in unique and fragile ecosystems which face direct and indirect development pressures.

Water supply in the region is unequally distributed in space and time, both at regional level and within each country - 72% in the North of the Mediterranean, 23% in the Middle East and only 5% in the North Africa. North Africa and the Middle East sub-regions have among the lowest per capita amount of water supply in the world.

It is estimated that 7% of the entire Mediterranean population (28 million persons) lie below the poverty line of 500 m³/year per capita and another 29% (115 million persons) are below the threshold of 1000 m³/year per capita.

In certain countries, exploitation indexes of renewable natural fresh water resources have reached 100%. The intensive extraction and use of water for domestic, agricultural and industrial purposes, without proper provisions for the protection of the resource, has led to serious water pollution and/or depletion of surface and ground water bodies. Non-renewable water resources are over-exploited, in some cases with exploitation indexes exceeding 100%. Agriculture consumes 70-80% of water in the Mediterranean countries.

As of the 1990s, most countries started to realize that the 'business as usual' scenario of dealing with water management and water security issues was no longer suitable to cope with future challenges.

Following a series of international, regional and national fora, and particularly after the 2nd World Water Forum (The Hague, 2000), there is consensus that Integrated Water Resources Management (IWRM) is a means towards achieving sustainable development and that it can contribute significantly towards achieving several of the Millennium Development Goals (MDGs, 2000).

At the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002, the international community took an important step towards more sustainable patterns of water management by including, in the WSSD Plan of Implementation, a call for all countries to "develop integrated water resource management (IWRM) and water efficiency plans by 2005, with support to developing countries". The WSSD Plan of Implementation describes the actions leading to the development of the integrated water resource management and water efficiency.

In addition to varying degrees of water stress, many of the Mediterranean countries still suffer from :

- lack of effective operational strategies;
- fragmentation of responsibilities between authorities;
- weak policy implementation;
- weak monitoring and assessment at the national and local level;
- limited technical, management and enforcement capabilities to address water resource issues; and
- financial constraints including lack of financial resources at affordable levels.

On a worldwide scale and in the Mediterranean region, many countries are currently in a stage of institutional reform, orienting priorities and practices towards an IWRM approach. In the north of the Mediterranean (EU Member States, EU Accession Countries and other Balkan countries), the EU Water Framework Directive (WFD) provides the main policy framework for water management. In the south and east of the Mediterranean, countries are taking steps towards IWRM. Until now, only a very few countries have completed their national IWRM plans or are close to and even attempt to gradually move towards the implementation phase. Many countries are in the process of developing their national IWRM plans while a smaller group of countries are still in the very initial phase of preparation. At the same time, countries should mainstream IWRM considerations, methodologies and practices in the implementation of their investment programmes and application projects at the transboundary, national and local levels.

Regardless of the level of progress achieved until now it is important to encourage and assist, as appropriate, all the countries of the region in their processes towards integrated management of water resources. Addressing, in particular, environmental and biodiversity concerns in the process of IWRM planning and implementation is of major importance for achieving sustainable development in the countries of the Mediterranean.

It is recognized that there is no 'one-solution-for-all' as regards sustainable water management at national level; this is mostly due to country particularities, the large number of sectors involved and the complexity of managing and balancing diverse needs and often competing interests. Nevertheless, it is widely recognized that there is a wealth of valuable experiences to share at the regional, sub-regional and national levels and ground for a needed common strategic planning.

The situation gets even more complex when it comes to effective management of shared water resources, particularly since it often involves national sovereignties.

The IWRM Target of WSSD

Though the WSSD target to "develop integrated water resource management (IWRM) and water efficiency plans by 2005, with support to developing countries" has not been met yet, efforts are on-going in many countries of the region.

The Plan of Implementation of the WSSD describes the actions leading to integrated water resource management and water efficiency. They include:

- Develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management and introduce measures to improve the efficiency of water infrastructure to reduce losses and increase recycling of water;
- Employ the full range of policy instruments, including regulation, monitoring, voluntary measures, market and information-based tools, land –use management and cost recovery of water services, without cost recovery objectives becoming a barrier to access to safe water by poor people, and adopt an integrated water basin approach;
- Improve the efficient use of water resources and promote their allocation among competing uses in a way that gives priority to the satisfaction of basic human needs and balances the requirement of preserving or restoring ecosystems and their functions, in particular in fragile environments, with human domestic, industrial and agriculture needs, including safeguarding drinking water quality;
- Develop programmes for mitigating the effects of extreme water-related events;
- Support the diffusion of technology and capacity-building for non-conventional water resources and conservation technologies, to developing countries and

regions facing water scarcity conditions or subject to drought and desertification, through technical and financial support and capacity-building;

- Support, where appropriate, efforts and programmes for energy-efficient, sustainable and cost-effective desalination of seawater, water recycling and water harvesting from coastal fogs in developing countries, through such measures as technological, technical and financial assistance and other modalities;
- Facilitate the establishment of public-private partnerships and other forms of partnership that give priority to the needs of the poor, within stable and transparent national regulatory frameworks provided by Governments, while respecting local conditions, involving all concerned stakeholders, and monitoring the performance and improving accountability of public institutions and private companies.

A good IWRM process can assist developing countries in achieving the MDGs. These address, among others poverty, hunger, education, gender equality, health and environmental sustainability. Water availability and quality and thus prudent water resources management is a prerequisite to achieving the goals. Striking examples are:

- *Poverty.* Water is basic to production of agricultural and other goods, and production is clearly a factor in poverty reduction. The productivity of irrigated agriculture is particularly dependent on rational and wise water resources management. IWRM processes should contribute to a framework for investment in water infrastructure, such as irrigation and drainage canals and hydropower installations, which in turn are necessary for the community, regional and national development.
- *Major diseases.* Water related diseases are among the worst killers in developing countries and the poorest segments of the population are often hit hardest, not least the women who carry the daily responsibility of the health of their families. IWRM is a process through which water managers are assisted in making rational and balanced decisions on the water use, conservation and protection. Control of stagnant water for instance in reservoirs and irrigation systems as well as enhancing the quality of water for domestic use is important for prevention of malaria, bilharzia, cholera and other diseases.
- *Environmental sustainability.* IWRM processes by their nature address natural resources degradation as a result of unsustainable exploitation, often for short-term gains. The degraded systems can no longer retain their productivity and provide essential goods and services. Environmental flows need to be maintained. Thus, sound ecosystems have to be maintained and suitable planning of allocation/recycling should assist in this. Aquatic ecosystems are threatened around the globe and IWRM needs to be applied to protect, conserve and restore water resources.

Thus, at the national level IWRM provides a basis for harmonising the different demands on a country's water resources that will be required to implement the MDGs. An IWRM approach will advance progress towards a country's sustainable development and achievement of the MDGs more rapidly than traditional approaches. Investments in water infrastructure, water allocation decisions and water management actions and policies impact on a country's goals in multiple ways: IWRM is an approach that can capitalise on the opportunities for synergies and help reconcile difficult trade-offs in the achievement of these goals.

A. DEFINING THE ‘INTEGRATED’ IN IWRM

A.1. Introduction

An Integrated Water Resources Management (IWRM) approach promotes the coordinated development and management of water, land, and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (GWP, 2000).

This includes more coordinated development and management of:

- land and water,
- surface water and groundwater, national and shared
- the river basin and its adjacent coastal and marine environment,
- upstream and downstream interests.

But IWRM is not just about managing physical resources, it is also about reforming human systems to enable people—men and women—to benefit from those resources. For policy-making and planning, taking an IWRM approach requires that:

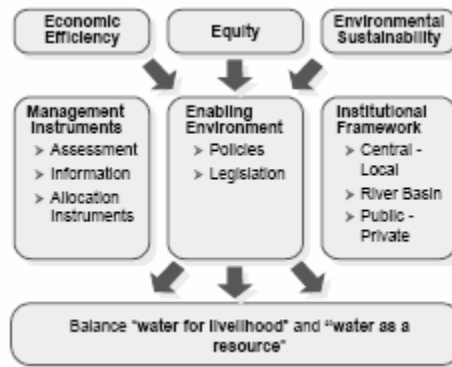
- policies and priorities take water resources implications into account, including the two-way relationship between macro-economic policies and water development, management, and use,
- there is cross-sectoral integration in policy development,
- stakeholders are given a voice in water planning and management, with particular attention to securing the participation of women and the poor.
- water-related decisions made at local and river basin levels are in-line with, or at least do not conflict with, the achievement of broader national objectives, and
- water planning and strategies are integrated into broader social, economic, and environmental goals.

In practice, this means giving water an appropriate place on the national agenda; creating greater “water awareness” among decision-makers responsible for economic policy and policy in water-related sectors; creating more effective channels for communication and shared decision-making between government agencies, organizations, interest groups and communities; and encouraging people to think “outside the box” of traditional sectoral definitions.

A.2. IWRM as a tool for change

An IWRM approach focuses on three basic pillars and explicitly aims at avoiding a fragmented approach of water resources management by considering the following aspects:

- 1) an *enabling environment* of suitable policies, strategies and legislation for sustainable water resources development and management
- 2) putting in place the *institutional framework* through which to put into practice the policies, strategies and legislation
- 3) and setting up the *management instruments* required by these institutions to do their job.



The “three pillars” of Integrated Water Resources Management

An IWRM approach requires positive change in these three pillars (see Box 1). Fundamentally, it is about change in water governance, i.e. the range of political, social, economic and administrative systems that are in place to develop and manage water resources and deliver water services, at different levels of society.

Box 1 The thirteen key IWRM change areas

The enabling environment

1. Policies – setting goals for water use, protection and conservation.
2. Legislative framework – the rules to follow to achieve policies and goals.
3. Financing and incentive structures – allocating financial resources to meet water needs.

Institutional framework

4. Creating an organizational framework – forms and functions.
5. Institutional capacity building – developing human resources.

Management instruments

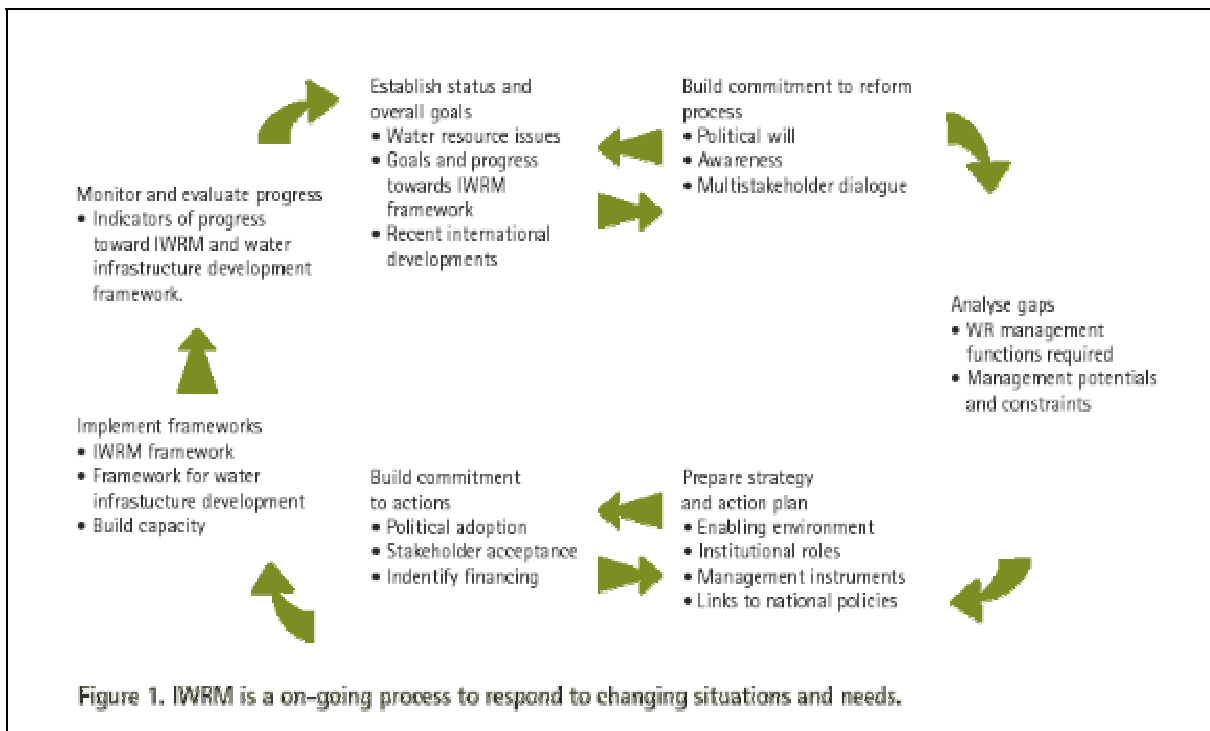
6. Water resources assessment – understanding resources and needs.
7. Plans for IWRM – combining development options, resource use and human interaction.
8. Demand management – using water more efficiently.
9. Social change instruments – encouraging a water-oriented civil society.
10. Conflict resolution – managing disputes, ensuring sharing of water.
11. Regulatory instruments – allocation and water use limits.
12. Economic instruments – using value and prices for efficiency and equity.
13. Information management and exchange– improving knowledge for better water management.

Given that change is a fundamental part of the approach, IWRM should be viewed as a process rather a one-shot approach— one that is long-term and forward-moving but iterative rather than linear in nature (see Figure 1). Inherent in this view is the need for an effective governance framework that fosters good decision-making on an on-going basis in response to changing needs and scenarios. As a process of change which seeks to shift water development and management systems from their currently unsustainable forms, IWRM has no fixed beginnings or endings. The global economy and society are dynamic and the natural environment is also subject to change; IWRM systems will, therefore, need to be responsive to change and be capable of adapting to new economic, social and environmental conditions and to changing human values. It would be easy for

policy makers and practitioners faced with the prospect of wholesale governance change to conclude that it is all too complex with too many difficult trade-offs and choices to make.

But adopting IWRM does not mean throwing everything away and starting over. More often it means adapting and building on existing institutions and planning procedures to achieve a more integrated approach.

Most countries that have honestly evaluated their current water situation have chosen to move towards an IWRM approach. They found that sectoral approaches were in fact, failing to deliver in a number of key areas. These countries, and others, have recognized that effectively addressing such issues is essential for the welfare of the people and the prosperity of the country. A more integrated holistic approach that considers water strategically in the context of different institutional systems; different, often competing uses and the scarcity of resources lies at the heart of sustainable development.



A.3. IWRM change areas

Adopting a more sustainable and integrated approach to water management and development requires change in many areas and at many levels. And while this can be a daunting proposition, it is important to remember that gradual change will produce more sustainable results than an attempt to completely overhaul the whole system in one go.

When beginning the process of change, we should consider:

- What changes *must* happen to achieve agreed-upon goals?
- Where is change possible given the current social, political, and economic situation?
- What is the logical sequence for change? What changes need to come first to make other changes possible?

The GWP’s IWRM ToolBox offers tools and case studies linked to each of the 13 change areas. These tools and examples can help guide the process of change, but to be effective they must be adapted to the social, political, and economic situation.

A.3.1. The enabling environment

A proper enabling environment ensures the rights and assets of all stakeholders (individuals as well as public and private sector organizations and companies, women as well as men, the poor as well as the better off), and protects public assets such as intrinsic environmental values. Basically the enabling environment is determined by national, provincial and local policies and legislation that constitute the “rules of the game” and enable all stakeholders to play their respective roles in the development and management of water resources. It also includes the forums and mechanisms, including information and capacity-building, created to establish these “rules of the game” and to facilitate and exercise stakeholder participation.

From top to bottom: In order to achieve efficient, equitable and sustainable water management within the IWRM approach, major institutional change is needed. Both top-down and bottom-up participation of all stakeholders needs to be promoted - from the national-level down to the catchment or watershed level. Decision-making should be governed by the principle of subsidiarity, which drives down action to the lowest appropriate level.

From companies to communities: In addition to government agencies and private companies, water development and management should involve NGOs, community-based organizations that have full participation of women and disadvantaged groups, and other sections of civil society. All these organizations and agencies have an important role to play in enhancing access to water, in bringing about a balance between conservation and development, and in treating water as a social and economic good.

Areas to target for change:

- *Policies* – setting goals for water use, protection and conservation. Policy development gives an opportunity for setting national objectives for managing water resources and water service delivery within a framework of overall development goals.
- *Legislative framework* – the rules to follow to achieve policies and goals. The required water laws cover ownership of water, permits to use (or pollute) it, the transferability of those permits, and customary entitlements. They underpin regulatory norms for e.g. conservation, protection, priorities, and conflict management.
- *Financing and incentive structures* – allocating financial resources to meet water needs. Water projects tend to be indivisible and capital-intensive, and many countries have major backlogs in developing water infrastructure. Countries need smart financing approaches and appropriate incentives to achieve development goals.

A.3.2. Institutional roles

Institutional development is critical to the formulation and implementation of IWRM policies and programs. A number of factors determine what is appropriate in a given context; stage of development, financial and human resources, traditional norms and other specific circumstances all play a role. Flawed demarcation of responsibilities between actors, inadequate co-ordinating mechanisms, jurisdictional gaps or overlaps, and the failure to match responsibilities with authority and capacities for action are all major sources of difficulty with implementing an IWRM approach. The agencies involved in water resources management have to be considered in their various geographic settings, taking into account the political structure of the country, the unity of the resource in a basin or aquifer and the existence and capacities of community organizations. Institutional development is not simply about the creation of formally constituted organizations (e.g. service agencies, authorities or consultative committees).

It also involves consideration of a whole range of formal rules and regulations, customs and practices, ideas and information, and interest or community group networks, which together provide the institutional framework or context within which water management actors and other decision-makers operate.

The importance of effective co-ordination mechanisms: A key issue is the creation of effective co-ordination mechanisms between different agencies. Integration in the sense of organizational consolidation does not automatically lead to co-operation and co-ordination or more effective water resources management. Fragmented and shared responsibilities are a reality and are always likely to exist. There are many examples where agencies or responsibilities have been merged without significant performance improvements; conversely, there are several examples where effective co-ordination mechanisms have allowed problems to be handled well despite the need to involve several agencies. The simple act of putting all water functions within one agency will not necessarily remove conflicts of interest, and can result in the loss of transparency.

Areas to target for change:

- *Creating an organizational framework* – forms and functions. Starting from the concept of reform of institutions for better water governance, the practitioner needs to consider the required organizations and institutions – from transboundary to basin level, and from regulatory bodies, to local authorities and civil society organizations.
- *Institutional capacity building* – developing human resources. This includes upgrading the skills and understanding of decision - makers, water managers and professionals in all sectors, and undertaking capacity-building for regulatory bodies and for empowerment of civil society groups.

A.3.3. Management instruments

Management instruments are the elements and methods that enable and help decision makers to make rational and informed choices between alternative actions. These choices should be based on agreed policies, available resources, environmental impacts and the social and economic consequences. Systems analysis, operations research and management theory offer a wide range of quantitative and qualitative methods.

These methods, combined with a knowledge of economics, hydrology, hydraulics, environmental sciences, sociology and other disciplines pertinent to the problem in question, help define and evaluate alternative water management options and implementation schemes. The art of IWRM is about knowing the available elements and methods and selecting, adjusting and applying the mix appropriate to the given circumstances.

Areas to target for change:

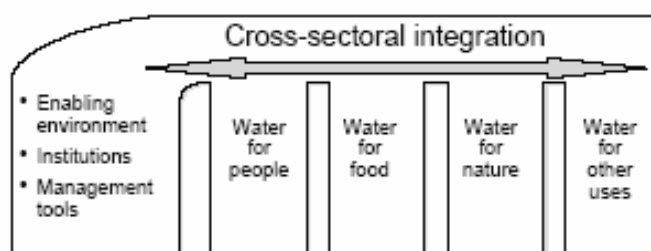
- *Water resources assessment* – understanding resources and needs. Includes the collection of hydrological, physiographic, demographic and socio-economic data, through to setting up systems for routine data assembly and reporting.
- *Planning* – combining development options, resource use and human interaction. River, aquifer and lake basin planning entail a comprehensive assembly and modeling of data from all relevant domains. The planning process must recognize social, economic and environmental needs using a range of assessment tools.
- *Demand management* – using water more efficiently. Demand management involves the balancing of supply and demand, focusing on the better use of existing water withdrawals or reducing excessive use rather than developing new supplies.
- *Social change instruments* – encouraging a water-oriented civil society. Information is a powerful tool for changing behavior in the water world, through school curricula,

university water courses and professional and mid-career training. Transparency, product-labeling and access to information are other key instruments.

- *Conflict resolution* – managing disputes, ensuring sharing of water. Conflict management has a separate focus as conflict is endemic in the management of water in many places and resolution models must be at hand.
- *Regulatory instruments* – allocation and water use limits. Regulation in this context covers water quality, service provision, land use and water resource protection. Regulations are key for implementing plans and policies and can fruitfully be combined with economic instruments.
- *Economic instruments* – using value and prices for efficiency and equity. Economic tools involve the use of prices, subsidies, and other market-based measures to provide incentives to all water users to use water carefully, efficiently and avoid pollution.
- *Information management and exchange* – improving knowledge for better water management. Data sharing methods and technologies increase stakeholder access to information stored in public domain data banks and effectively complement more traditional methods of public information need to consider issues, such as environment or tourism, that lie within the domain of other agencies.

A.3.4. Creating links across sectors and scales

Many organizations whose primary function is not water management are responsible for sectors where the impact of, and on water resources can be enormous—agriculture, industry, trade, and energy are examples. Similarly water resources organizations need to consider issues, such as environment or tourism, that lie within the domain of other agencies.



IWRM and its relation to sub sectors

Institutional structures vary from country to country, but whatever the specific structure, it is essential to have mechanisms for dialogue and co-ordination to ensure some measure of integration. A balance has to be met between providing a fully integrated approach where specific issues may get lost due to lack of expertise or interest, and a sectoral approach where different policies are followed without any heed to needs and impacts in other sectors. To some extent, the very process of creating a strategy should bring water-related sectors together and begin the process of cementing more formal ties. But it is important that the strategy formulate clear links between decision-making processes in water-related sectors. In terms of generating support, it is helpful if the strategy can demonstrate how changes can contribute to key objectives in water-related sectors.

In some cases countries have created new organizations, or significantly changed the mandate of existing ones as part of IWRM reform—apex bodies and river basin (or catchment) organizations are the most common examples (see Box 2). Reasons for establishing such bodies include: encouraging coordinated action on water and related issues, such as land management, across sectors and/or decision-making levels and encouraging more participatory management of resources.

Box 2. Key characteristics of effective river basin management organizations
(from the IWRM Toolbox, GWP)

- An ability to establish trusted technical competencies;
- A focus on serious recurrent problems such as flooding or drought or supply shortages, and the provision of solutions acceptable to all stakeholders;
- Broad stakeholder involvement, catering for grassroots participation at a basin-wide level (e.g. through water forums);
- The capacity to collect fees, and attract grants and/or loans;
- Clear jurisdictional boundaries and appropriate powers.

However, experience shows that the formation of apex or river basin organizations alone will not guarantee an IWRM approach—they must also be supported by appropriate policies, legislation and capacity building. Nor is the formation of such bodies essential to ensure an IWRM approach. Other options include strengthening coordination on water issues between existing sector-based agencies or placing water under the purview of an agency with a broad natural resources mandate.

A.4. Benefits from IWRM

Benefits from IWRM extend to many sectors. Benefits for environment, agriculture and water supply and sanitation include:

Environment benefits

- Ecosystems can benefit from applying an integrated approach to water management by giving environmental needs a voice in the water allocation debate. At present these needs are often not represented at the negotiating table.
- IWRM can assist the sector by raising awareness among other users of the needs of ecosystems and the benefits these generate for them. Often these are undervalued and not incorporated into planning and decision-making.
- The ecosystem approach provides a new framework for IWRM that focuses more attention on a system approach to water management: -protecting upper catchments (e.g. reforestation, good land husbandry, soil erosion control), pollution control (e.g. point source reduction, non-point source incentives, groundwater protection) and environmental flows. It provides an alternative to a sub-sector competition perspective that can join stakeholders in developing a shared view and joint action.

Agriculture benefits

- As the single largest user of water and the major non-point source polluter of surface and groundwater resources, agriculture has a poor image. Taken alongside the low value added in agricultural production, this frequently means that, especially under conditions of water scarcity, water is diverted from agriculture to other water uses. However, indiscriminate reduction in water allocation for agriculture may have far-reaching economic and social consequences. With IWRM, planners are encouraged to look beyond the sector economics and take account of the implications of water management decisions on employment, the environment and social equity.
- By bringing all sectors and all stakeholders into the decision-making process, IWRM is able to reflect the combined “value” of water to society as a whole in difficult decisions

on water allocations. This may mean that the contribution of food production to health, poverty reduction and gender equity, for example, could over-ride strict economic comparisons of rates of return on each cubic metre of water. Equally, IWRM can bring into the equation the reuse potential of agricultural return flows for other sectors and the scope for agricultural reuse of municipal and industrial wastewaters.

- IWRM calls for integrated planning so that water, land and other resources are utilised in a sustainable manner. For the agricultural sector IWRM seeks to increase water productivity (i.e. more crop per drop) within the constraints imposed by the economic, social and ecological context of a particular region or country.

Water supply and sanitation benefits

- Above all, properly applied IWRM would lead to the water security of the world's poor and unserved being assured. The implementation of IWRM based policies should mean increased security of domestic water supplies, as well as reduced costs of treatment as pollution is tackled more effectively.
- Recognizing the rights of people, and particularly women and the poor, to a fair share of water resources for both domestic and household-based productive uses, leads inevitably to the need to ensure proper representation of these groups on the bodies that make water resource allocation decisions.
- The focus on integrated management and efficient use should be a stimulus to the sector to push for recycling, reuse and waste reduction. High pollution charges backed by rigid enforcement have led to impressive improvements in industrial water-use efficiencies in the industrialised countries, with benefits for domestic water supplies and the environment.
- Past sanitation systems often focused on removing the waste problem from the areas of human occupation, thus keeping the human territories clean and healthy, but merely replacing the waste problem, with often detrimental environmental effects elsewhere. Introduction of IWRM will improve the opportunity for introduction of sustainable sanitation solutions that aim to minimise waste-generating inputs, and reduction of waste outputs, and to solve sanitation problems as close as possible to where they occur.
- At a practical local level, improved integration of water resource management could lead to greatly reduced costs of providing domestic water services, if for instance more irrigation schemes were designed with a domestic water component explicitly involved from the start.

B. NATIONAL IWRM AND WATER EFFICIENCY PLANS

B.1. Key messages from the WSSD action target on IWRM

In addition to the key WSSD target on IWRM and water efficiency plans, Article 26 of the WSSD Plan of Implementation also includes a number of specific recommendations on the issues such strategies should address and to some extent how they should be addressed. Countries have to evaluate which recommendations are useful to them and which are irrelevant or low-priority. Some generic messages derived from Article 26 that are useful in developing a strategy include:

- Strategies should help countries and regions move towards integrated water management and more efficient use of water resources - employing the full range of policy instruments.
- Strategies should cover institutional, financial and technological change and promote action at all levels. management.
- Strategies should give priority to meeting basic human needs, and take extra care to ensure access for the poor.
- Strategies should address the challenge of balancing the need to restore and protect ecosystems with the needs of other water users.
- Stakeholder participation, capacity building, monitoring performance, and improving accountability of public institutions and private companies are all elements of an effective strategy.
- Strategies should respect and be adapted to local conditions.

B.2. Responding to the IWRM target

The process of creating an IWRM and water efficiency plan (according to GWP, it might be better called 'IWRM and water efficiency *strategy*') is an opportunity for countries to take a coherent approach to improving how they develop, manage and use water resources to further sustainable development goals and meet development challenges.

In general, planning and strategy development are closely related. But where planning is meant to identify concrete activities, strategy development is more concerned with defining future direction. A strategy defines goals and agrees on how goals could be pursued—perhaps even outlining a range of possibilities suited to different contingencies. Planning is then the translation of the chosen strategy into concrete objectives, activities and related means (see also Box 3).

Some countries may choose to begin by considering the various ways in which water resources development and management have the potential to advance or hinder development goals. Others may choose a more targeted approach and focus on specific water related problems that are hampering development.

Some countries may choose to create new strategies from scratch. Others may build on existing IWRM or water plans or incorporate water into current national development strategies.

Regardless of the initial approach, strategies should go beyond the actions needed to solve current problems or to achieve immediate objectives, and aim at institutionalizing changes that will promote more strategic and coordinated decision-making on an ongoing basis.

To do this, strategies need to encompass changes in the enabling environment, in institutional roles, and in management instruments, as described already. Fundamentally, creating a strategy is about catalyzing change in water governance.

While adopting a more sustainable and integrated approach to water management and development does require change in many areas and at many levels, this does not mean that major initial reforms are essential. First steps that can easily be implemented are enough to catalyze the process. A well-thought out set of changes—the kind embodied in a strategy—will produce more sustainable results than either an attempt to completely overhaul the whole system or an ad hoc approach to change.

Box 3. IWRM Strategy: Not just another water plan

Creating an effective IWRM strategy requires a somewhat different process than that entailed in creating a one-off water resources planning document. Key differences include:

Involvement from multiple sectors: While a water plan is usually designed and implemented by a water agency, an IWRM strategy requires input and buy-in from all sectors that impact and are impacted by water development and management—for example, health, energy, tourism, industry, agriculture, and environment.

Broader focus: Whereas water plans tend to be concerned exclusively with water supply and demand issues, an IWRM strategy looks at water in relation to other ingredients needed to achieve larger development goals.

Dynamic rather than static: Unlike a water plan, which lays out a definitive sequence of actions and decisions, an IWRM strategy aims at laying down a framework for a continuing and adaptive process of strategic and coordinated action.

Stakeholder participation: Because it calls for change—and therefore buy-in—at multiple levels, strategy development requires far broader and more extensive participation from stakeholders than a traditional planning process.

As foundations for a successful strategy we can define:

- Agreeing on goals and targets.
- Laying down a framework for better decision-making on an on-going basis.
- Linking to broader development goals and national development planning processes.
- Anticipating capacity needs and making adequate investments in capacity-building.
- Involving and gaining the support of stakeholders, including women and the poor.
- Allocating sufficient human and financial resources to the process.
- Setting a timetable with milestones/targets.
- Putting into place monitoring and evaluation mechanisms that feed back into the process.

An indicative, and not exhaustive, checklist of the kinds of issues that could be covered in an IWRM strategy is given in Box 4.

Developing IWRM strategies requires a well organized process including definition of roles and responsibilities, a framework for involving stakeholders, creating the knowledge base and setting milestones indicators and putting into place mechanisms for monitoring and evaluation.

Box 4. Checklist of issues that might be addressed in an IWRM strategy

- Interfaces between macro-economic and water resource decision making
- Efficiency of water infrastructure
- Mitigation of the effects of floods and droughts and other extreme water-related events
- Non-conventional water resources and conservation technologies
- Water quality and broader environmental issues
- Eco-hydrological issues
- Data collection systems, and access to information by users

- Policy instruments and the legal and regulatory framework
- The role of the state and the potential for public private partnerships
- Processes for reconciling water quantity and quality needs of all water users
- Mechanisms for consultation and public participation
- Interfaces between river basins and adjacent coastal and marine environments
- The roles of women in the provision, management and safeguarding of water
- Capacity building
- Management agencies (including river basin organizations)
- Mechanisms to achieve financial sustainability

Defining responsibilities

How a country chooses to define roles and responsibilities depends to a large extent on its particular situation, including its planning framework and decision-making structure. Some countries have centrally organized planning processes, while others delegate much of responsibility for planning and decision-making on water resource issues to provinces or states.

There is no one correct administrative model. But whatever the model, the roles and responsibilities of the different actors need to be clearly defined at an early stage and accountability mechanisms need to be put into place. A suggested breakdown of roles and responsibilities is given in Box 5.

Box 5. Suggested breakdown of roles and responsibilities

ACTOR	ROLE
National Government	<ul style="list-style-type: none"> ▪ Lead role, 'owner' of the process ▪ Mobilize funding ▪ Set macro-economic policy environment
Steering Committee	<ul style="list-style-type: none"> ▪ Guide the process (group with wide representation) ▪ Mobilize support across sectors and interest groups ▪ Guarantee quality output ▪ Monitor implementation progress
Management Team Group of qualified professionals	<ul style="list-style-type: none"> ▪ Manage day-to-day processes for strategy development, implementation and capacity building
Facilitating Institution (where appropriate) for example, national NGOs, GWP country or regional partnerships, or local UN country local teams	<ul style="list-style-type: none"> ▪ Provide neutral platform for dialogue ▪ Support strategy development process by providing advice and sharing knowledge ▪ Foster capacity building and training

Involving stakeholders

To be effective, strategies must balance two often-conflicting demands. They must win broad-based support from stakeholders to be effectively implemented. But they must also

not fall into the trap of endless consultation at the expense of action. The key to balancing these demands is to ensure broad participation by diverse stakeholders in a well-organized, time-bound fashion at appropriate stages of the process and include mechanisms for conflict resolution.

However, it should be recognized that building stakeholder support and participation in integrated water resource management and development is an on-going process, not one that simply stops when the initial strategy is complete. The main stakeholders to be brought in the process are presented in Box 6.

Box 6. Involving stakeholders

Core stakeholders to engage in formulating a strategy may include:

- Government Ministries and related institutions involved in national development planning and policy making.
- Government Ministries and related institutions involved in key water-related sectors, including domestic water supply and sanitation, irrigation, agriculture, energy, health, industry, transport, fisheries and tourism.
- Water utilities, agencies and related bodies (e.g. Water Development Boards).

Stakeholders to be brought into the process at key stages will likely include most of the following:

- Local communities and community based organizations (mayors and religious leaders, for example).
- The private sector, including but not limited to water supply and sanitation service providers.
- Financial agencies (e.g. donor agencies, international banks, micro-credit institutions).
- Sectoral interest groups such as farmers and fishermen.
- Women's groups and associations
- Representatives of indigenous communities
- Non-government organizations
- Media representatives
- Research and training institutions, including Universities.

Creating the knowledge base

There are two aspects to creating a knowledge base for a strategy:

- Pulling together the knowledge needed to identify key water-related challenges, determine where change is needed, and set a baseline for monitoring progress and impacts.
- Developing systems to feed knowledge into the decision-making process on an on-going basis.

A baseline assessment of key water resources and development issues provides a good basis for identifying and prioritizing water challenges and objectives. The Global Environment Facility strongly recommends starting with a basin-by-basin analysis of competing uses of water resources and the land-use decisions in influencing them.

Setting a timeframe and milestones

How long will it take to prepare an IWRM strategy? This depends. Some countries may take a rapid initial approach, and then update as they delve into implementation.

Other countries, may elect to invest more time—perhaps to build stakeholder participation and ownership—in the strategic development process. Either way, agreeing on milestones and time-frames for completing the strategy is critical for success.

While the strategy should be flexible enough to adapt to changing political, economic and environmental conditions, it may be useful to agree on a timeframe for regular review and updating. Many organizations update their strategies every five years, but may do so more often during periods of rapid change.

Implementation may take place on a step-by-step basis, in terms of geographical scope and the sequence and timing of reforms. Scope, timing, and content of measures can be adjusted according to experience. This offers room for change, improvement and process adjustment, provided that the proper bases for sound decision making have been established.

Monitoring and evaluation

Defining indicators, establishing benchmarks, and setting up mechanisms to ensure ongoing monitoring and evaluation are all key activities in any successful implementation plan. Monitoring and evaluation activities have three main objectives—to see whether the implementation process is on track, to measure both short- and long-term impacts, and to evaluate impacts to determine if actions are indeed contributing to the larger development goals defined in the strategy.

Monitoring and evaluation of an IWRM reform process takes place at many different levels, from simple project progress to impact on national socio-economic and environmental aggregate indicators. The higher the level, the more methodological issues arise and the more difficult it becomes to find descriptive indicators to ascertain impacts. It is imperative to start the process by setting the goals and levels also considering the feasibility of the monitoring and evaluation, the validity and significance of expected results and the use and usefulness of these results.

Addressing potential stumbling blocks

According to the informal GWP survey on IWRM planning around the globe (2004) and feedback from partners, the three most common reasons that countries find their strategy development and implementation processes slowed down or stalled are: lack of support for the process, lack of funding, and lack of capacity.

Lack of support and high-level leadership and commitment—often underlain by a lack of understanding as to what a strategy is and how to go about it—is the primary obstacle in getting the process off the ground. And without a broad base of support—from the prime minister down to the farmer in the field—successful implementation is unlikely.

Lack of funding should not be an excuse for failing to do a strategy. Most countries should be able to finance the process on their own, but for those who cannot, a number of donors are willing to offer assistance. When it comes to implementation, not including an adequate financing plan and waiting to begin raising funds until after the strategy is complete are the primary pitfalls.

Not developing appropriate capacities within the country is another false step that has slowed progress at various points in the process. In some cases, needed expertise may not be available within the country; here the focus should be on transferring skills rather than simply depending on outside consultants.

Ensuring effective implementation

In the end, a strategy's success or failure depends on its ability to catalyze change. This is what matters—not the specific process, not the form of the strategy document, but whether or not it results in positive action.

While it is useful to embody the strategy in a physical document, this should not be viewed as the end of the process, which should be on-going. In summary, some of the suggestions that can help avoid non-action include:

- Securing funds for implementation during the strategy formulation phase, to prevent the loss of momentum while funds are raised for implementation.
- Giving due attention to capacity-building and institutional strengthening to ensure that organizations are able to take on new responsibilities and challenges.
- Ensuring a broad-base of support grounded in different levels of government and the broader society so that the strategy is not vulnerable to changes in political regimes or the departure of key personnel.
- Tasking the same body responsible for leading the strategy development with overseeing implementation, and making them accountable to a higher authority.
- Being realistic in terms of what can be accomplished given the current socioeconomic, institutional, and political context.
- Ensuring that water development and service provision are well-matched to user needs and sustainable, in terms of financing and maintenance.
- Ensuring that monitoring and evaluation activities feedback into the process so that problems or potential obstacles can be immediately dealt with.
- Employing an implementation process that is flexible enough to adapt to changing conditions and take advantage of new opportunities.

In addition, linking to other national plans and strategies is another way to encourage action and guarantee the relevance of the strategy. Examples of relevant plans and strategies an IWRM strategy should link to include:

- National Five Year Plans or Sustainable Development Strategies,
- National Plans on women's development and empowerment,
- National Biodiversity Strategy and Action Plans,
- National Plans to Combat Desertification,
- Country poverty reduction strategy papers (PRSPs), and
- National strategies to meet the Millennium Development Goals.

B3. IWRM and shared water resources

As already highlighted, a critical element of IWRM is the integration of the various sectoral views and interests in the development and implementation of the IWRM framework within/along the basin. Integration needs to take place within *the natural system* with its pivotal role for resource availability and quality *and the human system*, which fundamentally determines the resource use, waste production and pollution of the resource and which must also set the development priorities and management-associated infrastructure.

In the case of shared water basins achieving integration within the two systems becomes even more complex, because of different institutions and management settings as well as different priorities and interests that increase in number and become more complex in resource conflicts across borders. All steps of IWRM (described in Figure 1) need to take into account these parameters. Policy changes and sector reforms, towards IWRM, need to be coordinated among the riparian countries.

In some cases the decision of one country to move towards management of water resources using the IWRM principles may lead to cooperation, when transboundary waters are concerned, since the river basin is the geographical scale for IWRM planning and implementation. In the case when two water-sharing countries adopt the IWRM approach, then co-operation may be further enhanced. However, in the absence of real-case examples, all the possible combinations of policy options and outcomes in more-than-one-party scenarios are best dealt with through game theory and speculation, at least for the time being.

Taking a step further, the harmonization of relevant national laws within the framework of a supranational organization –such as EU- may create an enabling environment that will favour cooperation. Thus far, this has been the case of EU member states and it has not extended in the entire Mediterranean Basin. Even in cases of co-operation –due to a number of reasons the harmonization of the legal framework does not automatically lead towards integrated management of shared river basins.

Sub-regional or regional agreements, and global/international action plans are among the triggers that prompt the decision to develop or extend further a current water resources management framework. They may comprise requirements or incentives for countries to establish national IWRM frameworks *Transboundary visions and co-operation*. While such agreements are made at the regional level, the actual policy changes and institutional reforms need to happen at the national levels. Hence, such agreements may provide encouragement and opportunities for riparian countries to reform their national water resources management frameworks and promote developments that attune to the principles of IWRM.

Nevertheless, examples where IWRM principles have been successfully applied over shared water bodies through effective intra-state cooperation are limited, since other parameters, linked to perceptions of national security and conflicting interests, seem to determine the relations between countries and the management of water as a regional *common pool resource*.

Reaching the point where management of a shared water body moves from unilateral management of the part that lies within the territory of one country, to the integrated management of the whole basin, is a highly complex process. Having said that, such a development could eventually mark a shift from the sharing of water among countries and conflicting uses, to the sharing of benefits among the involved stakeholders. Even though the area under consideration is geographically and often culturally and historically interconnected, transboundary integrated water resources management cannot be done automatically simply through the fulfillment of a number of prerequisites. It is a multi-stage process that required effort, time, financial resources and foremost political commitment.

C. HIGHLIGHTING CURRENT STATUS OF NATIONAL IWRM PLANNING

With all the many limitations that a rapid desk-study encounters, a brief account of the status of national IWRM planning in the Mediterranean countries is attempted. The intention of the present effort within the GEF SPM / IWRM Sub-Category team and MED EUWI is to deepen on and regularly update the information provided.

Albania has a Water Strategy (2004). Albania has signed the Stabilization and Association Agreement with the EU (2006), is a Potential EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Algeria has a National Plan for Water (2005) that was put in place the same year the Water Law was adopted. An Action Plan for implementing the IWRM framework is currently under preparation and its finalisation was expected within 2006.

Bosnia and Herzegovina has an outdated Water Management Master Plan (1994) and is in progress of drafting a Water Protection Strategy. *Bosnia and Herzegovina* has started negotiations for Stabilization and Association Agreement with the EU (2005), is a Potential EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Croatia has a National Water Protection Plan (1999) and is preparing a Water Management Master Plan. *Croatia* has signed the Stabilization and Association Agreement with the EU (2005), is an EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Egypt's National Water Resources Plan (NWRP, 2005) corresponds to an IWRM Plan. The NWRP is a comprehensive document developed over six years with stakeholder involvement. The implementation framework for it is currently under preparation. Moreover, a National Master Plan targeting specifically the Water and Wastewater Sector of *Egypt* is in the process of getting finalised.

Jordan has a Water Strategy and Water Policy (2003) in place as well as a National Water Master Plan (2003) that corresponds to an IWRM Plan.

Lebanon has a Work Plan 2000-2009 (for the account of the Ministry of Energy and Water, 1999). The Work Plan includes elements of an IWRM Plan, but it is focused on domestic water supply and is lagging behind in implementation. A re-organisation of the water administration is currently underway while a shift towards watershed management is envisaged.

Libya has a National Strategy for Water Resources Management 2000-2025 (1999), which sets the general platform for the national water policy. The legal framework includes an obligation to elaborate an IWRM Action Plan/Strategy, but to date this has not yet adequately progressed.

Morocco has Master Plans of Integrated Water Resources Development for River Basins (PDAIRE) and is currently finalizing a National Water Plan to serve as an IWRM Plan. Completion, while a national consultation process has been in progress structured on thematic priorities.

Montenegro has become an independent country in May 2006. The country has a new Water law (2006). It is a Potential EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Palestinian Authority has a National Water Plan (2000) and an Integrated Water Management Plan for West Bank and Gaza (2003) that corresponds to an IWRM Plan. Water regulation is under further development.

Serbia has a Water Resources Master Plan (2002). *Serbia* has started negotiations for a Stabilization and Association Agreement with the EU (2005), is a Potential EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Syria has Water Strategy (2003) in place, following a 2000 Water Sector Analysis, prepared by the Ministry for Irrigation. Although, the Water Strategy entails provision for

elaborating an IWRM Plan, this has not translated yet into any concrete actions. In addition, the Association Agreement with the EU has been agreed, but its signature is still pending.

Tunisia adopted a long term Strategy for the Water Sector in 2003 and is currently in the preparation process for producing an IWRM Plan. The completion of the plan was expected within 2006.

Turkey has a number of laws and plans though there is no evidence of an IWRM plan in place. Turkey is an EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

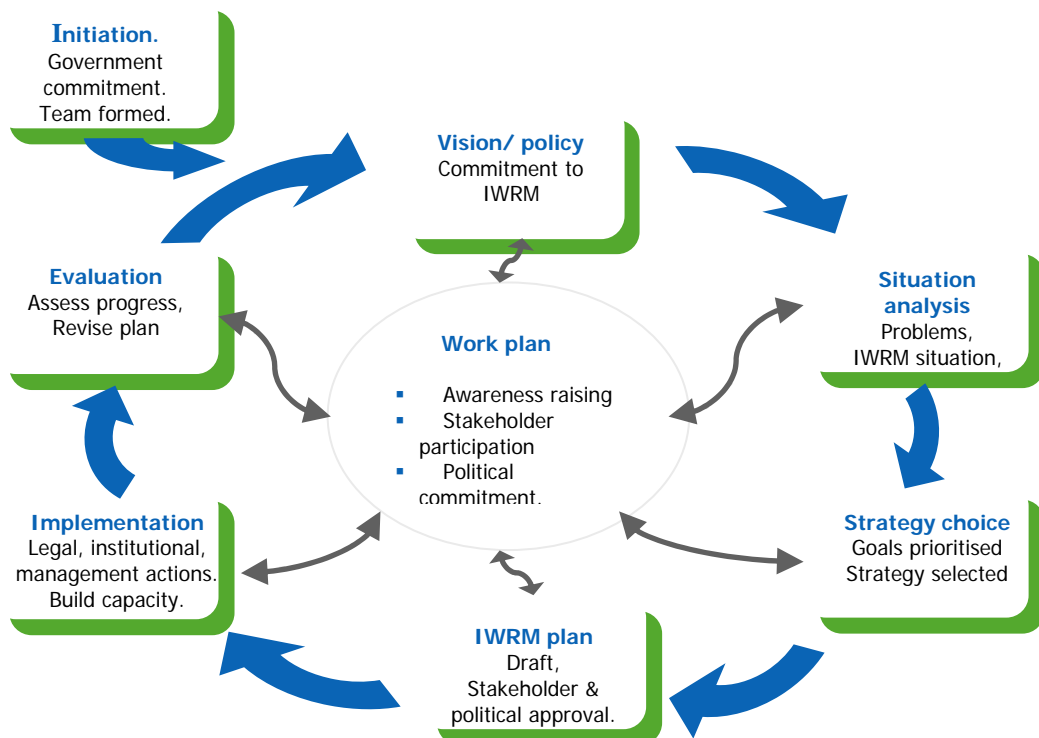
Annex I elaborates further on the status of national IWRM planning in the GEF-eligible countries of the Mediterranean.

D. DESCRIPTION OF INTERVENTIONS TO CATALYZE IWRM PLANNING

Planning to introduce an IWRM approach to sustainable management and development of water resources may take several forms. The most powerful reason is to address priority water problems affecting society and this may result in focused action gradually progressing towards IWRM. More commonly, the recognition that water problems are symptomatic of a deeper failure of water management systems leads to long term planning with an agenda for more sustainable use of water resources. The identification of water as a key factor in poverty reduction and sustainable development also drives national planning on water.

Planning is a logical process which is at its most effective when viewed as a continuous cycle as it is shown in the following Figure.

FIGURE. THE CYCLE FOR DEVELOPING AND ADJUSTING AN IWRM PLAN



An ultimate output of the process will be an IWRM plan, endorsed and implemented by government. In the process the stakeholders and politicians will become more informed about water issues, the importance and the benefits from addressing sustainable management and development of the water resources. The plan may be more or less detailed depending upon the present situation in the country but will identify longer term steps that will be required to continue along a path to sustainability, social equity and efficiency of use.

There are ten (10) key elements identified for supporting the making the Plan:

A. Initiation

1. Raise political will and awareness on IWRM, and build support for the required reform process.
2. Create/strengthen multi-stakeholder platforms for dialogue and knowledge exchange.
3. Prepare detailed work plans, and monitoring and evaluation procedures.

B. Vision/policy

4. Create a framework for broad stakeholder participation.
5. Prepare capacity building activities for implementing the reform process.

C. Situation analysis and strategy choice

6. Identify water resources management challenges and functions.
7. Identify management potential and constraints.
8. Ensure knowledge from past and ongoing activities is fully available as a resource.

D. IWRM plan

9. Prepare the Action Plan and Transition Strategy towards IWRM and ensure adoption at all political levels.
10. Prepare detailed programme and funding strategies for the reform process.

Countries in the Mediterranean are at different stages of IWRM planning development and present a variety of needs. Nevertheless, there are many commonalities per sub-region that favor replication of interventions.

Based on the above steps / interventions, the GEF SPM / IWRM Sub-Category could implement demand-driven activities in 4 countries:

- in two (2) countries that are lagging behind the IWRM process (Libya and Syria present cases for such interventions in levels A and B); and
- in two (2) countries that have already made progress, though in varying stages, and are in need for assistance in selected parts of the process (Morocco that is advanced and runs a thematic consultation and Lebanon that is in a stage of reforms present cases for such interventions in levels C and D).

Priorities in financing IWRM planning

The investment to the wider water sector in the countries of the region is significant. It is recognised that there is a wide range of possible sources, or mixes of sources, of finance for the water sector. However, poor governance, lack of national capacity and sometimes political risk seems to be the most important constraint that impedes the flow of finance into water sector investments. Lack of good or 'bankable' projects also hinder the flow of finance. Commercial risks, involving limited guarantee and uncertain liquidity support mechanisms, often prevent private sector investment.

Relatively small, though increasing, investment is made in the region for IWRM planning and, gradually, for the implementation of elements of the IWRM plans. Such processes and related projects are financed by international donors, including UN agencies, development banks, donor countries, etc.

Fields of activities for promoting IWRM, aiming to strike balance between economic efficiency, environmental sustainability and social equity and to reduce conflicts associated with the distribution and use of water at different levels, include:

- Preparation of national IWRM strategies and efficiency plans, including decision-support systems and integration of land and water management and freshwater and coastal zone management.
- Supporting IWRM planning and implementation based on a river basin (including lakes) / watershed (including ground waters) approach.
- Promotion and preparation of water-related legislation.
- Supporting the institutional capacity building and review of the organisational framework for water resources management, including basin management bodies.
- Supporting development of adequate administrative and operational mechanisms for management of transboundary water bodies.
- Improvement of water resources monitoring and assessments as well as improvement of reporting capacities to effectively meet international, regional and national reporting requirements/obligations.
- Improvement of public access to information, education and awareness on water resources problems and involvement of stakeholders and users in decision-making.
- Implementation at national level of the provisions of relevant international conventions.

Partners and related processes

It is evident that responsibility for progressing with national IWRM planning is exclusively in the hands of the competent country authorities and that consultation and cooperation with national stakeholders in different stages of the IWRM process, is in the very essence of integration.

Assistance in such national processes can be offered by regional initiatives, many of which target for implementation at the country. In parallel, these regional initiatives provide for exchange of experiences and cross-fertilization of knowledge and good practices.

Though the list is not exhaustive, some key regional initiatives that could assist national efforts are listed:

- the Mediterranean Component of the EU Water Initiative (MED EUWI) and the Joint Process between the Water Framework Directive (WFD) and MED EUWI. MED EUWI is led by Greece and is supported also by the European Commission. The Joint Process is led by the European Commission.
- GEF initiatives and projects addressing IWRM issues at the regional, national and transboundary levels, including the GEF Strategic Partnership for the Mediterranean Large Marine Ecosystems.
- activities related to the implementation of the Strategic Action Programme for the Mediterranean (SAP MED) and the Strategic Action Programme of Biodiversity (SAP BIO), including the National Action Plans (NAPs),
- the Mediterranean Commission on Sustainable Development (MCSD) and its Working Group on water as well as its work for the implementation of the Mediterranean Strategy for Sustainable Development,

- the European Neighborhood Policy and its National Action Plans,
- the Horizon 2020 Initiative to De-pollute the Mediterranean, launched by the European Commission and supported by various partners,
- the African Water Facility (AWF). AWF is an Initiative of the Africa Ministers Council on Water (AMCOW) and a major outcome of the effort of implementing the African Water Vision and Framework for Action. The initiative supports water actions in Africa and is designed to mobilize investment for the water sector. It is hosted by the African Development Bank Group on behalf of the AMCOW.
- the Petersberg Process Phase II / Athens Declaration Process on Transboundary Water Resources Management, led by Germany, Greece, GEF IW:LEARN and World Bank.
- the Mediterranean Technical and Assistance Programme (METAP) and its work on water quality,
- the on-going work and support of UNEP for achieving the 'IWRM 2005 Target' in North Africa countries, coordinated by UCC-Water.
- UN ESCWA, UN ECE, UN ECA, UNDP and their programmes on water resources management,
- UNESCO Regional Office in Cairo and its programme on water resources management,
- UNESO and its work coastal aquifers,
- PAP/RAC and its work on ICZM,
- UNEP-GPA and its work on innovative financing for the environment,
- Blue Plan and its work on water within MCSD,
- CapNet and its network on capacity building for IWRM planning,
- the Arab Water Council and its work on IWRM planning and implementation,
- the Global Water Partnership Mediterranean (GWP-Med) and its work on IWRM planning and implementation,
- GWPO and its Technical Advisory Committee (TAC).

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ANNEX I

BASIC INFORMATION ON THE STATUS OF NATIONAL IWRM PLANNING IN GEF-ELIGIBLE COUNTRIES OF THE MEDITERRANEAN

Albania

The National Environmental Action Plan developed in 1993, upgraded in 2001 and adopted in 2002 - to be implemented over a period of five years aiming also the creation of conditions for future membership of the EU- is the basic official document for the protection of natural resources (water as well). It takes into account the need to integrate environment into other sectors. The National Water Supply and Sanitation Strategy was adopted in 2004 to replace the National Water Strategy (1997). The former was seen as the framework for reaching the long-term objectives of achieving sustainable water supply and sanitation services corresponding to EU standards, maintaining irrigation networks and developing new and sustainable water distribution and maintenance systems and establishing incentives for efficient water use. The strategy distinguishes between urban and rural areas and promotes decentralisation in water management policies, building on private sector involvement in service delivery, and cost recovery and sustainability.

The various laws on water are insufficiently linked. The Law on Water Resources of 1996, has been the main legislation on water resources management. It provides for the organization of water resource management by river basin. Notwithstanding its good points, this law is seen as outdated. The Law was under a revision process (2006 - personal communications of the authors). A Law on Environmental Treatment of Polluted Waters was adopted in 2003. It addresses the treatment of polluted industrial and urban waters. The 2003 "Law on the Protection of Transboundary Lakes", provides for the development of watershed management plan for each lake. "Lakes Administrations" would be established and will be the competent authorities for the implementation of the law. The law on Environmental Protection is a framework law and is considered to be the cornerstone of the environmental legislation. It covers a broad range of areas including water. Several existing laws detail administrative and tariff arrangements for providing public services relating to wastewater disposal and water supply, as well as fines for non-compliance. Water management is one of the areas that are of special priority for legislation improvement and/or development.

The Ministry of Environment, Forestry and Water Administration is the competent authority in the field of natural resources management as well as environmental protection. As such, the ministry has the competencies over a range of items such as monitoring programs, the management plans and frameworks and restoration plans in collaboration with local government, the Regional Council, NGOs and research institutions. Local authorities have competency over water supply and sanitation.

The recent clear orientation of the country towards European approximation (Stabilization and Association Agreement with the EU signed in 2006), and the incentive of possible accession is nowadays the driving force leading to the gradual adoption of novel notions with regard to the water resources management.

Algeria

Algeria considers the National Plan for Water, adopted in 2005, to represent its national water policy. Algeria also has a new Water Law (2005) that obliges the state, as guardian of the public property of water, to follow water resources management principles such as participation of stakeholders and management at basin level. It encourages cost recovery and water use efficiency and includes the polluter-pays principle. The water law is partly harmonized with legislation for other relevant sectors relating to the environment, land-

use, agriculture and health. The Algerian legal framework includes an obligation to prepare an IWRM Plan, and several laws and public documents refer to elements of the IWRM approach, while some aspects of IWRM are incorporated in the National Plan. An Action Plan for implementing an IWRM framework is currently under preparation and its finalisation was expected within 2006.

On the institutional aspect, the Ministry of Water Resources governs the water sector in Algeria. The Directorate of Studies and Hydraulic Schemes in the Ministry manages the water resources studies, hydraulic schemes and is responsible for the development of the IWRM Plan. Various departments and authorities are involved in implementing water regulations along with the Ministry of Water Resources: the National Agency of Dams and Large Transmission Mains (ANBT), the Algeria Water Company (ADE) for the distribution of drinkable water, the National Office of Purification (ONA), the National Office of Irrigation and Drainage (ONID), and the National Agency of Hydraulic Resources (ANRH). The role and involvement of the private sector are not addressed in the National Plan for Water, but this is dealt with in the Water Law, together with the issues of stakeholder participation and basin level management. There is a need to raise awareness on IWRM among political and professional actors. Challenges in Algeria's pursuit towards IWRM include the lack of human and institutional capacities within water-related organisations.

Bosnia and Herzegovina

In Bosnia and Herzegovina the constitutional arrangements stand in the way of a more efficient planning and management strategies, not only in the field of water management but environment in general. The fragmentation of BiH has resulted in a government apparatus containing approximately 150 ministries and multiple levels of governance at state, entity, cantonal and municipal levels.

The National Environmental Action Plan (NEAP - 2003) identifies priorities in all the areas including water, up to 2020. It identifies issues and proposes relevant measures. Solutions to all major problems identified are in excess of the available financial and institutional capabilities and resources. Two specific areas — preconditions for implementation of the proposed measures — were the focus of NEAP: legal and institutional strengthening, and preparation of strategies for planning and environmental management. An energy strategy is under way and should be completed during 2008. A country-wide water management strategy, in line with the specific circumstances in the country and the EU *acquis* is needed. Based on the NEAP, the Poverty Reduction Strategy Paper (PRSP) identified among others the area of water resources management as a field of priority. It identifies issues and potential uses of water resources and provides a set of indicators for monitoring improvements in the water sector.

A set of water laws were adopted in both entities in 2006. They include both water protection and water management segments, and are harmonized to the largest extent possible with the EU Water Framework Directive. These laws replaced others of 1998 and 2002/2003, which included overlapping competencies. By-laws and/or implementing regulations are needed to provide the operational and technical guidelines necessary for their effective application and enforcement.

Water supply systems in Bosnia and Herzegovina are still subsidised by the entity, cantonal (in FBiH), or municipal governments. The current prices established by the municipalities and water companies are too low to adequately meet the requirements for normal functioning and maintenance. The funds collected through water fees are insufficient for major investments.

The Constitution of Bosnia and Herzegovina places the competencies in water management at the level of the entities (the Federation of BiH and Republika Srpska). In

each entity there is a Ministry of Agriculture, Water Management and Forestry responsible for water management. In the Federation the Ministry shares competencies with the cantons. A department for environment within the BiH Ministry of Foreign Trade and Economic Relations is responsible for overall co-ordination of policy serving as interface for the country's international presence. An Inter-entity Water Commission was established in 1998 to deal with cross-entity water management.

River basin management institutions have been established, responsible for Sava river basin and Adriatic Sea basin (based in the Federation) and the Republic of Srpska Water Directorate. Bosnia and Herzegovina has established water agencies for a number of rivers. The intention is to have water authorities for all river sub-basins.

Croatia

Croatia has a National Water Protection Plan (1999) and is preparing a Water Management Master Plan. The latter comprises two parts. A Strategic Water Management Master Plan (Part I) which assesses the status of water resources management and determine guidelines to be used for the planning of their integrated management. These guidelines will provide the basis for the development of River Basin Management Plans (Part II).

Croatia has amended its Water Act (1995) in 2005 in order to be aligned with the Water Framework Directive. Its Water Financing act (1995) was planned to be amended in 2006. Croatia is an EU Candidate Country. The preparation of strategy and action plan for approximation of Croatian legislation with the EU water *acquis*, as part of the wider Master Plan for EU Environmental Law approximation was anticipated in a EU financed project "Approximation of Croatian Water Management Legislation with EU *acquis*" that will end in December 2007. Among the medium term priorities is to continue developing horizontal legislation, including on environmental impact assessment and public participation, to clearly define responsibilities and strengthen the administrative and operational capacity. Among the short term priorities is to continue working on the transposition of the EU *acquis*, with particular emphasis among others on water quality, nature protection and integrated pollution prevention and control and increase investments in environmental infrastructure, with particular emphasis on wastewater collection and treatment, drinking-water supply.

An important feature of water management in Croatia is the international character of most watercourses and a huge karst area. For this reason Croatia has signed different agreements with the majority of its neighbouring countries in the field of water resources management.

The Ministry of Agriculture, Forestry and Water Management manages most issues relating to water management (excepting drinking and bathing waters) through its Directorate for Water Management. Local government have competencies over a number of aspects of water management.

"Croatian Waters", a state-owned water management company, have also competencies over water resources management. These include the preparation of studies, investments and other financial issues, co-ordination of plans for water use, control, survey and informing upon water conditions, maintenance and regulation of watercourses, flood control, construction and maintenance works, protection of water resources, development and monitoring of water supply, enforcement of legal sanctions in water conservation etc. "Croatian waters" is the competent authority for the management of the four Water Basins of the country.

Egypt

A National Water Resources Plan (NWRP) was completed in 2005, with three main objectives: developing additional water resources, better use of existing water resources, and protecting the public health and environment. The NWRP clearly states and defines an IWRM approach and is considered to correspond to an IWRM Plan. Egypt sees the Plan as a main pillar towards the achievement of the MDGs. The NWRP was developed over a period of six years with extensive involvement of stakeholders. Several actions have already been included in policies and plans of various Ministries. The NWRP proposes an ambitious implementation framework, which is currently under preparation.

In addition, a National Master Plan for the Water and Wastewater Sector of Egypt is currently being finalised by the Holding Company for Water and Wastewater and is expected to complement the NWRP with regard to the water supply and sanitation sector.

Regarding the water legislation, several laws were adopted between 1982 and 1994. The water legislation is harmonized with legislation for sectors such as: the environment, land-use, agriculture and health.

On the institutional spectrum, the Ministry of Water Resources and Irrigation is responsible for the management of water resources and irrigation, and the Ministry of Housing is the responsible institution for drinking water and sanitation. However, the National Water Resources Plan relates also to the Ministries of Agriculture, Energy and Environment. The national body where cross-sectoral coordination takes place is the High Ministerial Committee (established 2005). The Egyptian Water Partnership serves as a platform for the interaction of stakeholders from Ministries related to water, NGOs and civil society. There are specific IWRM training activities taking place, such as the organisation of a *Shared Water Resources Management Diploma* organised by the Ministry of Water Resources and Irrigation in coordination with the Cairo University. Representatives from the Nile basin countries are involved in this training. Additionally there are training programmes held at the *Regional Center for Training and Water Studies*.

Lebanon

A National Decennial Strategic Plan for the Water Sector (2000-2010) was prepared in 1999 by the Ministry of Energy and Water, General Directorate of Hydraulic and Electric Resources. The Work Plan includes elements of an IWRM Plan and calls for consideration of water resources within a complete policy and planning cycle. However, the Work Plan lags behind schedule and the delay has been aggravated after the July-August 2006 War and the internal instability that the country has been facing ever since.

A new vision on water resources management, following the requirements of IWRM, was established in 2005 through the adoption of Laws 221, 241, 337 and other by-laws on the re-structuring of the Lebanese water sector. The new vision also envisages a shift towards watershed management.

The key reforms that have been identified with regard to the water sector in Lebanon entail: updating the National Decennial Strategic Plan; preparing an integrated water sector strategy based on the vision of the 2005-adopted legislation; preparing and approving a National Water Master Plan and a Water Code.

Libya

The Water Law Number 3 of 1981 regulates water development and use in Libya, sets priorities for water allocation and provides a regulatory role for the government. Although the regulatory role was foreseen for the General Water Authority, as the responsible body on behalf of the central government, in 2001 a decentralisation act allocated this role to local government (the *sha'baiyyat*). This change, even though following the subsidiarity principle, has resulted in limited co-ordination and fragmentation of responsibilities.

A National Strategy for Water Resources Management 2000 – 2025 was adopted in 1999 and sets the platform for the Libyan water policy. It partly makes reference to IWRM principles and includes the “polluter pays” principle. Although the legal framework entails the obligation to elaborate on an IWRM Action Plan/Strategy, no information is available on the preparation of such a Plan.

The General Water Authority has a broad mandate for water policy and regulation, for study and research and for supervising water development projects. GWA governs all water resources assessment and monitoring in the country, while other bodies that are involved in water resources management include the Secretariat of Agriculture and Animal Wealth, the Environmental General Authority, the Secretariat of Planning, the *sha'abiyyat*, just to mention some of them. A special authority, *The Great Manmade River Water Utilization Authority*, is responsible for the use in agricultural purposes of the water transported from the desert to the coast through the Great Man-Made River. A new Ministry of Electricity, Gas and Water was established in early 2007 and further institutional re-structuring is foreseen within 2007. In addition to institutional reform, awareness campaigns are currently organised to educate farmers on efficiency practices, as agriculture is the major water user in Libya.

Montenegro

In March 2001, the government of Montenegro commissioned a study entitled, “The Developmental Directions of Montenegro as an Ecological State”. This document sets a basis for establishing sustainable development through the integration of economic, ecological and social development. The Agenda of Economic Reforms for Montenegro for 2003-2006 had defined several priority activities including the harmonisation with EU standards and requirements and implementation of other relevant laws and regulations among others in the area of water.

The country has a new Water law (2006) harmonized with the requirements of the EU Water Framework Directive. It has also prepared a Plan of reform for water supply and wastewater treatment. Several laws, including these on Environment Law (1996), National Parks (1991), Spatial Planning and Development (2004), Strategic Impact Assessment, Environmental Impact Assessment and Integrated Planning and Pollution Control etc. touch upon water resources management.

Plans for the period 2007-2009 include the Implementation of the new law in waters as well as other laws that touch upon water resources management; adoption of the law on financing of water management and relevant by-laws; preparation and implementation of projects for integrated management of several river and lake basins; implementation of master plans for waste waters (2006-2009 and onwards); etc.

The Ministry of Agriculture, Forestry and Water Resources is the competent for water resources management authority. It shares competences with the Ministry of Environment and Physical Planning. The latter is the body responsible for most activities concerning environmental protection and management. It also supervises the Hydro-meteorological Institute as well as the public enterprises that administer the national parks; including this of Skadar Lake (its catchments area encompasses the 1/3 of the territory of Montenegro).

Morocco

Morocco developed River Basin Action Plans in 1997, which serve as a national water policy. IWRM is explicitly stated but not further defined in the Plans.

The Moroccan Water Law was published in 1995 and takes into account the IWRM approach. The water law is harmonised with several national legislations for other sectors. The legal framework includes an obligation to prepare an IWRM Plan, which is currently under finalization while a national consultation process has been in progress structured on thematic priorities. Morocco is facing challenges in the planning process of developing IWRM plans and there is a need for capacity building and institutional support. Moreover, there is a need to build on awareness of IWRM, especially among civil society.

On the institutional aspect, the National Water Council that is headed by the King, coordinates multi-sectoral water activities. The institution that has the overall responsibility for the water sector is the Ministry of Territory Development, Water and Environment, which ensures sectoral coordination between these three major sectors.

Palestinian Authority

The Water Law (3/2000) for the Palestinian Authority was published in 2002 and entails the obligation for stakeholder involvement, public hearings although the role of women is not included. The Water Law foresees a role for the private sector and also includes the principles polluter-pays and user-pays. The water legislation is harmonised with other national legislation on the environment, land-use, agriculture, health and is also harmonised with the international agreements that the country endorses. The legal framework includes the obligation to elaborate on an IWRM Action Plan/Strategy/Process.

An Integrated Water Management Plan for West Bank and Gaza (2003) that corresponds to an IWRM Plan has been elaborated, but further water regulation is under development. Palestinian water rights in the West Bank were recognised for the first time through the Oslo Accords, although no further implications of these rights have been made. The 1995 Interim Agreement states that *on the basis of good will* certain arrangements are foreseen until a final solution is negotiated.

A national water policy is in progress as well as a process of developing the Water Regulation, the first draft of which was compiled in 2005. The water policy defines IWRM and explicitly states it as the basis for water resources management in the country.

On the institutional side, the Palestinian Water Authority (PWA) is the regulatory body for water issues in the West Bank and Gaza (i.e. water provision, waste water handling, sewage). A National Water Council has been set up to provide policy guidance and be responsible for the overall cross-sectoral co-ordination, while for distribution local utilities have been put in place. In Gaza, a private Palestinian distributor, the Coastal Water Utility, has been established with the financial assistance of the World Bank and it is owned by the municipalities, while three similar utilities are already operational in the West Bank (North, South and Central).

Syria

Water Laws are in place since 1925 and has developed to include all water legislation in 2005. The water legislation entails public hearings, stakeholder participation, management at river basin, the principle of polluter-pays and participation of women. The Water Law is harmonised with legislation on the environment and land use, but is only partly harmonised with legislation on agriculture, health and the international agreements

the country endorses. Nonetheless, the legal framework entails the obligation to elaborate on an IWRM Action Plan/Strategy/Process.

The national water policy of Syria is in progress and its finalisation is expected within 2007. The policy although covers only water resources management, includes a definition of IWRM.

A Water Strategy of the Syrian Arab Republic was prepared in 2003 by the Ministry of Irrigation within the framework of water sector modernisation. The document explicitly states that the Strategy, supplemented with a set of measures and policies in different sectors, will form the basis for the elaboration of an IWRM Plan up to the year 2030. The IWRM Plan will be elaborated in a way so as to determine water resources, human resources and soil classification, as well as possible new water projects and the rehabilitation of old ones in order to ensure sustainable resource use. It is also envisaged that the IWRM Plan will entail the necessary mechanism for its revision and updating every five years depending on the occasional developments.

Another sign that Syria is on an IWRM track, rests with the establishment in early 2006 of the Directorate of Integrated Water Resources Management within the State Planning Commission of Syria. According to its mandate, the Directorate is placed in charge of water sector co-ordination, specifically on water strategies planning issues. To this end and in order to respond to the foreseen responsibilities, efforts are underway in order to strengthen the institutional and human capacity of the Directorate.

Tunisia

The Long Term Strategy for the Water Sector was published in 2003 by the Ministry of Agriculture. Although it refers to the IWRM approach, it does not elaborate further on it. The Long Term Strategy for the Water Sector (2003) and the State of the Environment Report (2002) refer to the importance of developing an IWRM plan in order to reach the MDGs. In that respect, an IWRM plan is currently under preparation and was expected to complete by 2006. The Ministry of Agriculture and Water Resources is leading the planning process.

The Tunisian water legislation takes into account principles on public hearings, participation of stakeholders, management by river basin and the polluter-pays principle. The water legislation is harmonised with several national laws related to the environment, land-use, agriculture and health.

On the institutional front, the Ministry of Agriculture and Water Resources governs the water sector in Tunisia and is the national body responsible for cross-sectoral coordination at national level. The same Ministry is also responsible for river basin management. There is a need for capacity building within water-related institutions to meet the water challenges in Tunisia. The Long Term Strategy for the Water Sector does not specify the role of the private sector.

Turkey

Turkey has a number of laws and plans relating to water though there is no evidence of an IWRM plan in place. The 1071 Law on Water Resources that was amended in 1986, gives priority to drinking water provision, although there have been cases where other uses, such as irrigation or hydropower generation, have been given precedence, as in the case of the Southeastern Anatolia Project. The 1998 Regulation on Water Pollution Control sets out the principles for classifying ground and surface water quality planning. In any case, as Turkey is an EU Candidate Country, the management of the water sector

will have to gradually abide to the principles and conditions of the EU Water Framework Directive.

On the institutional set-up, the main co-ordinating bodies for water resources include the State Planning Organisation, the General Directorate of State Hydraulic Works (DSI), the General Directorate of Rural Services (KHGM), the Ministry of Environment, the Ministry of Health and the Greater Municipalities. One of the most important projects of Turkey for the utilisation of water resources is the Southeastern Anatolia Project (GAP) that is a multi-sectoral regional project covering diverse sectors such as agriculture, hydropower generation, rural and urban infrastructure, forestry, education and health. The Southeastern Anatolia Project-Regional Development Administration is responsible for overseeing the realisation of the project. One of the key institutional challenges concerns the fragmentation and overlapping of responsibilities with regard to the water sector.