



RESEAU INTERNATIONAL DES ORGANISMES DE BASSIN  
INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS  
RED INTERNACIONAL DE ORGANISMOS DE CUENCA

الشبكة الدولية لهيئات الأحواض



**BEIRUT (LEBANON) – 6 - 9 OCTOBER 2009**

**International Conference on River Basin Management  
and Cooperation in the Euro-Mediterranean Region**

**General Assembly**

**of the Mediterranean Network of Basin Organizations (MENBO)**

« **DECLARATION OF BEIRUT** »

**FINAL VERSION**

From 6 to 9 October 2009, 110 delegates coming from 26 Countries, representatives of governmental administrations in charge of water management, of Basin Organizations, already existing or being created, of interested bi and multilateral cooperation agencies, as well as many observatory organizations, met in Beirut in Lebanon, on the occasion of the International Conference on River Basin Management and Cooperation in the Euro-Mediterranean Region and the General Assembly of the Mediterranean Network of Basin Organizations (MENBO), to define the most suitable actions needed for achieving the objectives of integrated and participatory management of inland surface and ground water resources and of related coastal zones in the Mediterranean area.

During this International Conference, were recalled the conclusions of the **Euro\_Mediterranean Ministerial Conference on Water** (December 2008, Dead Sea, Jordan) and the undergoing process of preparation of a Long Term Strategy for Water in the Mediterranean (SWM) that should be approved on the occasion of the next Euro\_Mediterranean Ministerial Conference on Water (April 2010 in Barcelona, Spain) around 4 main topics:

- Effective water governance for integrated resources management and water supply and sanitation
- Water demand management and non-conventional water resources
- Addressing water and climate change, through adaptation and mitigation measures
- Optimizing water financing

**The delegates of the General Assembly of the Mediterranean Network of Basin Organizations in Beirut** are requesting the Former Italian President and the New Lebanese President of MENBO, with the support of the Spanish Permanent Technical Secretariat, **to report these conclusions to the Water Experts Group of the UfM**, in charge of elaboration of the Strategy for Water in the Mediterranean..

The delegates reaffirmed that freshwater resources are limited and threatened all over the Mediterranean and that their better governance, respectful of the environment, is one of the main keys to sustainable development: freshwater is essential to sustain life and the health and socioeconomic progress of our societies.

However, findings are alarming: population growth, climate change, pollution, wastage, destruction of ecosystems: the seriousness of the situation in many countries requires that comprehensive, integrated and consistent management of water resources, respecting the aquatic ecosystems and territories is implemented to preserve the future and the human heritage.

The Millennium Goals for drinking water supply and sanitation can only be achieved with significant and simultaneous progress made to introduce Integrated Water Resources Management (IWRM), organized on the relevant scale of basins of rivers, lakes and aquifers, either local, national or transboundary.

### **Integrated and sound water resources management at the level of river basins is obviously essential worldwide!**

The basins of rivers, lakes and aquifers are the relevant natural geographical territories in which to organize this integrated and sound management.

Indeed, river basins are the natural territories in which water runs on the soil or in the sub soil, whatever are the national or administrative boundaries or limits crossed.

#### **Significant progress has already been made since the 1990s:**

River basin management experienced a quick development in many countries, which made it the basis of their national legislation on water or experiment it in national or transboundary pilot basins.

Although the United Nations Convention of 21 May 1997, on the uses other than navigation on the international rivers, has not yet come into effect, its principles are now more and more recognized as a basis for relations among the riparian States concerned.

In addition, the European Water Framework Directive (WFD) of 2000 lays down an objective of good status in the national or international river basin districts of the 27 current Member States and the Countries applying for accession to the European Union.

### **The gained experience allows now to say that integrated water resources management at the level of river basins is a real advantage for governance.**

It is now widely recognized that water resources management should be organized and discussed at the level of the geographical area where the problems occur, i.e.:

- 1) on the scale of local, national or transboundary basins of rivers, lakes and aquifers;
- 2) based on integrated information systems, allowing knowledge on resources and their uses, polluting pressures, ecosystems and their functioning, the follow-up of their evolutions and risk assessment. These information systems will have to be used as an objective basis for dialogue, negotiation, decision-making and evaluation of undertaken actions, as well as coordination of financing from the various donors;
- 3) based on management plans or master plans that define the medium and long-term objectives to be achieved;
- 4) through the development of Programs of Measures and successive multiyear priority investments;
- 5) with the mobilization of specific financial resources, based on the "polluter-pays" principle and "user-pays" systems in all affected sectors;
- 6) with the participation in decision-making of the concerned Governmental Administrations and local Authorities, the representatives of different categories of users and associations for environmental protection or of public interest. Indeed, this concerted participation will ensure the social and economic acceptability of decisions taking into account the real needs, the provisions to be acted upon and the contribution capabilities of the stakeholders in social and economic life. Management at the river basin level is the basis for effectiveness in water policies.

These principles have been adopted during the last INBO General Assembly in Debrecen, June 2007; they have been confirmed on several occasions and particularly during the session ‘ Management of transboundary basins’ at the World Water Forum Istanbul 2009.

### **Legal and institutional frameworks should allow the application of these six principles.**

In particular, more cooperation agreements and International Commissions or similar organizations have to be initiated, signed or reinforced between the riparian countries of transboundary river basins, in order to achieve indispensable common cause at the basin level whenever possible.

When they are in place, such international commissions, authorities or organizations allow better dialogue, the exchange of useful information, the solving of possible conflicts and the sharing of benefits from better joint management and the strengthening of transboundary cooperation.

Whenever possible, agreements for **transboundary aquifer management** should be developed, taking into account their fragility, especially that of fossile groundwater, and the time needed for restoring degraded situations, from the quantitative and qualitative viewpoint.

### **Water and agriculture in the management plans of the Mediterranean basins**

Mediterranean agriculture is subject to strong constraints which are not limited to the arid and semi-arid areas of the Southern and Eastern countries. Low availability of water resources, arable land loss and decrease in soil fertility compromise the capacities of this agriculture to meet simultaneously the stakes of food security and demographic growth, natural resources protection and rarefaction of fossil energies.

The Mediterranean basin is also one of the areas most vulnerable to the announced impacts of climate change. Agriculture will be one of the most affected economic sectors with the change in the water cycle, the degradation of arable lands and the decrease in soil fertility, the erosion of biodiversity, the displacement of bioclimatic stages and the parasitic and health risks. It is thus imperative to integrate agriculture and water for agriculture in the management plans of the Mediterranean basins.

Irrigated lands in the Mediterranean countries represent more than 21% of the cultivated lands. They have doubled in 40 years. Mediterranean agriculture remains however primarily rain-fed and most of the rural areas (mountains, arid flat lands) have a sylvo-pastoral vocation.

These arid and semi-arid areas are dominated by food agriculture with great vulnerability to drought. However, the population of the Mediterranean rural areas does not decrease; agriculture is still the activity of one employee out of three in these countries, this means that its socioeconomic role is prominent.

However, official development aid in the sector of agricultural water has decreased in the Mediterranean since the 1980s. The agricultural trade balance of these countries has clearly diminished since 1970 and the production capacity of the Middle Eastern and North African States in particular must be again supported. It is necessary to produce better and more.

Finally, non-point agricultural pollution (fertilizers and pesticides) is among the main factors of the deterioration and change of aquatic ecosystems. It is still badly controlled, even identified, its reduction is however a prerequisite to maintaining or recovering good water status.

To face these challenges, INBO retained the following strategic lines:

#### **1. Optimizing and saving water.**

In the Mediterranean area, the rarefaction of the resource will be exacerbated by climate change. To meet all the needs, it is necessary to look for water savings, water demand management, mobilization of non-conventional water and water reuse.

Multi-purpose hydro-agricultural infrastructures should also be promoted as they optimize the various water uses, and thus improve the infrastructures profitability and the economic value of water.. In the same line,

the use of pumped storage could be recommended as it increases the production of renewable hydro electricity, creating a synergy between water, energy and environment.

In a context of growing pressure on land and water resources, water productivity in agriculture must be imposed.

INBO recommends accompanying the changes in agricultural practices towards water saving by sound dissemination of innovations in general, thanks to education, training, research and development:

Incentive financial mechanisms for respecting the allocation of water resources and saving water (pricing, quota, subsidies) have to be introduced progressively as well as facilitating access to credit for modernizing irrigation at the parcels.

## **2. Supporting water governance and financing for agriculture**

Decentralization of the management of irrigated lands allows improving the sustainability of the irrigation and drainage facilities mainly their operation&maintenance functions, as well as adapting the allocated water to the real needs.

Sustainable financing is a central issue, it is imperative to create mechanisms to cover the operation and maintenance costs of the infrastructures and thus guarantee the sustainability of the collective services. These mechanisms can be based in particular on: direct payment of the agricultural water service by the user, local and national taxes, basin charges, national and local equalization mechanisms, recognizing the principle of common cause between the water users in each basin. .These financing mechanisms should also be adapted to the diversity of the structures (micro-financing.).

The long life of installations depends on their maintenance and appropriation by the recipients. It is necessary to support:

- the development of participative methods for dialogue and multiple uses of water, which allow a fair share of responsibilities between the managers of irrigation schemes and the farmers, and a transparency in water resources management. They rely on the identification of the recipients, the contractualization of the relations between managers and irrigators;
- the reinforcement of the management bodies for collective irrigation systems, whose type (association of irrigators, state-owned company, public-private partnership) will be adapted to the local situation;
- the organization of farmers in users association offers the possibility of a common representation, their participation in the governance of installations from their design to their management and the creation of a common educational culture in this direction.

The agricultural water issues should be integrated into the approaches of integrated water resources management (IWRM), on the scale of a national or transboundary river basin. .

## **3. Protecting natural resources: water, lands and ecosystems**

For this purpose, INBO recommends that agricultural practices be adapted to limit pollution hazards in fertilizing and in using phytosanitary products. This point is accompanied by developing knowledge and better control of agricultural pollution and of its impact on water resources and aquatic environments.

In the Mediterranean area, arable lands are limited and have to be maintained.

Monitoring of irreversible processes is necessary to be able to control and prevent them; salinization of the lands or groundwater, erosion, abstractions of fossil water, losses in wildlife and agricultural biodiversity and desertification...

Any preventive action is conditioned by a better knowledge of the water resources and uses which remains to be improved thanks to counting, local and (sub)regional water information systems ...

## **Adaptation of water management to climate change is needed**

Global warming cannot now be avoided. Fresh water resources will be directly affected very soon in the coming years, with announced consequences in the Mediterranean region in particular:

- increase of extreme hydrological phenomena, such as droughts and floods, with the risk of human losses, catastrophic destructions of properties and environmental damages...
- modification of the plant species and soil cover, which will result in increased erosion,
- increase of sea level, which is likely to drown coastal lowlands, as well as river deltas and mouths, and cause inland salt water intrusion,
- significant move of populations. A temperature increase of 3°Celsius could add up to 600 millions persons to those who are already suffering from water shortage in north Africa.
- risk of decrease in agricultural production

The demographic, economic and ecological consequences are likely to be very significant.

It is thus essential to adapt water resources management policies, to prevent the consequences of the climate change. It is especially necessary to quickly assess the hydrological and agronomic consequences of this change, according to various scenarios.

**Floods/droughts management plans have to be elaborated at the level of the basins, to anticipate climate change and integrate coordinated measures in RBMP, as well as** coordination of warning networks, sharing information and know-how in international basins.

Water saving, leak detection, recycling, the re-use of treated water, groundwater recharge, desalination of sea water, the search for low fuel-consuming uses must become priorities in the countries concerned.

The mobilization of these new resources should be considered only when being ecologically acceptable and economically reasonable. The optimization of the existing installations and water saving should also be looked for before considering the mobilization of new resources.

The plans for managing water scarcity should give priority to drinking water supply, and be concerned with guaranteeing at the same time an equitable and optimal access for the other uses.

Thinking at all levels about risk management should be launched. In agriculture this goes through diversification of the cropping systems, it pleads for a continuum in situations between all "rain-fed" and all "irrigated".

In this respect, working on the diversity of agriculture and wildlife, and developing inventories of genetic resources, selections of varieties, research on the endemic species and varieties, halophyte species resistant to the water stress and constituting experimental references are entirely relevant.

## **Usefulness of the tools of the WFD in Mediterranean Non EU-Countries**

For the first time in history, 29 countries in Europe (the 27 EU countries + Switzerland and Norway) were committed to implement WFD and jointly manage their water resources at river basin level, being national or transboundary basins, which represents an unequalled effort for good governance at this scale.

**The WFD allowed the dissemination of river basin management concept all over Europe, and particularly :**

- The WFD provides a common working framework (objectives, methods, deadlines, reference conditions, planning documents), with guidance documents prepared through the CIS ( Common Implementation Strategy) process led by EU Water Directors and European Commission, as common base for implementation.
- The WFD requires a series of steps very close to the principles of River basin management supported by INBO: initial characterisation of river basin districts, development of monitoring, elaboration of management plans and programmes of measures to achieve good status for all waters, public participation, principle of cost recovery... A new approach of the WFD is the large use

of economic analysis (cost-effectiveness analysis, cost-benefit analysis...) to identify the most efficient scenarios and develop a common approach for exemptions and extension of delays.

- At this stage of implementation of the WFD in Member States, it is very clear that the practical implementation necessitates the involvement of local politico-administrative stakeholders (municipalities, provinces, counties...) who will be front-liners for the investments and functioning of water utilities. They will be in charge of the concrete implementation with all economic interested parties (farmers, industrialists, fishermen, tourism...).
- The progress achieved are particularly important for transboundary basins, since the WFD explicitly requires delimiting international river basin districts and coordinating analysis of initial status, management plans, programs of measures and public participation between the concerned States. Among the 110 river basin districts established across the EU, 40 are international river basin districts and cover more than 60% of the territory of the EU, making the international coordination one of the most significant issue and challenge for the WFD implementation.
- All kinds of coordination exist, from bilateral co-operation to the involvement of 19 countries in the Danube International Commission. International Commissions act as platform for international coordination, supporting harmonisation of practices, decisions through consensus and prevention of conflicts, information exchange, improving upstream/downstream political and technical relationships, etc between riparian countries.
- WFD has been a driving force for new Member States and is now a driving force for non-EU riparian countries (EECCA region), sharing transboundary basin with EU countries.

The implementation of the WFD and of the Millennium Goals requires an acceleration of action in the field which passes, among other things, by pooling the knowledge and know-how of all the water stakeholders. In the current situation, it is important to develop tools for better collaboration between the research and industrial sectors. These collaborative platforms will facilitate the emergence and practical application of innovating approaches and techniques coming from Research and Development projects in the field of environmental technologies linked to water.

**The WFD is a successful example of regional initiative which can inspire other areas in the world** and first of all, Mediterranean non EU- countries, as it appears to be a factor for disseminating the principles of good governance. Of course, the WFD cannot be exported as itself as a regulatory tool, but **its approach and principles are transferable**, such as: characterisation of initial status and development of monitoring, formulation of management plans and action plans at basin level, definition of deadlines and measurable objectives, agreed indicators and common reference frames for data management, introduction of the cost recovery principle, participation of the interested parties and of the public...

**The following needs and recommendations could be highlighted for the Mediterranean Region:**

- **Additional human and financial resources will be necessary** for implementing the principles of WFD in **the concerned pilot basins, as well as capacity building and training programmes for concerned staff**, who should be granted for rights and ownership on their recognised and validated qualifications.
- It will be very interesting to **develop adapted tools derived from WFD Guidance documents and EU River Basins experience in order to** start preparing management plans with detailed temporary objectives and program of measures at the basin level in non EU-Mediterranean Countries.
- There is a need for **sound management of aquifers**: fragility of aquifers and time needed for restoring degraded situations have to be taken into account.
- **A joint strategy for stakeholders participation, developing the feeling of membership and identity at the river basin scale has to be considered.**

It is a common challenge around the Mediterranean Region to **reinforce cooperation programmes and support twinning agreements between EU and non-EU basin organisations, to create and strengthen basin organisations and implement sound basin management.**

## **Improving knowledge of water resources, aquatic environments and of their uses is essential to allow decision-making.**

It is recommended to the Public Authorities concerned and to the bi- and multilateral cooperation organizations which support projects related to the management and use of water resources to consider the setting-up of comprehensive and sustainable information systems, on water resources and their uses at the level of each basin, either national or transboundary basins, organized within national information systems harmonized at regional level.

Systems for warning against floods, droughts and pollution should be developed and coordinated for better facing the natural disasters caused by water and for protecting human lives and properties.

It is essential to specify the institutions responsible for the organization and the permanent operation of such systems and to guarantee not only sufficient means for the corresponding investments, but also, and in an imperative way, financial mechanisms allowing their continuous operation on the long term.

It is necessary to promote the emergence in this field of means and competences for specific engineering and to support any work aiming at defining common standards and nomenclatures for data administration in order to allow exchanges, comparisons and syntheses of information between partners at all the relevant levels of observation.

In particular, should be stressed the initiative of a group of Mediterranean Countries to set up a mechanism for strengthening the national water information systems, harmonized at regional level to give access to reliable and relevant data, necessary for supporting the implementation of the Strategy for Water in the Mediterranean.

## **The investment needs of the water sector in the Mediterranean are significant.**

National resources as well as bilateral and multilateral funding are needed, demonstrating also North-South solidarity in the region. Financing of the sector will require the right mix of resources from all three main sources (taxes, tariffs and transfers) and a persistent effort for sustainable financing strategies. Realistic cost recovery is an indispensable tool for financing water services, in particular water supply, sanitation and agriculture. Water is a public good and access to minimum quantity of safe water is a human right closely linked to human dignity. Therefore, tariffs should be differentiated reflecting local conditions and affordability considerations, particularly for the less privileged part of the society. Economic, fiscal as well as legal issues related to non-conventional water resources should be addressed in a systematic and forward looking way.

## **It is necessary to support the creation and strengthening of Basin Organizations in the Mediterranean area!**

The delegates requested that Official bi or multilateral Development Aid and the water-related programs of International Cooperation Organizations should be refocused to support projects aiming at implementing real concerted actions which meet the above principles, and experimentations, evaluations and exchanges of know-how in these areas.

They also underlined the advantages of twinning agreements between Mediterranean and EU basin organizations as an effective means for disseminating gained field experience and transferring practical knowledge of management.

## **Conclusion:**

Integrated and sound water resources management is more than ever a priority if we do not want this scarce resource to become the limiting factors for sustainable development in many countries of the Mediterranean Basin.

Organizing this management on the basin scale seems efficient.

However, the time lost is worrying and unprecedented mobilization becomes essential so that Mediterranean people win the water battle and prepare the future.

**Approved on 8 October 2009 in Beirut in Lebanon.**