

EMWIS/SEMIDE: THE EURO-MEDITERRANEAN INFORMATION SYSTEM ON KNOW-HOW IN THE WATER SECTOR

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EMWIS is a tool for co-operation between the Euro-Mediterranean countries in the water sector. It aims to facilitate access to the information existing on know-how in the water sector, while prioritising the five following topics: institutions involved in the water sector and their representatives, documentation on water, training opportunities, research and development programmes and finally data administration. Further it aims to develop the sharing of useful information and to prepare common outputs and promote the necessary co-operation programmes.

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A TOOL NECESSARY FOR THE EURO-MED WATER COOPERATION

In most cases, the information is only available at either international or national level in a fragmented, dispersed and heterogeneous way. Therefore it is necessary to make an effort to rationalize and make this information readable, easily accessible and available. To tackle this issue and to strengthen the Euro-Mediterranean dialogue, the EMWIS (Euro-Mediterranean Information System on Know-How in the Water Sector) was initiated during the Marseilles Euro-Mediterranean Ministerial Conference on Water Management (November 1996).

At the Euro-Mediterranean Conference on Local Water Management in Turin (October 1999), the Ministers emphasized the EMWIS role in the exchange of information and knowledge for the implementation of the Action Plan adopted [1]. This role was institutionalized within the regional MEDA programme on local water management (so-called "MEDA-Water"), within which the financed projects should disseminate their results via EMWIS.

EMWIS was the first operational initiative of the Euro-Med partnership in the water sector at regional level. In spite of the many difficulties encountered, the Mediterranean Partner Countries have all expressed their will to make EMWIS progress as the main tool for regional co-operation in the water sector (Madrid 2001 [2], Rome 2005 [3]). When new regional water initiatives were launched, they enlarged the users'/producers' community and expressed specific needs and requirements.

A DISTRIBUTED ARCHITECTURE & MANAGEMENT

EMWIS is concerned with the information available in the 25 member states of the European Union (EU) and the 10 Mediterranean Partner Countries.

The information is made available by "a National Focal Point" (NFP) in each country and by a central "Technical Unit" acting as an International Focal Point (see Fig. 1). EMWIS existence thus implies participation, to which all partner countries committed themselves.

The National Focal Points (NFPs) are nominated by the Ministries in charge of water. They are small teams working in a public or semi-public organisation responsible for water-related documentation and information. Their tasks consist in creating and developing a national water portal, organising communication processes and access to vetted information, ensuring information availability in the country language plus in the chosen 'international' languages (English or French), developing access to the information and maintaining relations with the users in their country.

EMWIS NFPs have already been created in each Mediterranean Partner Country plus in ten countries of the EU.

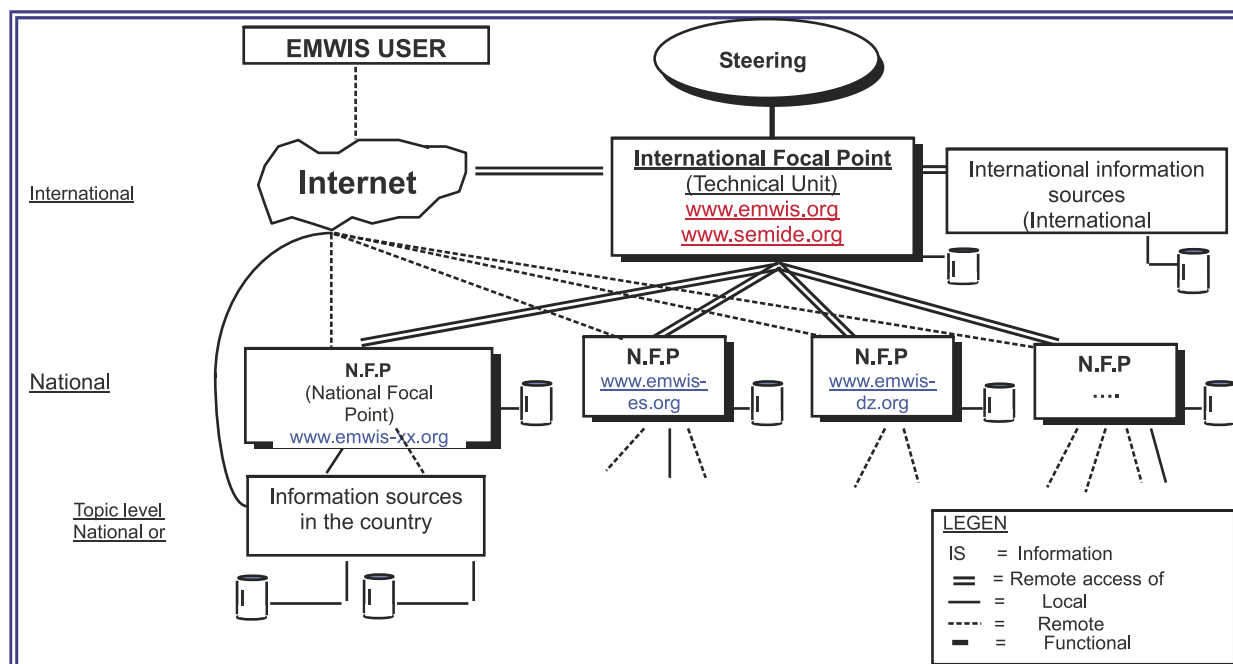


Fig. 1
**EMWIS
ORGANISATION**

ACTIVITIES & SERVICES PROVIDED

The first phase of EMWIS implementation (1999 - 2002) enabled the establishment of a strong basis for the system, with political support at the highest level, the development of a Partnership spirit in the national water authorities, the validation of the technical and organisational frameworks, the creation and training of the National Focal Points' teams on website development and management, the better awareness of the Mediterranean Partner Countries (MPCs) regarding the need for sharing information and for adapting the EMWIS to the national needs.

The EMWIS second phase (2003 - 2006) aims at consolidating the first results and at enhancing the System, especially at national level. The main activities are outlined below.

The co-ordination with political structures: yearly meetings of the Steering Committee involving the water directors of 13 countries (Algeria, Cyprus, Egypt, France, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Spain, Turkey and the Palestinian Authority) under the French Presidency and Vice-Presidencies assumed by Lebanon and Morocco. Euro-Mediterranean conferences of the water directors (35 countries) are also organised to review the progress of water activities at the regional level.

The NFPs are supported with training sessions on advanced techniques for knowledge management, the improvement of their information and communication infrastructure, the organization of national information seminars, the production of promotion material, the translation for online publishing and analysis of user needs. Thus the political representatives in charge of water in the countries involve themselves in the promotion of the System during national information seminars held in Turkey (Figure 2, [4]), Cyprus (Figure 3, [5]), Lebanon [6] and Morocco [7].

EMWIS WEB PORTAL

The EMWIS, as the regional water information portal, offers monthly trilingual (Arabic, English and French) electronic news flashes (more than 8000 subscribers), a thematic directory (i.e. "yellow pages"), a clearing house on regional programmes and initiatives (MEDA-Water, European Water Initiative, etc.), electronic forums, a calendar of events and international and national water legislation. Thanks to the continuous work of the EMWIS teams, its web portal is among the top ten sites referenced by web search engines for water in the Mediterranean area. More and more organizations call upon EMWIS to disseminate information on their works (advertisements of publications, of events, etc.) or to contribute to EMWIS with the management of a dedicated web section (e.g. ground water working group of the Joint Process [8]).

One of the main challenges of the current phase was to set-up a more ambitious technical architecture based on standardised but flexible formats of information (using the eXtensible Markup Language to define them) in conformity with the concept of web-based services rather than on recommendations of specific tech-



Fig. 2:
**EMWIS PROMOTION
SEMINAR: "WATER
INFORMATION
SYSTEMS OF TURKEY
AND EMWIS",
ANKARA (TURKEY),
15/12/2005**

Fig. 4:
**EMWIS MULTI-
LINGUAL WATER
THESAURUS**



nological solutions. Such architecture is necessary to improve co-operation within and among different national water information systems and to ensure an efficient exchange of versatile information as intended by a specific country. Thus a new web portal was launched in April 2006 based on:

- A common set of metadata agreed among the EMWIS NFP to share information on news, events, documentation, projects, text of laws (based on existing international standards). The approach used allows the syndication or the harvesting of content published on different web servers.
- A multi-lingual water thesaurus and glossary (Arabic, English, French and Spanish) to index the content of the EMWIS website and to search for in-

formation. This tool (see Figure 4) was built after an analysis of the existing specialized thesaurus and glossaries, the main three references used are: EDEN [9] [10], GEMET [11], the international glossary of hydrology of UNESCO [12] and the IDRC WaDiMena initiative [13]. A web semantic approach was introduced using the Skos format (Simple Knowledge Organisation System) [14] [15]. This will allow the development of more comprehensive water ontology.

- an "Open Source" Content Management System used by the European Environment Agency (EIONET [16]) allowing the sharing of software components, ensuring inter-operability and technical evolution.

NATIONAL WATER INFORMATION SYSTEM

The National Water Information System (NWIS) provides the necessary instruments for water management and governance. EU countries have already adopted such systems and are adapting them to fulfil their obligations (monitoring and reporting) for the EU WFD. An assessment of the current National Water Information System (NWIS) situation has been undertaken in 10 Mediterranean countries [17]. This study highlighted that except for Algeria and Tunisia, none of the countries visited have launched the implementation of a NWIS and that barriers to develop such systems are still significant (data not available, lack of financial and human resources, organisational frame-



Fig. 3:
**EMWIS PROMOTION
SEMINAR: NICOSIA
(CYPRUS), 29/10/
2004**

work not adapted) although all the stakeholders met are now all convinced of the added value of such a system and identified opportunities for their development (better efficiency and quality of existing exchanges of data, available IT infrastructure, related on-going projects).

In addition to the five generic topics of EMWIS, four thematic studies have been introduced to provide a synthesis analysis on subjects of interest to the Euro-Med water community. Two of these studies have been completed and are briefly presented in this article (see achievements) and two will be finalized mid-2006: the “Use of non-conventional water resources” and “Irrigation water management”.

BEYOND INFORMATION EXCHANGES

In 2003, EMWIS was presented as a model for co-operation during the 3rd World Water Forum in Japan and provided valuable lessons on the development of water information systems for IWRM during the 4th World Water Forum in Mexico. Thus the EMWIS approach of a distributed system, based on the appropriation of the system at local level to meet national needs while being integrated in a regional system; was followed in Latin America with SIAGUA and in Africa with AWIS (see Figure 5). On the other hand, the EU Water Framework Directive [18] (wfd) is being implemented by the 25 EU member states and provides valuable knowledge (methodology, guidance documents) that may benefit non-Med Partner Countries—MPC. To identify the most valuable concepts, EMWIS carried out a survey among the national water authorities of the MPC as well as Basin Organisations [19]. In this context, two EU leaflets presenting the wfd have been translated into Arabic and can be obtained from the EMWIS Technical Unit. This survey shows a lack of awareness of wfd by MPC, but also a strong interest in the follow-up of its implementation in EU Member States. The two first concepts of interest are the characterisation of basins and the monitoring activities. The European Commission is using the conclusions of this survey for working groups of the Joint Process in charge of drafting recommendations for the convergence of legislation for non-EU countries towards the EU standards, as foreseen in the European Neighbourhood Policy.

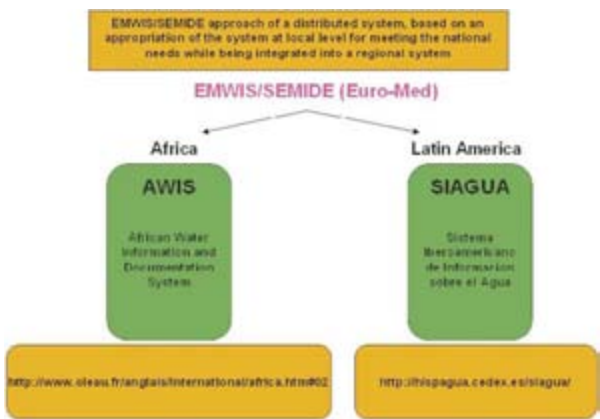


Fig. 5:
EMWIS APPROACH WAS FOLLOWED IN LATIN AMERICA WITH SIAGUA AND IN AFRICA WITH AWIS

An overview of the current policies for local water supply, sanitation and sewage in eight Mediterranean Partner Countries has been produced [20]. It shows positive trends but still limited results on the ground:

Development of new water strategies focus on demand management, socially sustainable tariffs and the economic efficiency of services; a lot of expectations of private sector involvement (investment capital, efficiency); fragmented institutional settings with consequent complex coordination mechanisms and inefficiency; access to drinking water supply is satisfactory although the quantities and the continuity of service are limited; information and data are still too scarce to draw any analysis of sewage, waste water treatment, investments and the costs of services.

STRATEGY FOR THE NEXT TEN YEARS

EMWIS reflects a real need and a strong demand of all the partners. By giving access to knowledge in the institutional, technical, and know-how fields, EMWIS proves to be a very powerful tool supporting the implementation of sustainable development policies in the field of water management.

EMWIS must be considered within a long-term approach, as its implementation must be supported by the evolution of the operating methods of water sector stakeholders in the concerned countries. Thus a gradual approach, taking national water institutions and policies into account, is needed. At their last meeting in Rome in November 2005, the Euromed water directors validated a development strategy for the next 10 years outlined in Figure 6.

| | | |
|---------------|---|--|
| Strengthening | National Water Information Systems in all the Mediterranean Countries | <ul style="list-style-type: none">• Intranets for IWRM• Better water governance and public participation |
| Asserting | EMWIS as the reference informationmedia for inland water for the Mediterranean Region | <ul style="list-style-type: none">• Maintaining quality and up to date information• Promoting standards information formats and protocols• Collaborating with international and regional initiatives |
| Providing | a regional water observatory based on national water information systems | <ul style="list-style-type: none">• Responding to National strategies• MDG and MSSD - Water and Sanitation issues |
| Valorising | results from existing initiatives, projects and programmes | <ul style="list-style-type: none">• Transferring knowledge from EU programs• Exchanges on IWRM and extreme |
| Developing | an advisory network of institutional decision makers in the water sector | <ul style="list-style-type: none">• Providing guidance to regional programs |

Fig. 6:
EMWIS TEN YEARS STRATEGY

PRIMARY TARGETS

The major challenges are related to the development of efficient national water information systems allowing for better water management and governance (including public participation). Further a regional water observation mechanism within the EMWIS will be build up to monitor the indicators towards the achievements of the Millennium Development Goals related to water and sanitation in the Mediterranean. Also the water-related section of the Mediterranean Strategy of Sustainable Development will be implemented, based on the information provided by the National Water Information Systems, wherever they exist. Such a system can provide valuable inputs for the new HORIZON 2020 initiative for depolluting the Mediterranean Sea. Finally NFPS in the Mediterranean countries who are not signatories of the Barcelona Declaration will be developed, who would request it officially, in particular the Balkan countries and Libya.

FURTHER INFORMATION:

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FRENCH ABSTRACT

Le SEMIDE est un instrument de coopération en matière deau entre tous les pays du Partenariat Euro-Méditerranéen. Le SEMIDE vise à:

- Faciliter l'accès à l'information sur le savoir-faire dans le domaine de leau
- Développer la mise en commun d'informations, tout en donnant la priorité aux cinq thèmes suivants:
 - 1) Les institutions engagées dans le domaine de l'eau ainsi que leurs représentants,
 - 2) la documentation dans le domaine de l'eau,
 - 3) la formation dans le domaine de l'eau,
 - 4) les programmes de recherche et développement,
 - 5) l'administration des données
- Développer des produits communs et des programmes de coopération