



Nostrum-DSS

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Issue 1



NETWORK ON GOVERNANCE, SCIENCE AND TECHNOLOGY FOR SUSTAINABLE WATER RESOURCES MANAGEMENT IN THE MEDITERRANEAN. ROLE OF DSS TOOLS.

COORDINATION ACTION FUNDED BY THE EUROPEAN COMMISSION, SIXTH FRAMEWORK PROGRAMME, "SPECIFIC MEASURES IN SUPPORT OF INTERNATIONAL CO-OPERATION" - MEDITERRANEAN PARTNER COUNTRIES (MPC), 2004-2007.

Project overview

NOSTRUM-DSS project is a Coordination Action funded by the European Commission under the Sixth Framework Programme. The project started on 1st August 2004 and involves eighteen partners from the North and South shores of the Mediterranean Basin. The overall project aim is to contribute to the achievement of improved governance and planning in the field of sustainable water management, by establishing a network between the science, policy, and civil society spheres.

The final expected outcome of the project is a set of Best Practice Guidelines for the design and implementation of Decision Support System (DSS) tools for Integrated Water Resources Management (IWRM) in the Mediterranean Area. These Guidelines will be developed through the active involvement of the relevant stakeholders in the different stages of the project.

The first year of project implementation was devoted to the collection of the National Reports (NRs), documents of great importance for the NOSTRUM-DSS project as they represent the common knowledge base for upcoming activities. The elaboration of the reports also aimed to allow the identification and the active involvement of local stakeholders since the beginning of the project.

The National Report structure is formed by two main parts, and by two annexes. Part I consists of general information and statistics on the Country under examination while Part II reports a specific case study in the field of decision-making in the water management sector allowing each partner to establish fruitful

relationships with local stakeholders and decision makers. The first annex includes a list of relevant stakeholders identified within each case study. In order to identify and describe stakeholders and their relationships, partners were provided with a set of guidelines and questions, drafted by EIA/UATLA in collaboration with FEEM, IDEAS/CESD and CIHEAM-IAMB. This work led to the second annex which is composed by a series of stakeholders questionnaires intended to analyse the social network in place at national and local level. The collection of the 15 NRs was concluded in April 2005 and the final documents were uploaded in the restricted area of the project web site, allowing partners to begin the foreseen cross-country analyses.

Currently the project is well under way and the sectoral analyses have begun. These analyses aim at updating issues related to water resource uses in the Mediterranean area with reference to three main sectors: agriculture, industry and domestic water use. Each one of these reports, whose delivery is foreseen in September 2005, will allow to investigate current and past experiences of DSS for water management in each specific sector. Furthermore, they will be the basis to compile a State-of-the-Art review for multi-sectoral water management and DSS development, foreseen in December 2005.

Once the sectoral analyses are completed, disciplinary analyses will start and main issues related to the three pillars of sustainability (social, economic and environmental spheres) will be analysed in three different reports which will be submitted in January 2006. A further elaboration of those reports will then be undertaken in a cross-disciplinary report whose submission is due by April 2006. ❄

Partners' List

PROJECT COORDINATOR »
FEEM, Italy - Fondazione Eni Enrico Mattei

Project Consortium »

◊ **Algeria:** ARCE - Association pour la Recherche sur le Climat et l'Environnement ◊ **Croatia:** PAPERAC - Priority Actions Programme/Regional Activity Centre ◊ **Cyprus:** ARI - Agricultural Research Institute ◊ **Egypt:** CEDARE - Centre for Environment & Development for the Arab Region & Europe ◊ **France:** CNRS - Centre National de la recherche scientifique ◊ **France:** MEDIAS France ◊ **Greece:** ITI/CERTH - Informatics and Telematics Institute / Centre for Research and Technology ◊ **Greece:** NTUA - National Technical University of Athens ◊ **Italy:** CIHEAM/IAMB, Centre International de Hautes Etudes Agronomiques Méditerranéennes/Istituto Agronomico Mediterraneo of Bari ◊ **Italy:** ICS/UNIDO-International Centre for Science and High Technology ◊ **IDEAS/CESD, Italy:** - Centro Interdipartimentale, University of Venice ◊ **Lebanon:** NCRS - National Centre for Remote Sensing, National Council for Scientific Research ◊ **Portugal:** EIA/UATLA - Ensino, Investigação e Administração S.A. / Universidade Atlântica ◊ **Romania:** TIAMASG - Fundatia pentru Tehnologia Informatiei Aplicata in Mediu Agricultura si Schimburi Globale ◊ **Spain:** UPM - Universidad Politécnica de Madrid ◊ **Tunisia:** LRAE - Laboratory of Radio-Analysis and Environment of National Engineer School of Sfax ◊ **Turkey:** SUMER - Dokuz Eylul University, Water Resources Management Research and Application Center

Summary of case studies

The 15 case studies identified within each country (*Algeria, Cyprus, Croatia, Egypt, France, Greece, Israel/Palestine, Italy, Lebanon, Morocco, Portugal, Syria, Spain, Tunisia, Turkey*), described in part II of the NRs are widely different even if the common ground is a participatory decision process in which an effective or potential use of DSS is considered, depending on the national context. After a short summary of the case studies, two issues of interest to the project will be discussed more in detail, namely DSS use and participatory processes.

It is interesting to notice how, even though the contexts are different across the countries, similar issues are raised along the Mediterranean coasts, when talking about water resources management.

Conflicts over water uses emerged in several case studies, particularly between the different sectors, as in the *Croatian* case study (*the Cetina River*) which reports how the basin is affected by hydropower generation, irrigation, and domestic uses. Similarly, but in different contexts the *Turkish, Tunisian* and *Lebanese* case studies (named *Gediz river basin, Jeffara aquifer and Damour case study*, respectively) are strongly in conflict for the scarce water resources available locally, in particular with reference to the agricultural, industrial and domestic sectors.

In the *Algerian* case (*the Great Sebkhah of Oran*), in addition to the traditional competition between the three sectors, water is also needed for environmental uses, namely the wetland of special interest present in the area. In the *Portuguese* as well as in the *Spanish* and *Syrian* case studies (*Caia river catchment, Tagus river basin* and *Asnober river basin*, respectively) the industrial sector is not so important, while irrigation and domestic uses are the predominant water consumers in the region, historically in conflict.

In the *Italian* case study (*Consorzio per la bonifica della Capitanata – Apulia Region*), as well as in the *Moroccan* one (*Tadla plain*), the main consumption of water resources is for irrigation. In the

Greek case study (*Island of Paros*) the focus is only on the domestic sector which faces a tremendous peak in demand during the summer period, because of seasonal tourism.

The *Egyptian* and *Cyprus* case studies analyse the ex-ante evaluation of two important hydraulic projects (*the South Egypt* development project and *Tamassos Dam/Reservoir*, respectively). The case study for *Israel/Palestine* (*the Dead Sea Basin*) analyses a situation internationally known for the worrying lowering level of its water surface, and particularly it focuses on the social aspects of the case. Lastly, the *French* case study (*the trend to delegation*) takes an entirely different perspective, analysing the various possibilities allowed by French laws for privatisation of water supply and sanitation companies. ❄️

News from Algeria

A new Water Law has been approved by the Parliament in June 2005

The first water law known as “Code de l’Eau” was adopted in 1983 and completed in 1996. After a long process, this law was recently modified and adopted by the Parliament in June 2005. New principles and rules have been introduced in order to adapt the water law to the new economic context in Algeria. In particular, the new law constitutes a deep revision of the tariff system. The privatisation is authorised and extended to the main activities through a concession regime (infrastructures for water depuration, distribution, exploitation of natural or thermal sources)

A new desalination plant for Algiers

The Algerian Government and the GE Infrastructure Water & Process Technologies Company (USA) announced officially in June 2005 the construction in Algiers of the future biggest water desalination plant of Africa. The project will ensure 25% of the potable water for the city of Algiers

Use of DSS

As mentioned before, the main focus of NOSTRUM-DSS project and therefore of the case studies is on the effective use of DSS tools for decision making in the field of water resources within the Mediterranean countries. Depending on the national contexts, in some cases real experiences have actually taken place, while in others only some attempts in the academic field have been undertaken. Lastly, most of the countries have really no experience in this sector and highlight the need for this kind of expertise. More specifically, a quick overlook of the state of the art about the use of DSS tools within the NOSTRUM-DSS is provided here below.

The *Greek* case study reports the successful application of WSM-DSS (a tool developed under the EU funded WaterStrategyMan Project – *Developing Strategies for Regulating and Managing Water Resources and Demand in Water Deficient Regions*) which uses computational systems for estimating water demand and supply as well as the evaluation of water resource exploitation and management.

In the *Egyptian* case study the potential impacts of the hydraulic development project are analysed with the implementation of the Environmental Impact Assessment, supported by DSS: namely the EIA-DSS, which contemplates the use of 35 environmental assessment criteria. In the *Portuguese* case study it is shown how the Mulino-DSS (a tool developed under the EU funded MULINO Project – *MULti-sectoral, INtegrated and Operational decision support system for sustainable use of water resources at the catchment scale*), developed to address the complex multi-sectoral problems of water resource and quality management at the catchment and river basin scale, could help to solve conflicts arising in the Caia catchment.

The *Syrian* case study focuses on the usefulness of river basin modelling software for the evaluation of different development options under different scenarios; the software used was WEAP (Water Evaluation And Planning System),

which has been implemented to meet the characteristics of the area, using data regarding the hydrological features of the area as well as water demand from different users. Lastly, in the *Italian* case study, even though effective use of DSS tools is not in place, real time hydrological and meteorological data are available on the internet to help agricultural water users to correctly decide on water abstraction and allocation. The other case studies do not report about the effective use of DSS for decision making but enhance how they could help to solve conflicts, highlighting which data are already available, and which may be the setbacks for their effective application. ❄

Improving water governance by means of participatory processes

The other main emphasis of the NOSTRUM-DSS case studies is placed upon the participatory aspects of decision-making processes; similarly to the use of DSS, the case studies range from effective and formal participatory processes included by policy makers in the final decision to situations where the stakeholders' opinions are not considered at all.

In the *Cypriot*, *Croatian* and *Egyptian* case studies for instance, all the relevant stakeholders concerned by the construction of the infrastructures were included in the decision-making with an interactive process. In other cases, namely the *Italian* and the *Moroccan* ones, the water authorities are entitled by law to consult the final users and to include their opinions in the irrigation plans. In the *Portuguese* case study, as well as in the *Greek* one the participation process is part of the DSS tool application, but they can be considered more as an academic exercise.

Similarly, in the *Lebanese* case study, as well as in the *Tunisian* one, the informal participatory processes in place were carried out by the research team, through workshops and seminars, with no real interests shown by the real decision makers.

For the other case studies, neither formal nor informal consultative processes have been carried out but they are highly recommended in order to solve the ongoing problems and conflicts. In this perspective, all the reports emphasise how the identified relevant stakeholders may be involved in a participatory process linked to the NOSTRUM-DSS activities. ❄

Events

Past events

Kick Off meeting

Lisbon October 2004

The Kick-Off meeting of the NOSTRUM-DSS project took place in Lisbon the 10th–12th of October 2004. The main aims of the meeting were to reach a common understanding among partners about the implementation of the coordination action (CA), to organise and launch the activities of the first year and to inform partners about the basic management rules.

A key issue of the meeting was the discussion and finalisation of the National Report (NR) outline.

There was common agreement on the fact that the NR should bring to the CA a specific example of decision-making in the context of water management. Part II of the National Reports was therefore devoted to report this example. In order to carry out Parts II, the partners decided to refer to ongoing researches in which positive experiences with decision-makers and stakeholders had been already set up. During the meeting it was agreed that the project Co-ordinator (FEEM) undertook the preliminary compilation of Parts I of the National Reports in order to allow the other partners to concentrate on Part II which is strategic for connecting some ground realities.

During the meeting, the partners indicated also the UN Millennium Declaration (MD), the Plan of Implementation of the World Summit on Sustainable Development (WSSD),

the Barcelona Convention, and the EU Water Initiative as the main references for inspiring the work to be carried out during the three years of project implementation.

1st meeting of the Steering Committee

Lisbon October 2004

During the Kick-Off meeting in Lisbon the NOSTRUM Steering Committee (SC) met for the first time.

The NOSTRUM-DSS Steering Committee is composed by five internal members, representing the five core institutions of the NOSTRUM-DSS Consortium, leader of the Work packages, and five external members selected from National/International Institutions playing a key role in IWRM in the Mediterranean. The Steering Committee is scheduled to meet five times during the project implementation, in concomitance with the project events.

During this meeting, the role of the project Steering Committee (SC) was confirmed. More specifically, the Steering Committee has: to oversee the project implementation, to provide multi-disciplinary advice on the progress made, to ensure that local needs and concerns related to water management be considered and to guarantee the effectiveness of the communication between political and scientific spheres.

2nd meeting of the Steering Committee

Venice June 2005

The second meeting of the NOSTRUM-DSS Steering Committee (SC), was held in Venice on the 25th of June 2005.

This second meeting of the SC was not planned originally, but rather it was explicitly requested by the Steering Committee members during their first meeting in Lisbon. The main objective of the meeting was to examine the status of project implementation after the first main deliverable – namely the compilation of the National Report – was submitted to the EC.

The meeting gave the opportunity to elicit from SC members comments

on the work so far, as well as advice and suggestions as how to overcome possible difficulties, and to improve the project's performance.

In general it was observed that the statistical coverage of NR Parts I is good even if some gaps remain with reference to the coverage of industrial water use and the quantitative analysis of economics and the water cycle. The NR Parts II are generally more complete and comprehensive, even though the level of comparability across countries is lower than in NR Parts I. One of the weak areas in Parts II is the discussion on the implementation status of the legal and institutional backgrounds of countries. The next steps of the project will therefore explore in major detail the institutional settings and legislation enforcement.

In addition, in order to facilitate the development of the next three deliverables (D2-1 Report on water uses in agriculture in the Mediterranean Countries; D2-2 Report on industrial water use in the Mediterranean Countries, D2-3 Report on urban and tourist uses and engineering of the water cycle in the Mediterranean Countries) it was suggested that a common outline should be used to ensure comparability and facilitate further analysis, even if the contents of the deliverables remains under the responsibility of the competent partners.

Finally, the meeting gave the opportunity to inform the SC members of recent developments outside of, but connected with, the project's activities and Consortium. ❄

Forthcoming events

First Thematic Workshop:
Sectoral issues for DSS use in water resource management
Tunisia, September 2005

The first Thematic Workshop will be held in September 2005 in Tunisia. The partner in charge of organising the workshop is the Laboratory of Radio Analysis and Environment of the National Engineer School of Sfax. The main aim of this meeting is to discuss among partners the contents

of the National Reports with respect to the sectoral analyses that are undertaken within Work package 2. Within this event a specific session with local stakeholders will also take place. This session will be devoted to the discussion with local actors about water management resources strategy in Tunisia and about the opportunity to use the Decision Support Systems in this field.

Second Thematic Workshop:
Methodological issues for DSS use in water resource management
Egypt, February 2006

The second Thematic Workshop will be held in January 2006 in Egypt. The partner in charge of organising the workshop is the Centre for Environment & Development for the Arab Region & Europe. The main aim of this meeting is to conclude the multi-disciplinary analysis of the National Reports that is undertaken within Work-Package 3. Another important objective of this event is to achieve the active involvement of the identified Small and Medium Enterprises within the Consortium in order to collect their comments and suggestions for the preliminary project's outcomes.

Third Thematic Workshop:
Data issues for DSS use in water resource management
Lebanon, June 2006

The third Thematic Workshop will be held in May 2006 in Lebanon. The partner in charge of organizing the workshop is the Lebanese National Council for Scientific Research. The main aim of this meeting is to assess the feasibility of DSS applications as constrained by data availability emerged in the national case studies and discuss aspects pertaining to the integration of environmental and socio-economic data, as well as to the use of the spatial dimension in developing DSS tools. ❄

Project-related events

10th International Conference on urban drainage

Organised by Technical University of Denmark and by Aalborg University, 21st–26th August 2005, Copenhagen, Denmark.

→ <http://10icud.er.dtu.dk/>

The World Water Week and the 15th Stockholm Water Symposium

Organised by the Stockholm International Water Institute (SIWI), 21st–27th August 2005, Stockholm, Sweden.

→ <http://www.siwi.org/>

The 11th International Congress of European Association of Agricultural Economists (EAAE): The Future of Rural Europe in the global Agri-food system

Organised by EAAE and by the Food and Resource Economics Institute of the Royal Veterinary and Agricultural University (KLV), 24th–27th August 2005, Copenhagen, Denmark.

→ <http://www.eaae2005.dk/>

10th International Symposium on the Interactions between sediments and water

Organised by the International Association for Sediment Water Science (IASWS), 28th August – 2nd September 2005, Lake Bled, Slovenia

→ <http://www.wsc.monash.edu.au/iasws/2005symposium.htm>

Water, Land and Food Security in arid and semi-arid regions

Organised by the Mediterranean Agronomic Institute, 6th–11th September 2005, Valenzano (Bari), Italy.

→ <http://www.iamb.it/iamb2005/programmi/news.php?par=2005&id=315>

International Workshop on Success and Failure of Decision Support Systems for Integrated Water Resource Management

Organised by Fondazione Eni Enrico Mattei, in cooperation with UNESCO-ROSTE, 6th–7th October 2005, Venice, Italy.

✉ Jaroslav Mysiak – jaroslav.mysiak@feem.it

Governance Systems and competitive models in water services

Organised by Federgasacqua, 12th–14th October 2005, Palermo, Italy
 → <http://www.federutility.it/memo/>

1st EMCO workshop

Analysis and removal of contaminants from wastewaters for the implementation of the Water Framework Directive

Organised by Consejo Superior de Investigaciones Científicas, Barcelona, Spain (CSIC) and Faculty of Chemical Engineering and Technologies, University of Zagreb, Croatia (FKIT), 20th – 21st October 2005, Dubrovnik, Croatia.

→ <http://www.cid.csic.es/dubrovnik2005/home.htm>

1st EWA Brussels Conference European River Basin Management Policy

Organised by the European Water Association in cooperation with the Representation of the Free State of Bavaria to the EU, 25th October 2005, Brussels, Belgium

→ <http://www.ewaonline.de/pages/workshops.htm#EWAB>

Sustainable Management of Water Resource

Organised by Universidade Atlântica in cooperation with Portuguese Ministry of Environment – Water Institute (INAG) – and the Portuguese Association for Water Resource (APRH), November 2005, Barcarena, Portugal

✉ Carlos Machado – cmachado@uatla.pt

2nd National seminar Water and Environment

Organised by University of Béchar, 12th and 13th November 2005
University of Béchar, Algeria

✉ M. Metiche – metiche022000@yahoo.fr

Forestry Sector and Sustainable Development in the Mediterranean: Challenges, Policies and Governance

Organised by Plan Bleu – Regional Activity Center, 24th–26th November 2005, Rabat, Morocco.

✉ Mohammed Benembarek – fmdd@planbleu.org

International Conference on Water Protection and Conservation

Organised by University of Blida 26th–27th November 2005, University of Blida, Algeria

✉ Prof. Boualem Remini – bremini@caramail.com

Integrated Water Resources Management in the Middle East

Organised by Arava Institute for Environmental Studies (AEIS) & NATO Advanced Study Institute (ASI), 6th–17th February 2006, WaDimena-, Kibbutz Ketura, Israel.

→ <http://www.natowater.org/site/index.php/nato>

New water policies - The Water Framework Directive

Organised by the European Water Association, 17th –18th May 2006, International Symposium in Barcelona, Spain.

✉ Gamaliel Martinez – gamamtnez@ya.com

Do you want to know more?

If you want to know more about NOSTRUM-DSS Project please email the Coordinator at nostrum@feem.it or visit the project web site www.feem-web.it/nostrum

Project WEB-SITE

Public level

- ◇ List and contact information of the partners
 → http://www.feem-web.it/nostrum/partners_index.php
- ◇ Useful links
 → http://www.feem-web.it/nostrum/links_index.php
- ◇ Download section
 → http://www.feem-web.it/nostrum/downloads_index.php
- *Information Leaflets in three languages (Arabic, English, French)*
- *Interim and Annual Activity Report*
- *Technical Deliverables: the first public deliverables (Sectoral Reports) will be available in September 2005*

Intermediate level

- ◇ *FORUM* for registered users to discuss NOSTRUM-DSS related issues
- ◇ *Other relevant documents* related to the project (e.g. list of national Stakeholders, statistical information)

The intermediate level will be available on the project web site in September 2005. For registering please send an email to nostrum@feem.it

Confidential level only for members of the Consortium

- ◇ *Project's scientific documents*
- ◇ *Administrative documents*

