

Multi-disciplinary approaches to decision-making and IWRM in the Mediterranean

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What is Nostrum-DSS?

It is a coordination action project, funded by the EC FP6, which aims to improve governance and planning in the field of sustainable water management in the Mediterranean area:

- by establishing a network between science, policy and civil society spheres;
- by fostering active involvement of relevant stakeholders;
- through the development and dissemination of Best Practices Guidelines for the design and implementation of DSS tools for

What are the Nostrum-DSS Leaflet Series?

These short documents summarise the main output of the project and represent the **gate** to the wide range of products and resources available on the project's web site. They are composed of three kinds of leaflets:

- Case studies leaflets;
- Policy leaflets;
- Technical leaflets.

To whom are these leaflets addressed?

As part of the Policy leaflet series, this document is mainly addressed to **policy** and **decision-makers** interested in gaining insights on how *DSS tools and approaches* can support their everyday job, but they may be useful to researchers and practitioners too.

For further information see the NOSTRUM-DSS website:

→ | <http://www.nostrum-dss.eu>

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Overview

In most of the Mediterranean countries, water resources are managed by centralized systems and institutions, often resulting in conflict of interest. In the policy systems of some countries, the existence of normative frameworks split in numerous laws results in significant overlapping of jurisdictions among institutional bodies and consequently leads to conflicts in competence. Adequate legislative framework is needed for both solving institutional conflicts and managing water resources in optimal way, together with the creation of regional agencies at basin level.

Generally speaking, it is the multi-disciplinary approach to decision-making which is still lacking in many Mediterranean countries. Problems should, in fact, be solved or prevented through a holistic and cross-sectorial approach able to address all dependent issues.

Economic instruments

Economic instruments have been frequently proposed as a viable alternative to the more costly *Command & Control* tools. They are used increasingly often, particularly in developed countries. Market-based instruments seek to alter the incentives/disincentives faced by individuals or organizations, so as to induce a modification in their behavior and make them socially and environmentally friendlier.

The efficient and effective implementation of market-based instruments requires appropriate standards, monitoring and implementation capacity, coordination among institutions, and economic stability. Economic instruments for water management include water prices, charges for water use, subsidies, etc.

For instance, different tiers of water tariffs could be implemented in order to penalize excessive water use and motivate water conservation or to foster technological innovation, especially for large water consumers such as agriculture.

Water pricing could have significantly positive impacts on sustainable use of water resources, but it might also have adverse equity impacts and thus it should be carefully planned. Lastly, the trend for delegating the provision of services (e.g. drinking water distribution) in certain countries could enhance the rational use of resources.

For more details see the NOSTRUM-DSS Meta-guidelines

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Keywords:

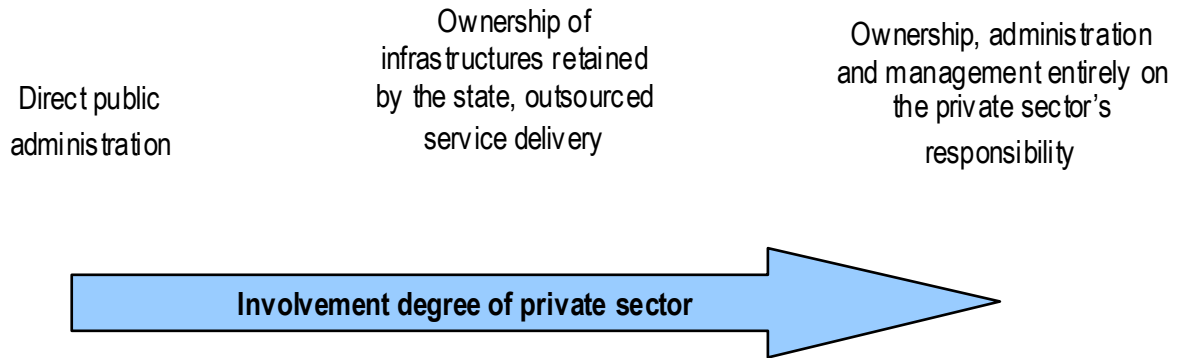
- IWRM concepts and principles
- Water policies, instruments

Experiences from the Nostrum-DSS Case Studies

France

In the NOSTRUM-DSS French case study, a comprehensive discussion on the main issues related to the delegation of the water services in France (and applicable elsewhere) is presented. Several of the available economic instruments relevant to water management are also discussed in the NOSTRUM-DSS Deliverable D3-1.

Three main models of water services delivery



Water sector privatization

The public sector proved to be inefficient in terms of delivering water services: large water losses coupled with financial non-sustainability due to the pricing systems, which did not provide incentives to water users for efficiently managing the resources; poorly managed infrastructures and insufficient investments in new infrastructures also characterized the sector.

Privatization of water and sanitation services is deemed to improve their efficiency, ensuring technological improvements as well as better managerial capacity and is in line with an overall tendency observed in the past decade. However, it may have various negative social and economic impacts: changes in the tariff structure, for instance, may harm the poor; business-minded water companies may favor productive sectors, which are more willing to pay, leading to the imbalance in the productive activities.

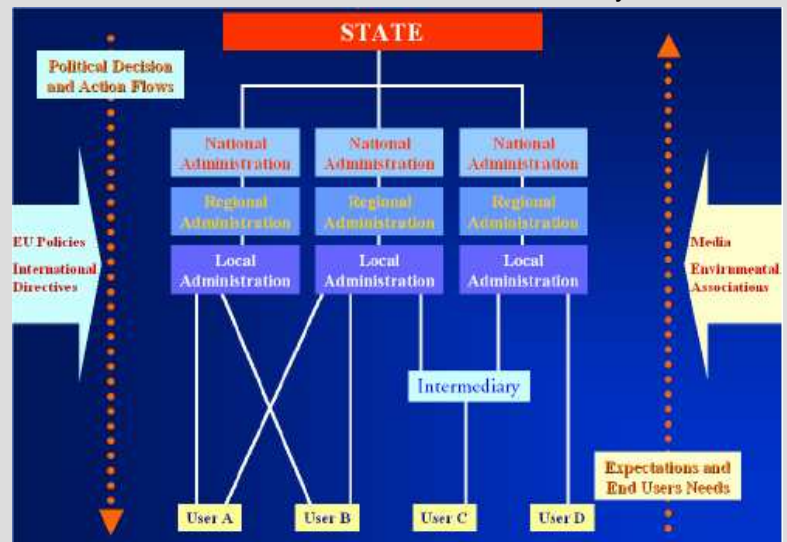
Thus, dealing with these risks and giving importance to the ethical consideration that water is a human right, which should be accessible and affordable to everyone, different levels of privatization have been experimented.

Social approach

One of the basic principles of IWRM, as foreseen by the Water Framework Directive (WFD), is the participatory approach. This means that the identification and knowledge of the social networks (water users and stakeholders) in the system are essential. The involvement of stakeholders in the decision-making processes would result into:

- increase of innovative policies and better-informed operational decisions;
- resolution of conflicts and disagreement through consultation of all social actors in a given region or catchment;
- increase of the policy continuity and consistency;
- coordination and integration of diverse actions;
- increase of strategic planning and decision-making levels.

Decisional framework: catchment as social system



Environmental component

Water pollution from industry remarkably affects almost all countries, but impacts are even more severe in the Southern Mediterranean countries, which registered a high industrial growth in the last decades. All Mediterranean-rim countries generally lack of treatment plants to purify and re-use wastewater, mainly because of financial and human resources shortages.

To see how DSS tools can support multi-disciplinary approach to decision-making see the other **NOSTRUM-DSS policy briefs**

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- Multi-sectoral approach to water management
- Development and implementation of DSS tools
- Public participation to water management

