

Governance and Water Management in the Mediterranean

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Source: NOSTRUM-DSS Deliverable D6-5

What is Nostrum-DSS?

It is a Co-ordination Action, funded by the EC FP6, aimed at improving governance and planning in the field of sustainable water management in the Mediterranean area:

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

What is the Nostrum-DSS Leaflet Series?

These short documents summarise the main outputs of the project and represent an **entry point** to the wide range of products and resources available on the project's web site. The series includes three kinds of leaflets:

- Case studies leaflets
- Policy leaflets
- Technical leaflets

To whom is this leaflet addressed?

As part of the Policy leaflet series, this document is mainly addressed to **policy and decision makers** interested in gaining insights into how *DSS tools and approaches* can support them in their everyday work, but 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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The Governance crisis

In the Mediterranean area, the problem of water scarcity is strongly felt because of the uneven temporal and spatial distribution of water resources, but also because of high water pollution. Water demand is increasing, because of growing populations and as a result of climate change, but also as a consequence of inadequate public policies which, for instance, favour the agricultural sector – traditionally the largest consumer of fresh water.

Water shortage in the Mediterranean is thus also a consequence of a “governance crisis” of the water sector. **New roles and responsibilities** need to be defined for both private and public actors.

The adoption of “new” modes of governance should guarantee the respect and trust of **private actors** for public institutions, and increase the **capacity** of these institutions to respond to changing situations, thus achieving social consensus and resolving conflicts.

At present, supply side solutions are generally adopted to increase water availability and cope with physical water scarcity. It is widely recognised, however, that increasing water supply indefinitely is not a sustainable solution, and alternatives should focus on improving the **efficiency of water uses**. Demand-side management strategies should be adopted instead, or alongside, of supply-side policies, to increase water saving and to improve efficiency in water use.

A change in current governance models should be based on the principles of **Integrated Water Resources Management (IWRM)** and leading to a new paradigm which guarantees the integration of different scales, public participation and sustainability in the management of water resources.

For examples of demand side management supported by DSS tools see the Italian, Spanish and Moroccan Case studies...

Integrated Water Resource Management

According to the Global Water Partnership, IWRM “is a process which promotes the co-ordinated 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”.

The main objective of IWRM is the achievement of an **efficient and equitable system** of distributing and managing water resources, through actions aimed at reducing water demand and the sources of pollution.

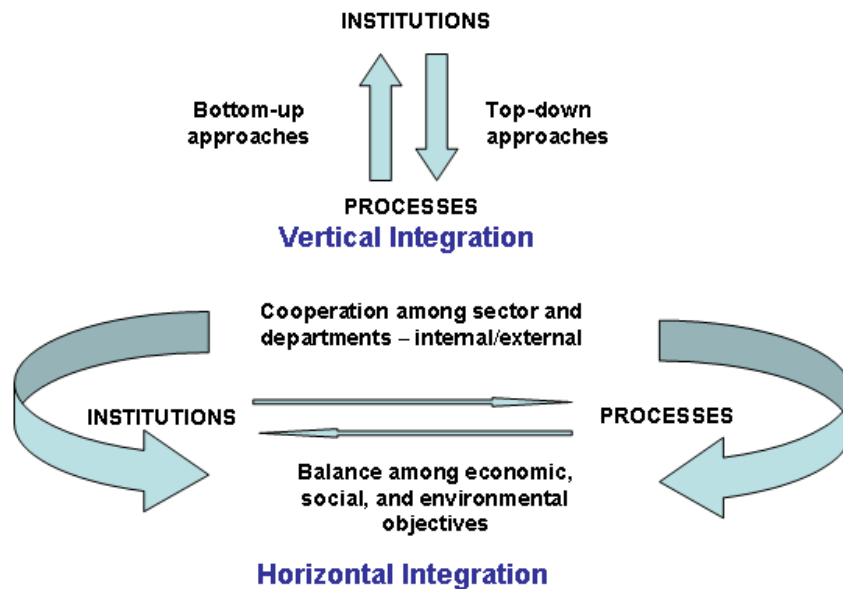
Experiences from the Nostrum-DSS Case Studies

Syria

In the Asnobar Basin Case study, the ongoing decision-making process based on a simulation model still relies exclusively on the central government.

Greece

The acknowledgement of the Integrated Water Resources Management principles is well exemplified in the Island of Paros Case study.



The “New” Governance paradigm

The traditional approach to governance is centralised (i.e. based on the state authority), sectoral, and based on top-down decision making. This model of governance is no longer adequate for dealing with the new complex issues and problems related to water scarcity in the Mediterranean, which often lead to social and political conflicts.

New forms of governance are associated with decentralised decision-making processes with a strong involvement of stakeholders – both from the private and public domains. The “new” governance paradigm refers to different modes of governing people, institutions and resources, well distinguished from the traditional, top-down approach, and characterised by:

- a more predominant role for cooperative approaches and positive interactions among State institutions and local actors,
- an increasing emphasis on public-private partnerships, and
- the preference for bottom-up approaches (i.e. stakeholders take active part in the decision-making process at different levels and drive the process).

This paradigm relies on the vertical and horizontal integration of both institutions and processes, as shown in the figure above:

1) **vertical integration** refers to actions of collaborative planning and management at different levels (national regional and local); Vertical integration traditionally makes use of “soft governance” tools, for instance social learning,

2) **horizontal integration** refers to the disciplinary integration of economic, social and environmental objectives through central steering mechanisms, e.g. coordination at Cabinet level.

*For more details on Top-down and Bottom-up approaches see the Nostrum-DSS leaflet on **Decision Making and laws***

Ways ahead

In the Mediterranean countries, governments need to change the prevailing orientation of their water policies:

- Decision support system tools could provide significant support to design integrated water polides in line with the paradigm of sustainable development, especially for planning at the river basin level.
- Hydrological and meteorological databases, part of DSS, are also useful planning instruments.
- DSS are also used to explore the link among economic development, hydrological resource and land use, and to foster public participation.
- More in general, the integration of DSS development and implementation into countries' strategies and decision making for enacting the principles of IWRM, should be considered and encouraged, as a means to improve water governance.

To see how DSS can support the implementation of IWRM principles see the **NOSTRUM-DSS Meta-Guidelines**

→ | <http://www.nostrum-dss.eu>

Home » Final products » Policy support » Meta-guidelines

- Keywords: Data Management, GIS, spatial data, DSS research and development
- Keywords: Public Participation, Stakeholders Analysis, Conflict Assessment
- Keyword: IWRM Concepts and principles

