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**European Union : Alternative  
strategies for the regulation  
and the water resource  
management and the  
management of the demand in  
arid zones -**

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**"WATERSTRATEGYMAN" 2002**

**- 2006**

OIEau - IOWater - OIAgua

- International Office for Water - Cooperation - International actions - Integrated water resources management (IWRM) -

The “WaterStrategyMan” research project, was implemented from January 2002 to June 2006 gathering partners from Cyprus, France, Germany, Israel, Italy, Portugal and Spain. It was co-ordinated by the National Technical University of Athens (Greece) and aimed at developing and **evaluating alternative strategies for water resource management and the regulation of water demands in the arid zones of Southern Europe.**

The goal of the WaterStrategyMan project was to develop and evaluate alternative strategies for regulating and managing water resource and demand management in Southern European regions, characterized by water deficiency problems. The central objective was to arrive at :

- a) Regional strategies, which could guarantee a sustainable water use,
- b) A set of water management guidelines, and
- c) Protocols of implementation.

To that end, project methodology, tools and outputs can enable decision makers to delineate and assess a wider range of integrated water management options, and eventually select and implement relevant water schemes for mitigating water stress and achieving adequate water cost recovery. These developments were formulated and evaluated for selected typical regions and watersheds and therefore may easily be applied to any similar region.

The specific objectives of the Project included:

1. The definition of a typology of water deficient arid and semi-arid regions in terms of
  - a) socioeconomic, cultural and environmental characteristics related to present and prospective development policies,
  - b) water resources, water supply, use patterns, water management practices and policy-making functions.
2. The formulation of principles of integrated water resources management frameworks appropriate for arid and semi-arid regions, in the context of implementing the Water Framework Directive, and also addressing the aspect of intersectoral competitive uses.
3. The development of a methodology for outlining/analysing alternative supply/demand scenarios and evaluating each intervention through the use of a multi-criteria approach that takes into account cost, benefits, efficiency, social and environmental implications.
4. The development of a Decision Support System as an integral part of the above methodology that would be utilized in analyzing quantitative and qualitative impacts, in describing the entire gamut of potential responses; and in suggesting appropriate solutions.
5. The selection of a set of representative cases, according to an elaborated typology, conceptualised as paradigms, with the purpose of providing concrete examples of implementation/evaluation steps.
6. The detailed analysis of the identified paradigms through the development and assessment of alternative scenarios on current and future allocation of water resources.
7. The development of alternative integrated water resources management options for each paradigm that take into account the full economic and environmental costs.
8. The development of improved resource demand/management strategies on the basis of the lessons learned from the six paradigms.
9. The formulation of widely applicable guidelines and protocols for the efficient implementation of the Water Framework Directive under different socio-economic conditions or assumptions.

Case Studies were made for the formulation and analysis of improved water management strategies. These were:

Paros island in the Cyclades complex, Greece, Belice Basin in Sicily, Italy, Limassol Region in Cyprus, the region of Tel Aviv in Israel, the island of Tenerife in Canary Islands, Spain and the Ribeiras do Algarve river basin in Portugal.

Methodologies, tools, collection of directives and implementation protocols were developed so that the decision-makers may access to a set of integrated management strategies.

**The International Office for Water was involved in the following:**

Development of the methodology for evaluating the availability of and the demand for the resource as well as for the estimation of both the economic and environmental costs of the interventions required to improve water management.

Moreover, IOWater was in particular involved with the aspects of the « description and evaluation of the different methods that can be used to estimate the economic and environmental costs » (leader of the work package relating to economics)

In partnership with the National School of Public Works, a workshop was organised in Paris (8-10 October 2003) in order to present the progress made on the following tasks :

- **analysis of the current context** (existing institutions, regulation methods, current uses, water availability, infrastructures for mobilising the resource, etc.),
- **preparation of an analysis grid to define the types of arid zone in terms of resource availability**, of uses to meet, management practices and mechanisms for water policy,
- **development of a methodology for assessing resource availability and demands** and for estimating the economic and environmental costs of actions to improve water management,
- **testing and adaptations of the different models and tools for water resource management:** assessment of their applicability to arid zones and their improvement. These tools and models are used for formulating and evaluating the scenarios on demand versus water availability,
- **collection of data on water resources and demands**, preparation of a database combined with a Geographic Information System.

Through the preparation and presentation of the methodological themes, the whole first phase was an important step towards the constitution of a system of assistance for decision-making.

The second phase was devoted to :

Information and training campaign, and use of the results obtained.

Publication of the results (reports, book&hellip;) &ndash; assisting the Ruhr University.