GOUVERNe

Guidelines for the Organisation, Use and Validation of Information Systems for Evaluating Aquifer Resources and Needs.

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CONTEXT (or problem to be solved)

The EU Water Framework Directive 2000/60/EC (WFD) is a critical piece of legislation in safeguarding water resources for both people and nature. It provides a common approach across Europe to address many of the entrenched problems in water policy stemming from the piecemeal development of previous regulatory instruments. Under the WFD, six year plans will be drawn up for each River Basin District (RBD). The timescale for implementation of the WFD is short as the environmental objectives identified under the first River Basin Management Plans (RBMP) are to be achieved by 2015. The WFD represents a new approach in that it is an ongoing process of planning rather than a plan itself, it adopts a strategic and integrated approach, and the approach is participatory. With regard to participation, Article 14 of the WFD states that, "*Member States shall encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans.*" Article 14 also sets out specific but somewhat limited provisions governing consultation on river basin management plans and availability of background documents and information.

Additional to the social and institutional momentum behind wider public participation, there has been a growing endeavour to explore the conditions for effective participation in decision and policy making. High stakes issues require extended decision-making processes and it is almost unavoidable that the concepts of the information society and electronic governance together with the practical deployment of new Information and Communication Technologies (ICT) become the driving forces of these processes. The involvement of citizens in decision processes through ICT necessitates skilled design of interfaces which can connect issues with intended audiences, following closely the same principles that sustain new styles of governance: congruency, trust, resources and knowledge sharing.

Over recent years, the role of decision tools, in particular for environmental issues, in which Decision Support Systems (DSS) are included - has been enhanced not only because of technological advances but also because of greater skill and openness in the actual use of such tools for participation purposes. In a sense, this enhanced role has assisted a change of function for decision tools within environmental decision-making processes.

The expansions in opportunities for participation has generated new tools to support the process itself and well over fifty such methods have been identified. These include frameworks for organising face-to-face dialogue and debate, consultation techniques based on interviews or questionnaires and, increasingly, the deployment of customised ICT platforms and Internet applications.

THE GOUVERNe PROJECT

The GOUVERNe project aimed at *designing and prototyping a user-based and scientifically validated tool (…) to improve the management of* [mainly] *groundwater resources at the catchment and sub-catchment levels*.

In recent years there have been increased calls for "science based policy". There are also increased calls for the better integration of "stakeholder perspectives" in public policy, and in the performance obligations placed on the business community. The overall goal of the GOUVERNe project has been to contribute to the development of a comprehensive Europe-wide network of activities for the production, deployment and exchange of teaching and training resources in the field of water resources governance and sustainable development. The consortium has demonstrated the revolutionary possibilities of the new multimedia information and visualisation technologies for the development of governance support tools and procedures that facilitate the effective participation of individuals and groups as "stakeholders" in water resources policy, management and governance processes. Thus, following the style and terminology of a number of recent European projects, (e.g., VALSE, ULYSSSES, VISIONS), we choose in GOUVERNe to speak of Tools to Inform Debates, Dialogues and Deliberations – TIDDD (©European Communities) and Deliberation Support Tools – DST rather than the traditional "decision support" concept. It is the process of multi-stakeholder deliberation that furnishes the basis for good decisions, and this comes about (according to the underlying social theory) because deliberation engenders learning.

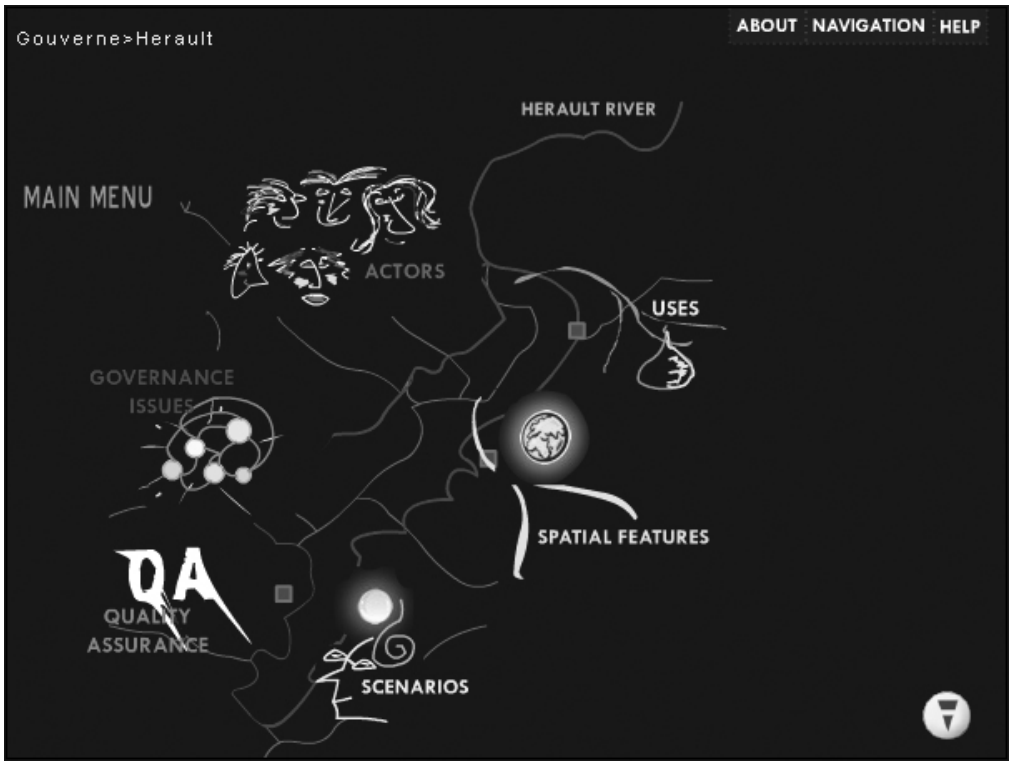

Fig. 1: Main Menu of the TIDDD – Tools to Inform Debates, Dialogues and Deliberations for the Hérault Valley

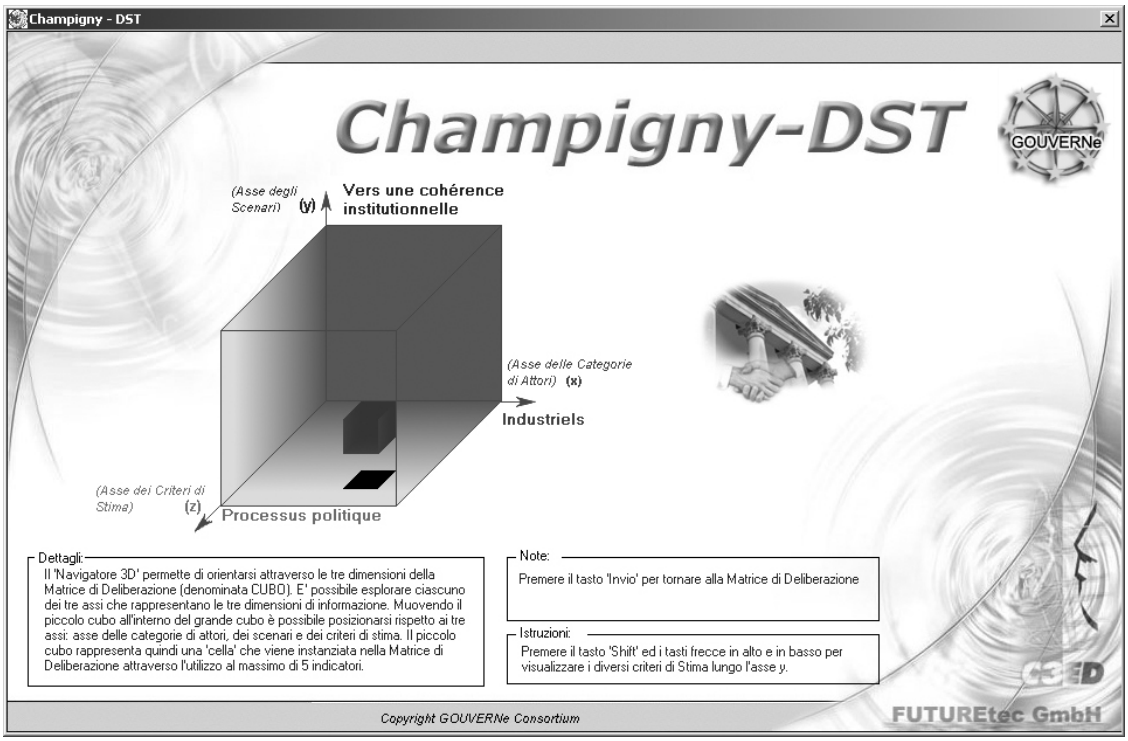

Fig.2: DST– Deliberation Support Tools

ACHIEVEMENTS

The results of GOUVERNe are the mature development of two fully functional prototypes, the TIDDD - Tools to Inform Debates, Dialogues and Deliberations (see Fig. 1) for the Hérault Valley (France) and for the Argolid (Greece) case studies; as well as the DST - Deliberation Support Tools (see Fig. 2) for the Champigny (France) case study and Milano (Italy) DST analysis system.

The DST and TIDDD systems are tools that deploy new Information & Communication Technology in order to organise the information that feeds into a dialogue process about a governance issue, in this case water resources. The DST and TIDDD are designed to support participatory processes through presenting information, policy scenarios, and evaluation indicators in an accessible way. Quality assurance procedures as developed and documented in the project are not only about the software and the scientific models or scientific information deployed by the software system, or about the usage context, but also about the combination of all of these aspects. The quality assurance thus goes beyond software quality assurance or scientific quality assurance. It addresses aspects related to communication of science to non-scientific audiences and the use of these types of tools in participatory contexts.

Apart from the development of the TIDDD and DST, the GOUVERNe project developed several methodological aspects, namely:

- Methodology to initiate debates across social actors of a river basin governance process
- Methodology to incorporate different perspectives in a complex problematique such as river basin governance
- Methodology to quality assure the knowledge deployed to address governance issues in water planning and governance
- Multi-criteria evaluation as a tool to facilitate dialogue among different perspectives

MARKET POTENTIAL

The most innovative elements of the TIDDD and DST prototypes are the combination of the representation of these systems with social science. Having an interdisciplinary approach, they merge the knowledge from different sectors and disciplines and offer very good possibilities for high user-interaction.
The prototypes use innovative methodologies and software elements like the deliberation matrix implemented, as well as the multimedia framework. They deploy new state of the art ICT, which is tailored for the audience and follows a number of good practice software developments for stakeholder participatory processes. The prototypes are more "brainware" than "software".

The vision of future markets for the GOUVERNe products shows potential for exploitation:

- The Water Framework Directive acknowledges that there is a large number of societal groups interested in water planning. These groups need some reliable method for providing information about water resources and supporting debate about the management of these resources.
- The Aarhus convention is turned into a directive by the EC and generates demand for the type of tools developed by the GOUVERNe consortium.
- Immediate take up of GOUVERNe by all secondary schools and higher education institutions, as a model for explaining deliberative democracy.
- A winning point can also be that many stakeholders share at least a conceptual view on groundwater (indicators, properties, actors, compelling requirements, etc).
- As a further step in capacity building for research and professional training, a new collaboration has been developed, engaging several of the GOUVERNe partners, in the general field of Building Knowledge Partnerships for Sustainable Development.

MARKETING STRATEGIES

The consortium has consistently envisaged applications and **commercial exploitation** of the GOUVERNe technological products and methods, which can be grouped in the following categories:
1) Software:

- the TIDDD is available as DVD in three languages (English, French and Greek) and needs to be tailored to the geographical, hydrological and socio-economic requirements of each region.
- the DST is available as CDrom, as well as on-line demo in two languages (French and Italian). It also needs minor tailoring following the requirements of the customers.

2) Services and advice, as well as tutorial and training:
- The services can comprise organising the participatory/debate context of water management e.g. in how to use, how to integrate the tools etc. The methodology and software design concept are readily transportable into other sectors of environmental governance and evaluation of company or policy performance against sustainability goals.

3) Methodologies in form of advice, as well as tutorial and training to:
a) initiate debates across social actors (river basin governance process);
b) incorporate different perspectives in a complex problematique;
c) quality assure the knowledge deployed to address governance issues in water planning and governance.

No patents are currently envisaged; however the software developments involve several original concepts which, as Intellectual Property Right (IPR), have been and are being protected by appropriate copyright, trademarks and exploitation agreements amongst the consortium partners.

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