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Water Information Systems: organization, design and operation

- International Office for Water - Our skills -

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Description :

Access to the information on the status and evolution of the resource and uses is a major stake for water policy: should it be regulatory actions, planning, risk management or public information, the managers of water resources, communities and operators, ... regularly need to have reliable, up-dated and relevant information.

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For such a purpose, it is necessary to develop partnership networks and to support local policies, to design database architectures, to describe the information, to support the organization of data collection, management and dissemination, to enhance information with various supporting tools, to facilitate the good governance of water policies, to combine technical and scientific, legal and financial skills.

For more than 15 years, information has been at the core of the activities of the International Office for Water which specialized in the fields of the organization, operation and technical design of water information systems in particular.

Organization of water information systems

The International Office for Water has the competences required for assessing the organizational, economic and technical needs of a water information system. These competences address national or local authorities, in France and abroad, as well as regional organizations, which require assistance - for example – for:

- carrying out feasibility studies,
- organizing resources and stakeholders' networks,
- formulating water data master plans,
- developing national work programs and estimating their costs,
- operating an information system,
- creating and directing communities of interested parties, with experience sharing.

As an example, the International Office for Water carried out the feasibility study for EMWIS (Euro-Mediterranean Water Information System (www.semide.net/fr) and for the «Mediterranean Water Data Network». It carried out the feasibility study for the national (SINA) and regional (SIRA) Water Information Systems in Mexico with support to the set-up of inter-institutional working groups. IOWater also developed, for the Ministry in charge of the Environment and ONEMA, the community of local management organizers (Water Development and Management Schemes and river contracts), through the Gest'eau website www.gesteau.eaufrance.fr managed and developed by IOWater.

Design of water information systems

Organizing water information systems leads to the development of information processing systems. The International Office for Water is skilled in the technical design of information systems in an interoperability context, «compatibility between systems». These competences are addressing the national or local authorities, in France and abroad, which require assistance for:

- auditing information systems,
- drafting specifications: data models, exchange scenarios, Web services …
- drafting specifications for architectures: green book/white paper,
- drafting technical specifications and following-up the services provided,
- organizing data bases,

- choosing and developing proprietary and OpenSource solutions: Web site/portal, trade software, atlas, catalogue, indexing engine, GIS, Web mapping

As an example, the International Office organized the database and coordinated the development of a Web application for the Turkish Ministry for Health allowing the gathering and automated exploitation of data on the quality control of drinking water and bathing waters (sukalite.saglik.gov.tr//watermanagement/drinking). IOWater takes care of SANDRE secretariat (sandre.eaufrance.fr) to guarantee the interoperability of the French Water Information System controlled by ONEMA. Within this framework, IOWater produces specification documents for water data bases and exchanges. It provides support for their installation in the form of technical assistance, training and compliance setting. It manages the benchmark data (management of the code and nomenclature lists - ex: taxons, parameters…) needed to operate the WIS.

Operation of the water information system

The organization and the design of water information systems allow enriching and enhancing information on water. The International Office for Water has a long experience in the collection, management, storage and enhancement of information on water. These skills address the national or local authorities, in France and abroad, which require assistance with:

- the drafting of states of the art and diagnosis,
- the drafting of specifications and the follow-up of services provided,
- the organization of systems for data gathering and dissemination,
- the gathering of data and documents,
- for cataloguing (inventory) data and information,
- the storage, indexing of information in several languages,
- and with the search for information by installing a customized search engine,
- the production of enhancing documents in the form of maps, booklets, syntheses, website, newsletters, trade software, support for targeted watch.

As an example, the International Office for Water developed the WISE Nitrates database within the WISE reporting for Europe. IOWater is developing, for ONEMA, an effective national portal for access to the public studies of all the stakeholders related to water and manages the network of the information production centers.

IOWater also coordinates the exploitation of catalogues within Mediterranean projects (http://www.semide.net/medwip/tools/fol149251) and Kosovo projects. IOWater organized the gathering and the cartographic enhancement of data for transboundary water resources management, for projects between Russia and Kazakhstan, or Hungary and Romania).

We also carried out assessments on surface water quality, published on the Internet or on paper (www.eaufrance.fr/document.php3 ?lang=fr&id_article=686). Blogs on current topics were developed on issues of water supply and sanitation utilities: www.eaudanslaville.fr, as well as a Website for disseminating the international actions of the French Water Agencies (www.aquacoope.org/ACODIA/)
French-Mexican cooperation "SINA" - "SIRAs" Creation of the national and regional water information systems