Session report
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Title of the Session:

FT5.13: Developing and implementing Water Information Systems- WIS

Session Conveners:

International Office for Water – M. Jean-François Donzier – General Director

Coconveners

CONAGUA – Mexico
INEGI – Mexico
Japan Water Forum (Japan)
Co-operative Programme on water and climate

Keynote speakers

Ing. Juan Carlos Valencia Titulo: Subdirector General de Planeación National Water Commission (CONAGUA)-Mexico
Mr. P. Berteaud Water director - French Ministry of Ecology and Sustainable Development
Mr. W. Mazzitti General Secretary - Euro-Mediterranean Water Information System (EMWIS)
M. Sergei V. Kostarev Permanent secretary- Irtysh river Steering Committee- Russia
Mrs. Gabriela Jelinek and Mrs Daniela Radulescu Ministry of water and Environment – Hungary National Water Authority “Apele Romane” – Romania
Mrs Sylvie Detoc European Commission
Mr. Tsamir Ndiaye – Organisation pour la mise en valeur du fleuve Senegal (OMVS)
Mr. Richard Connor and Ms. Dolores Hipolito Co-operative Programme on Water and Climate Japan Water Forum

Convenors general remarks before the session

"Improving knowledge of water resources, environments and their uses is essential for sustainable management."

Synopsis

Knowledge of the resource and of its status is a major stake for water policy: regarding either regulatory actions, planning, risk management or public information, the administrators of water resources need to have reliable, updated and relevant information at their disposal in a lasting manner.

Whereas public action concerns, in the highest degree, the national territory, and sometimes that of local authorities, **water issues are global and concern, in most cases, a simultaneous combination of various levels of action**: local, basin, regional, national, international, etc.

The organization of **shared water Information Systems (IS)** allows the enhancing of existing data and information at the various levels of action with an overall approach which benefits to all the stakeholders. These information systems thus often constitute **one of the priority tools to be implemented in order to support an efficient policy for water resources management and risk prevention.**

The FT5-13 session of the 4th World Water Forum aims to underline **the importance of (distributed) water information systems for risk and resources management.**

Local action presented during the session

- Implementation of the national and regional water information systems in Mexico (SINA/SIRA"s)
- The French Water Information system (SIE)
- Sharing water information in Mediterranean countries and its potential application for risk management (EMWIS)
- Russian/ Kazakhstan's Irtysh river basin information system (IRBIS)
- Hungarian / Romanian Körös /Crisuri water information system (KOCRIS)
- Water Information system for Europ (WISE)
- Senegal basin Information system
- Flood Vulnerability Index (FVI)

Lesson learned

Integrated water management requires a reliable national water information system (NWIS) allowing better cooperation and information flow between all national stakeholders including the public for implementing participatory approach.

A distributed information system should not be expected to naturally strengthen cooperation between its partners. On the contrary, it highlights the need for preliminary governance, not only to control the information system, but also to formulate the general (strategic, political) interest that the system, and thus all the partners, should meet, beyond their individual interests. There is no distributed information system without a clearly formulated strategy (in the professional world) or

a policy (in the public sphere) with which it complies.

A distributed information system needs a shared **information framework** to secure internal interoperability:

- **Conceptual interoperability**
  ex: what an “agglomeration” actually is
- **Referential interoperability**
  ex: what WWT plant #060913001005 refers to, in the real world
- **Syntactic interoperability**
  ex: how to write and read messages using “trames” or coded tags

The FVI can serve as an important communication tool in raising awareness about flood vulnerability and about the factors that cause vulnerability to increase (or decrease). Map outputs are particularly effective to raise interest and foster discussion.

Key Messages

For the implementation of an efficient Water Information System, it is recommended to take into account the following points :

- **Awareness of the political and technical people in charge** at all levels for a consistent and comprehensive integrated management of the data and information needed for IWRM and risk management;

- **Formalization of the role of Water Information Systems as priority tools necessary for good governance of water resources**, as well as for resource management and risk prevention (example: recognition by the water law of Water Information Systems as tools necessary for good governance of water resources; signing of inter-institutional agreements aiming at facilitating collaboration between partner institutions; etc.);

- **Definition of an overall strategy for the organization and implementation** of the information system, based on a consistent assessment of the needs and of what already exists and on the recognition of the central role of data and information producers and managers existing at the various levels: overall strategy covering the information production, management and enhancement aspects;

- **Organization and facilitation of the partner network of producers and users** of data and information from the information system;

- **Inventory of existing data and information sources** and analysis of the conditions for their production and availability (metadata, etc.);

- Definition and adoption of a **common semantic language** for allowing the exchange of comparable data;

- Definition of an **overall technical architecture for the information system** in order to optimize exchange capacities according to the existing ones and to

expectations, and of **technical specifications** allowing technical compatibility of exchanged data;

- Definition, on a case by case basis, of **procedures for the exchange and enhancement** of the data made available by the various producers, while complying with the rights of access to the information which will have been defined;

- **Development,** according to the users' priorities and available means, **of the tools for and products of data enhancement** such as, for example, synthetic indicators of the FVI type to improve the information useful for risk prevention and the orientation of management policies;

- **Organization of the production and dissemination of knowledge** necessary for decision-making and good public information and participation;

- **Allocation of the human and financial resources needed** for developing data production networks and for developing means for data enhancement.

Orientation for actions

- **Formalization of the role of Water Information Systems as priority tools** necessary for good governance of water resources in the water legislative texts (water law, …)

- **Development of strategy studies for the water related data and information management at the various levels of its use**

- Definition and adoption of a **common semantic language** for allowing the exchange of comparable data

- **Development,** according to the users' priorities and available means, **of the tools for and products of data enhancement** such as, for example, synthetic indicators of the FVI type to improve the information useful for risk prevention and the orientation of management policies.

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