INTRODUCTION SESSION 2
“COLLABORATIVE WATER DATA MANAGEMENT FOR KNOWLEDGE DEVELOPMENT”

Regional exchange on IWRM experiences in the Mekong River Basin
15-16-17 October 2014
Vientiane, Lao PDR

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Program of the session

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<tr>
<td>09:00 – 09:15</td>
<td>Welcome / Introduction to the session (facilitator)</td>
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<tr>
<td>09:15 – 10:45</td>
<td>Study cases presentations on data management</td>
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<td>Laos</td>
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<td>Cambodia</td>
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<td>Myanmar ?</td>
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<td>Mekong River Commission</td>
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<td>10:45 – 11:00</td>
<td>Coffee break</td>
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<td>11:00 – 12:00</td>
<td>Presentation of other international examples</td>
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<td>Exchange, synthesis and recommendations of good practices adapted to the regional context (open discussion)</td>
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<td>Validation/ amendment of the key messages for the next World Water Forum</td>
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<td>12:00 – 12:15</td>
<td>Wrap up and close (around a glass of French wine :)</td>
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Generalities and main concepts related to water data management

Needs for data/information/knowledge

- Efficient IWRM requires to develop the production of information necessary to better guide water resource management decision making for planning, assessing the impact of development project, earmarked charges, ...

- Various levels of water management with various roles
  - National water resource planning
  - Basin Water resource planning
  - Local operational management (Province, district, municipal level, dams operation, …)
  - Transboundary water management basins (Mekong)

- Different users of information with different needs in information for decision taking
  - each one requires reliable, up-to-date and relevant information on different issues (regulations, planning, risk management and public information…)
  - Type of information to produce are different : level of aggregation, way of processing, giving access, presenting and are different
  - Type of necessary basic data are different
Multiplicity of topics and data producers

Water resources
- Surface water resources
- Marine water
- Ground water resources

Main uses
- Drinking water
- Agriculture
- Hydroelectricity

Biology
- Laboratory analysis

Monitoring quantitative and qualitative aspects

Existing situation related to data management

- Many topics to deal with in the basin (hydropower, irrigation, mining, water supply and sanitation, flood management, …)

- The data to elaborate necessary information is produced/managed by various organizations

- Information is fragmented, incomplete dispersed and heterogeneous way

=> need efforts to rationalize and make this information readable, easily accessible and available in order to produce useful information
Consequences of lack of easy access to data

Developing networks of data exchange between actors
2 main scenarios

Centralised System for all topics (e.g. Basin BD)

Decentralised and collaborative system (i.e. per topic)

Through a collaborative approach of data management (a tendential scenario)

Initial data provider

Prod 1

Prod 2

Prod n

Metadata catalogue

Aggregation /exploitation e.g. national, basin, administrative unit level

Manager 1

Manager n
Some difficulties encountered with data exchange

- I cannot read the format of the file that was sent to me
- I do not understand the significance of the data
- I must implement one export interface for each partner
- The laboratory uses a parameter with different encoding from mine

Countries and MRC are invited to present

1/ A global indication on how is organized water data management at national level and basin level

2/ Your experience on the organization of the data collection for the basin characterization;

3/ A presentation of some example hydrological bulletin produced in Vietnam (daily or monthly bulletin on rain, hydrology....) whatever at national or local level.
Main concept: from data to knowledge

Data
- Alphanumeric datasets
- Geographic info (vector/raster)

Information
- Information resulting from data and geo processing
  - Indicators/dashboard
  - Maps, Graphs
  - Directories
  - Bulletins, warning info
  - Other information
    - Documents
    - News
    - Opinions (forum)
    - Pictures, video

Knowledge
- Synthesis and multimedia dissemination (paper, online, video...) of knowledge adapted to the target:
  - Deciders
  - Experts
  - Public
  - ...

Main steps generally considered from data production to information dissemination

Production and first validation of raw data
Data collection
Data processing and 2nd quality control
Information production
Dissemination
Study case of the French Water information system

“Applying the principle of free and public access to water related data and organizing the institutional links/interoperability of systems and data exchanges procedures between national and local organizations”

http://www.eaufrance.fr/

Administrative organization of the water management sector in France

22 regions /100 departments/ more than 36000 municipalities

6 basin agencies

Seine - Normandie
Artois - Picardie
Loire - Bretagne
Adour - Garonne
Rhone - Méditerranée Corse
Access to data and information per basin
Access to specific information: i.e., hydrological bulletin
Access to data per topic through online national thematic databases

HYDRO: Example of hydropram at a selected monitoring point

HYDRO: Example of analytical statistics
Example groundwater database

Number of data available on this point

Visualisation and download of data

Borehole description

Thematic portal on communal sanitation
Application of the collaborative water data management principles for Hydrological bulletin production

Study case of the French Monthly Hydrological bulletin

Example of online monthly bulletin
Monthly hydrological bulletin produced at basin level (case of Loire Bretagne hydrological bulletin)

Vientiane, October 2014

Monthly hydrological bulletin produced at basin level (case of Rhone Mediterranée hydrological bulletin)

Vientiane, October 2014
Other study cases

Case of Monthly bulleting on niger river
Central Asia: Aral Sea Basin

Water withdrawal and availability in the Aral Sea basin
- The graph shows water availability in the country from various sources, including surface water sources, rivers, springs, and lakes.

Specific action in Kazakhstan
Reinforcing water information system on the Syrdarya

Syrdarya Scheme
- The scheme includes various components such as water distribution, management, and monitoring systems.
Application to the Chu Basin (surface water QTT data)

Common language
Common definitions/codes/limits(GIS)/procedures for data exchange

Interactive map on the Chu river transboundary basin
(Kyrgyzstan/Kazakhstan)
First draft regional bulletin in central asia

Example of radar images processing
Monitoring station on Stung Sen Basin

- 4 hydrological station
- 6 Pluvio stations

SRI image produced by the radar (MoWRAM)

- Each 15 mn the radar system managed by the “Meteorology Department” of the MoWRAM produces a raster image of Surface Intensity Rainfall (SRI)

=> 96 images per day (stored on a server since may 2014)
Visualization of radar images

First processing of SRI images

- Calculation of rain at the point of all located pluviometric station in Cambodia

92 165 rainfall data at the 9/10/2014
First exploitation of database

- Production of a pluviometrical bulletin automatically send by mail

92,165 rainfall data at the 9/10/2014

Cambodia: Support to data management and integration of tools in the Tonle Sap basin Authority portal
Global methodology

- Concertation between partners
- Protocol of agreement
- Common Language
- Developing scenarios of data exchanges
- Developing Interoperability between information systems

Exchange, processing of data valorisation and dissemination of useful information

Thank you for your attention

For more information

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http://www.aquacoope.org/laos/