



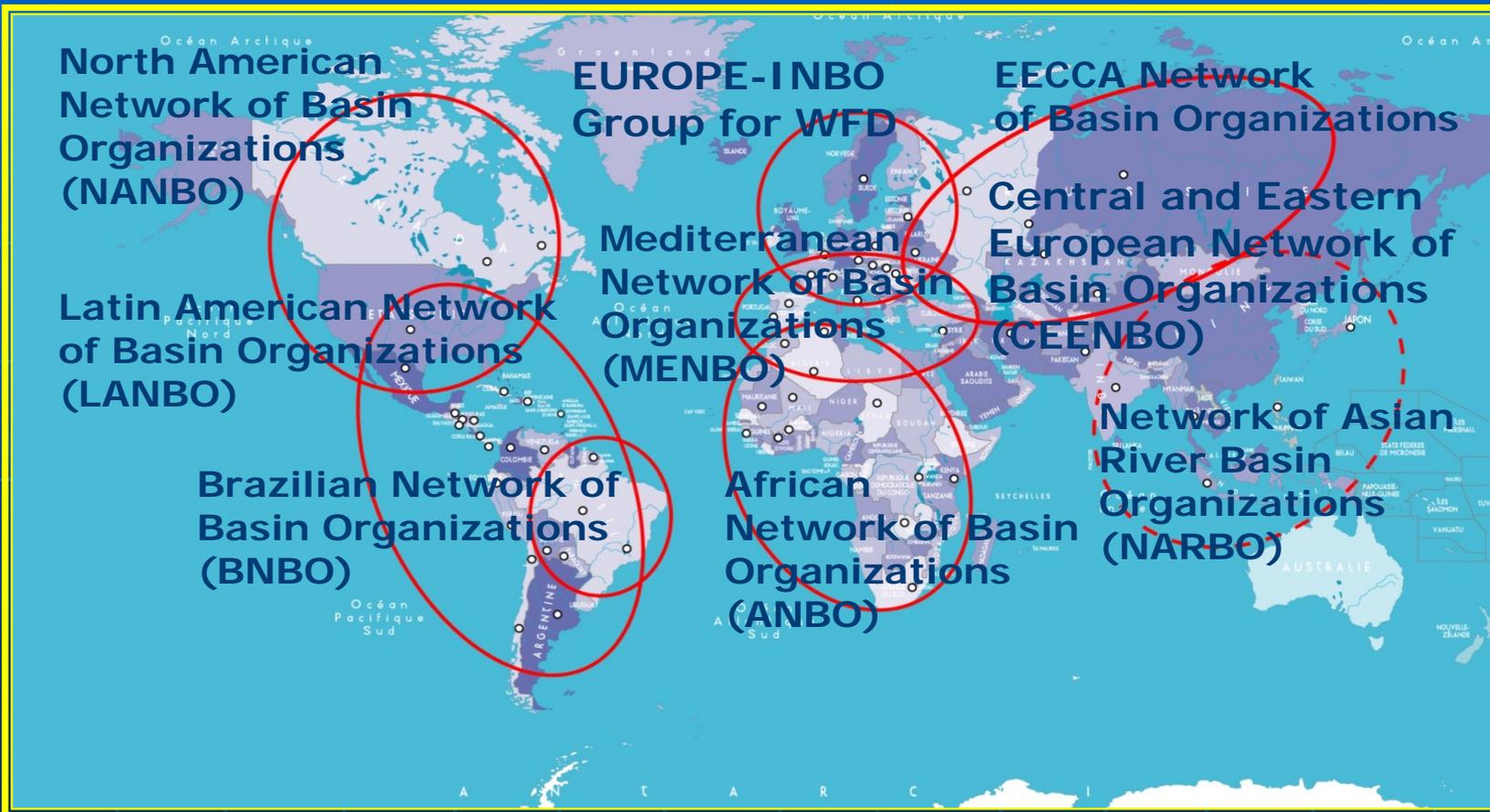
# INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

Created in 1994 to facilitate operational exchanges between BO



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## 9 INBO's REGIONAL NETWORKS



191 FULL MEMBERS or PERMANENT OBSERVERS  
in 81 COUNTRIES



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Indeed, basins are the natural territories,  
in which water runs,  
on the soil or in the sub-soil,

whatever are the national or administrative boundaries  
or limits crossed.



An overall approach should be organized  
on the relevant scale  
of basin areas of rivers, lakes and aquifers,



# « UPSTREAM-DOWNSTREAM » COMMON CAUSE ON THE SCALE OF BASINS AND SUB-BASINS



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Sub-basin/Sector/  
Water type

element of district to deal  
with particular aspects

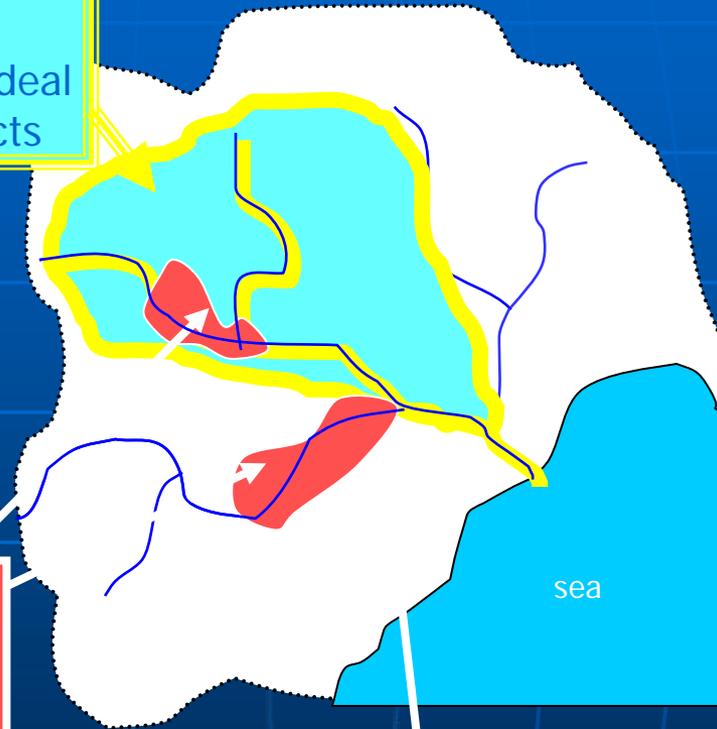
## THE DIFFERENT SCALES:

Water bodies

scale of evaluation  
of the achievement  
of good status

LARGE BASIN / District =

river basins + associated  
groundwaters and coastal waters





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What do we consider as a *Basin* ?



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the concept includes all

**SURFACE and**



**Groundwater**



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## **INTEGRATED WATER RESOURCE MANAGEMENT : MAIN BASIC FUNCTIONS**



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- ❑ **International agreements**
- ❑ **Legislation - Regulations**
- ❑ **Standardization**
- ❑ **Authorizations for abstraction or discharge - Water policing**
- ❑ **Monitoring**
- ❑ **Follow-up of the environment and uses**
- ❑ **Warning and protection**
- ❑ **Planning**
- ❑ **Funding - Programming**
- ❑ **Investments**
- ❑ **Operation - Maintenance**
- ❑ **Research**
- ❑ **Training**
- ❑ **Information**



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# INTEGRATED WATER RESOURCE MANAGEMENT :



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## DEFINING ROLES AND RESPONSIBILITIES OF EACH:

Transboundary  
basin organizations?

National/local  
basin organizations?

Multilateral / regional organizations

Central or federal government

Local authorities = states (Federation)  
= municipalities  
= villages

Large public regional planners

Water users : = community  
= individuals

Civil Society : = enterprises  
= researchers  
= NGOs



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## DEFINING ROLES AND RESPONSIBILITIES OF EACH:



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- **A clear legal framework** must specify, in each country, the rights and obligations, the possible levels of decentralization, the institutional responsibilities of the different stakeholders, the processes and means needed for good water governance,

« UPSTREAM-DOWNSTREAM » COMMON CAUSE  
ON THE SCALE OF BASINS AND SUB-BASINS



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## DIFFERENT TYPES OF BASIN ORGANIZATIONS:



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- Administrative Commissions, with or without permanent secretariat, in which mainly participate representatives of the « ministries » concerned to coordinate their various projects on the same river or aquifer, to exchange information or data, formalized or not, on emergency situations in particular, to define common rules (navigation, etc.), and whenever necessary, to allocate the available resources between the categories of uses, the countries or regions, especially in periods of crisis or when regulation structures do exist, etc.,
- Arbitration « Authorities », to which the interested « parties » refer for decision-making on the conflicts which arise; this is the case of the Joint International Commission (IJC) between the USA and Canada, for example.



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## DIFFERENT TYPES OF BASIN ORGANIZATIONS:



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- Organizations taking charge of contracting large structuring or combined installations; this is the case for navigation, flood control, the building of reservoirs, especially for irrigation, hydropower production, etc.  
These organizations, often created as public or private « companies » have usually the concession of community facilities for which they are responsible for their construction and long-term management, generally for providing services, raw water or by levying specific taxes.
- « Agencies », which are in charge of carrying out tasks for medium-term planning and for collecting taxes on abstractions and discharges to finance or support the investments necessary for achieving the set objectives. In some cases, they can also be responsible for water policing, studies, data production or collection, etc.



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# DIFFERENT TYPES OF BASIN ORGANIZATIONS:



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- « **Basin Committees or Councils** », which gather, at the side of administrations, representatives of local authorities, economic sectors using water, the civil society, etc. They can be advisory or decisional, especially regarding planning, the definition of taxes, the allocation of available resources, etc.
- « **Associations, unions or consortiums** », of local authorities, users or NGOs, which are often spontaneously organized to solve a common problem or to have some influence in water management.
- « **Projects** », which are usually temporary for specifically implementing and action plan with specific financing.



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# The Rhine : an international river basin district

185 000 km<sup>2</sup>  
50 millions inhabitants

## 9 States involved

Austria  
Belgium  
France  
Germany  
Italy  
Liechtenstein  
Luxemburg  
Switzerland  
The Netherlands



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Secretariat

Plenary assembly (PLEN)  
Coordination Committee (CC)  
Delegation Head

Strategy Group (SG)  
Editorial Group



Riparian states \*

\*cf. Diagram 2: Expert coordination / Coordination of reporting

RHINE



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# INTEGRATED WATER RESOURCE MANAGEMENT

- OVERALL MEETING OF RATIONAL AND LEGITIMATE DEMANDS
  - Agriculture
  - Domestic uses
  - Industry
  - Fish farming
  - Electricity
  - Transports
  - Leisure
  - Fishing
- WASTEWATER TREATMENT AND RECYCLING,
- CONSERVATION OF ECOSYSTEMS:  
rivers, lakes, wetlands, aquifers, costal areas,
- RISK PREVENTION :
  - Erosion
  - Drought
  - Floods



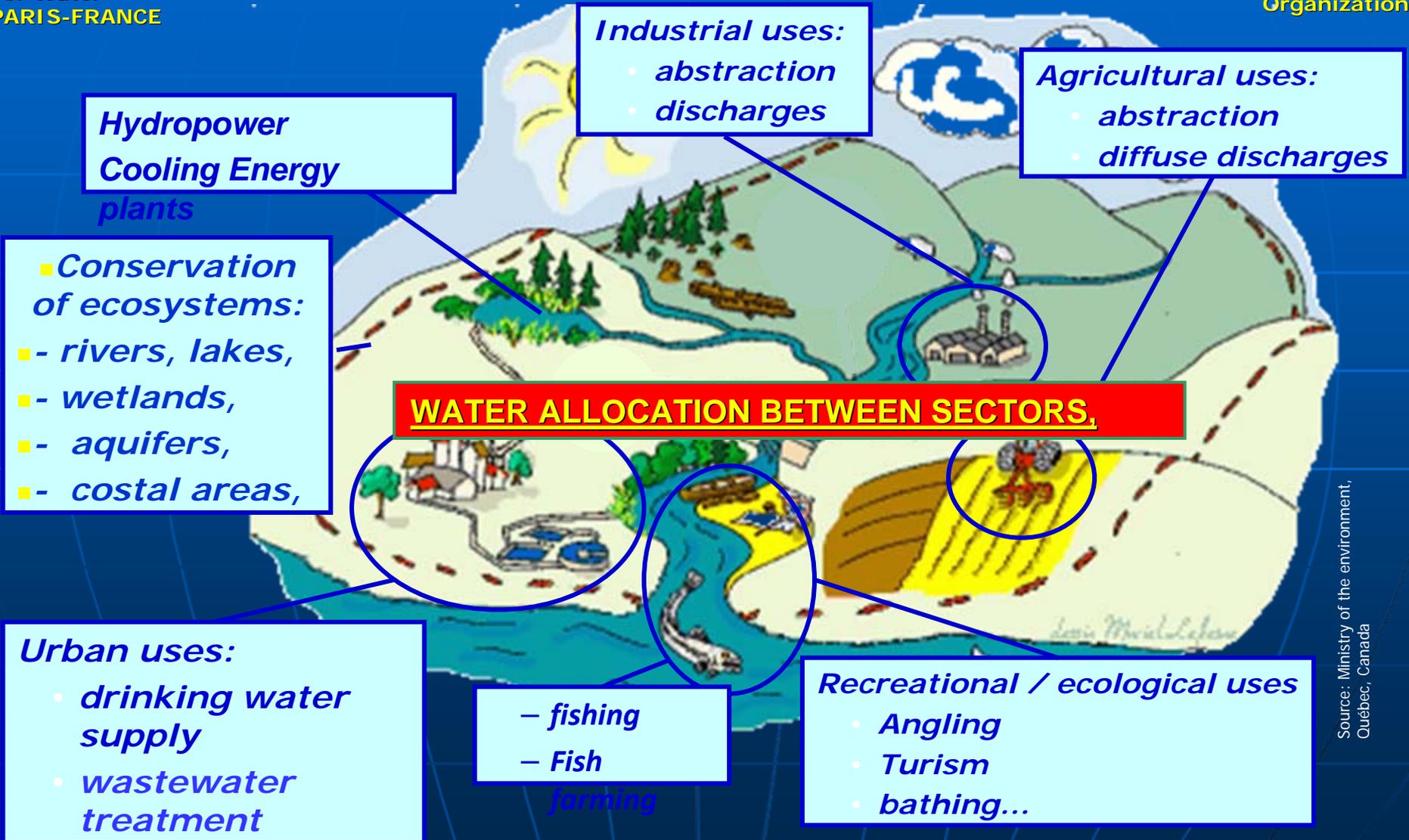
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# IWRM CONCERNS

## ALL MAJOR WATER USES





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# Conflicts

requirements collected  
from each point of view



Designing a program  
through **dialogue**

Reaching **agreement**  
with an ambitious program

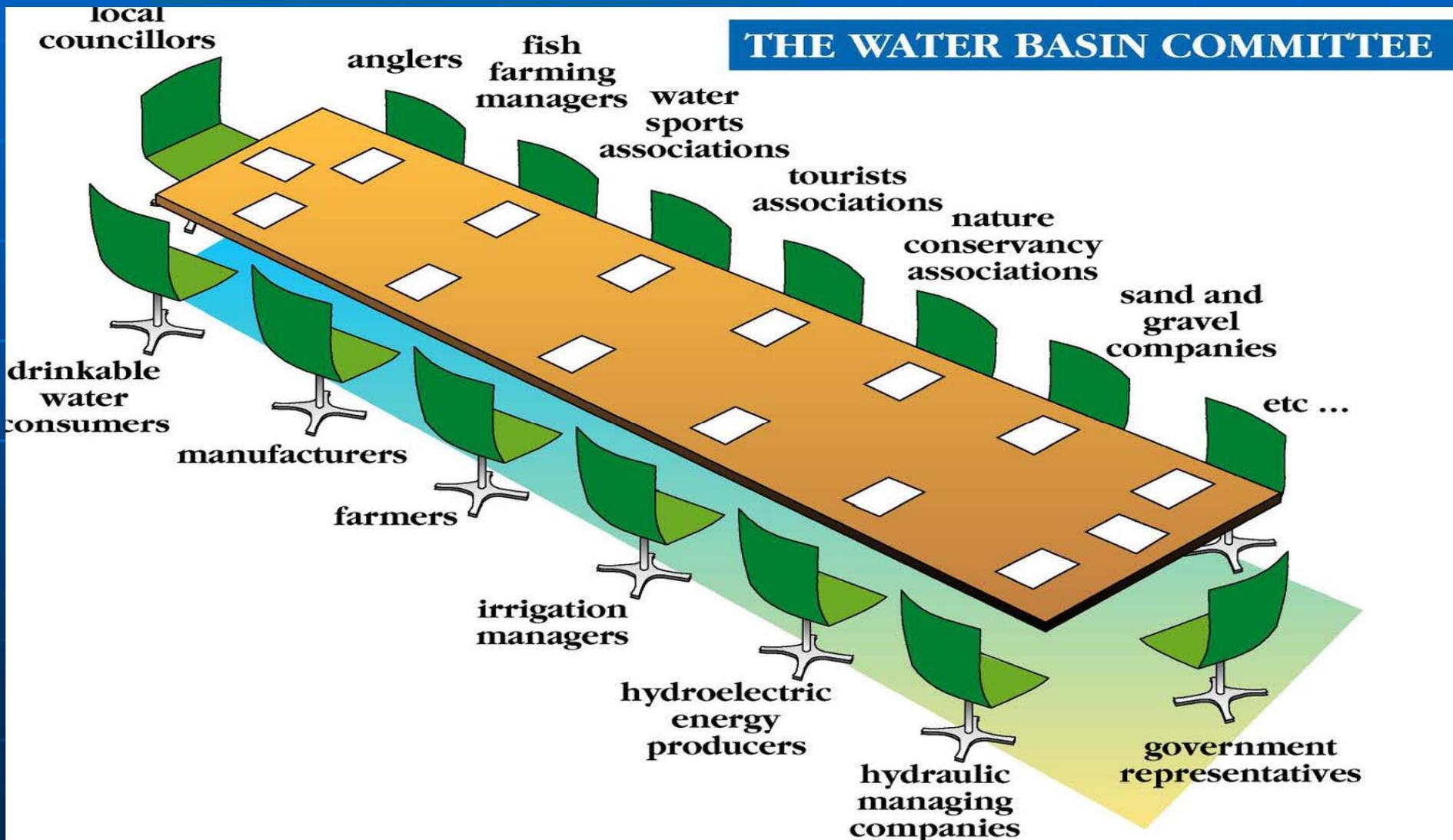


# A River Basin Management is integrating various stakeholders



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# Integrated information and monitoring systems



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## The National Water Commission

- Allows consistency at national level,
- Defines policy directives,
- Deals with inter-basin strategies and national security.

## The Basin Organizations

- Prepare the basin plan,
- Manage the national waters in the basin,
- Coordinate integrated management,
- Harmonize specific actions,
- Facilitate and assist in the involvement of the society through the Basin Council Assembly.

- Integrated information and monitoring systems which are reliable, representative, harmonized and easily accessible, and specific research should be organized in each basin,



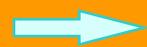
If we cannot measure, we cannot manage!!



## DIALOGUE

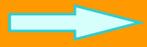


## INFORMATION

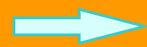


### Resources

- Surface water (Rivers –Lakes)
- Groundwater
- Wetlands



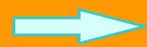
### Uses



### Seasonal variations



### Geographic locations



### Economical informations

- Quantity
- Quality
- Ecology
- Requirements
- Abstractions
- Discharges
  - Flowrates
  - Pollution

- Frequencies

- G.I.S

- Cost, budget...



# ASSESSING WATER QUALITY:



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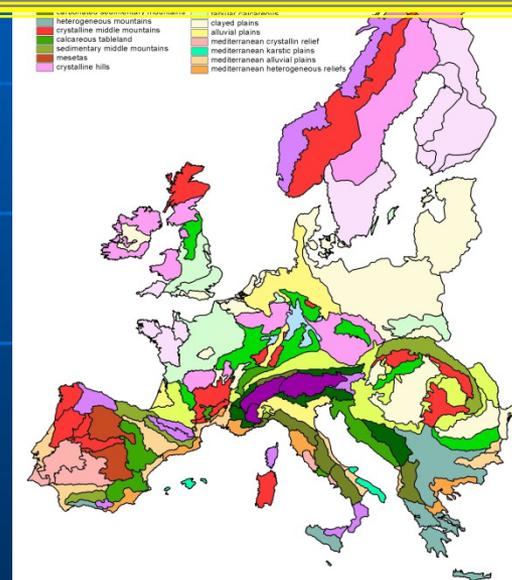
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*In the Europe Union,*

**50,000 "WATER BODIES" have been identified:**

- River WB = 27 455
- Lake WB = 10 060
- Groundwater WB = 7 719
- HMWB/AWB = 5 783

## European Hydro – eco-regions



**THE DEFINITION  
OF COMMON FRAMES  
OF REFERENCES.**

## IN FRANCE :

- River WB = 3 522
- Lake WB = 471
- Groundwater WB = 539
- HMWB/AWB = 912
- Good Status = 984
- At Risk = 941



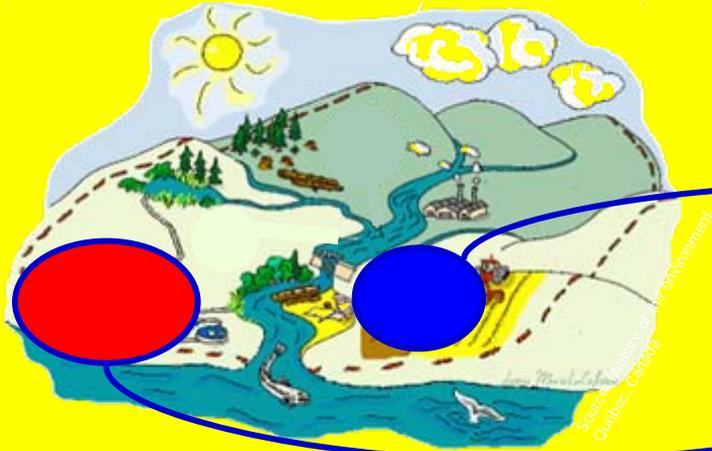
# water resources management should be organized:



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2000

*Description  
of the initial situation*

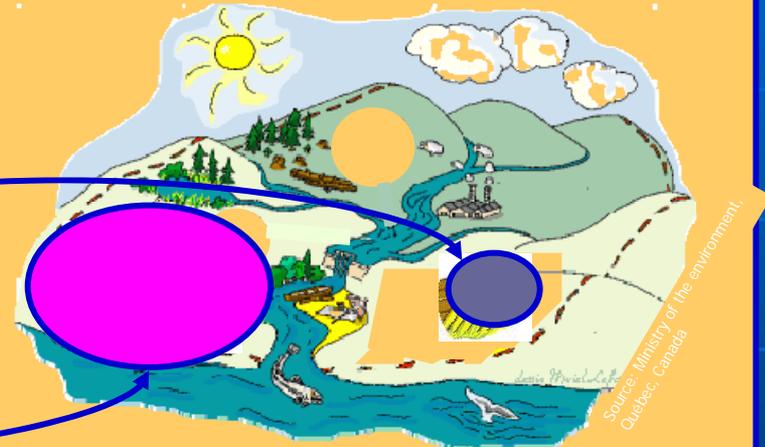


Focus on economic aspects:

- estimate the economic "weight" of water uses and services
- assess the level of recovery of costs of water services

2025

*Baseline scenario:  
projection for 2025*



Baseline scenario:

- appraisal of evolutions of uses, pressures...
- identification of potential gaps in water status with GES

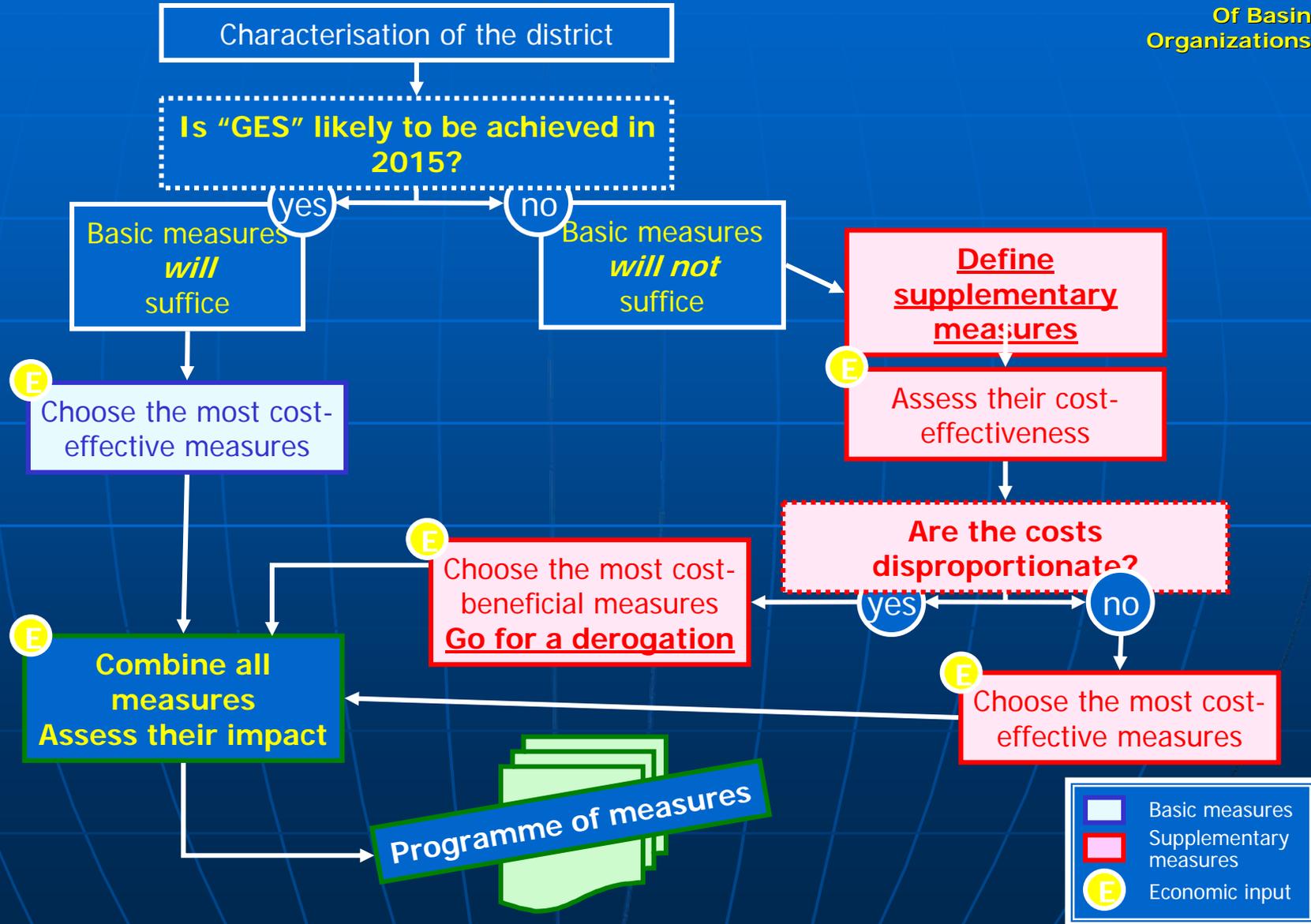
based on management plans or master plans

that define the medium and long-term objectives to be achieved;

**As adaptation actions will take several decades  
before having a visible and significant effect**



# FLOW CHART OF THE CONSTRUCTION OF THE PROGRAMME OF MEASURES





water resources management should be organized:



## VARIOUS COMPLEMENTARY SYSTEMS FOR COST RECOVERY: THE 3x"T" the mobilization of specific financial resources:

### TAXES:

\* Paid to the GENERAL STATE BUDGET:

- General taxes or penal fines
- New ecological tax.

\* Water-related CHARGES:

- National water charges – transiting through  
"Special Accounts of the Treasury"
- Basin water charges – levied by the Water Agency

### TARIFFS OF COMMUNITY SERVICES:

- Price of raw water – levied by big developers
- Price of drinking water – levied by the municipalities  
or water suppliers

TRANSFERTS: International aid or from other economical sectors.



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# THE « POLLUTER - USER – PAYS » PRINCIPLE

Abstraction  
taxes

Pollution  
taxes

The Water Agency's Budget  
adopted by the Board of Directors  
with approval of the Basin Committee

10 %

Studies & Research

Operation

Measurement networks

90 %

Aid = 5-year Program

Big developers

Local authorities

Farmers

Industrialists



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## INVESTING IN IWRM... IT PAYS BACK!



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### ■ CONCLUSION:

- Various combinations of responsibilities are possible,
- There is no system better than the others:
  - The results depend on:
    - ❖ A strong political will,
    - ❖ A long-term stability of the established mechanisms,
    - ❖ The efficiency of the management of each organization,
    - ❖ The available human and financial resources.
  - The implementation of reforms can only be gradual,
  - The real involvement of local authorities, users and collective interest groups in decision-making facilitates its « acceptability », an offer/demand adequacy and the establishment of new financing systems.



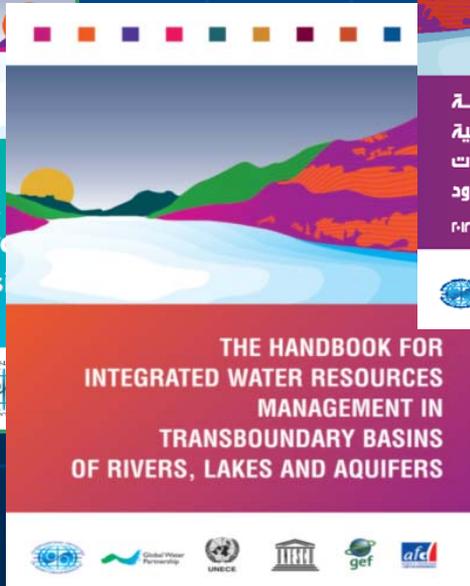
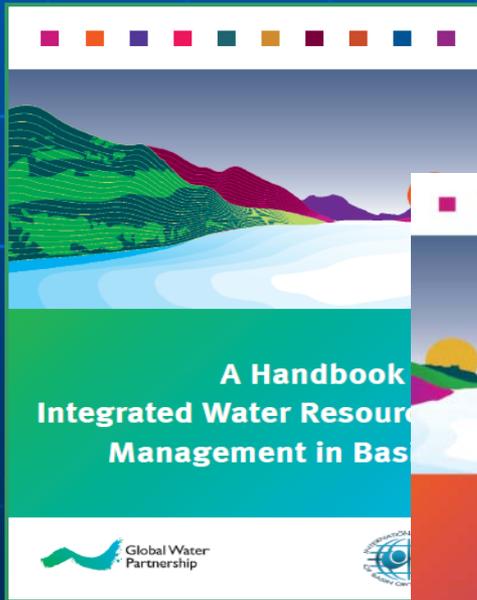
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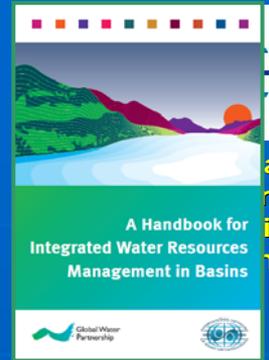
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# Les manuels

# sur la gestion intégrée des bassins :

## The Handbooks on IR





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# You are invited to participate

in the drafting of our next two **“Handbooks on Basin Management”**, which will be published next year on the occasion of the World Water Forum in Daegu-Gyeongju in Korea.

Their topics will be:

1. Measures for adapting to the effects of climate change in river basins, and,
2. protection, restoration and management of water/aquatic ecosystems and the services they provide in the basins of rivers and lakes.

These publications, like the previous handbooks of 2009 and 2012, will be based on the practical experience and know-how gained in the field in the basins worldwide.



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Réseau International des Organismes de Bassin



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**INBO initiatives are open**  
**to your participation :**  
**your inputs are welcome !**

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