Integrated Basin Management is required to face the global challenges.

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Introduction:

Climate change is mainly reflected by a change in the water cycle: more frequent and devastating floods and droughts, erratic rainfall, melting of glaciers, rising sea levels resulting in salinization of coastal groundwater or warming and decreased water level causing degradation of biodiversity and greater concentration of pollutants.

The basins are natural zones, where the water flows on the surface or in the subsoil: they are the suitable areas for water resources management. Coordinated measures for water resources adaptation to climate change should be taken at that level through a coordinated, participatory, supportive, integrated and sustainable water resources management to ensure their effectiveness.

The 6 key principles for Integrated Basin Management, developed from the experience of the 192 INBO member organizations and observers, are as follows:

It is recommended that integrated water resources management be organized:

1. on the scale of local, national, transboundary **basins** of rivers, lakes and aquifers,
2. on the basis of **integrated Water Information Systems (WIS),** to know the status of the resource, the uses, polluting pressures, risks, ecosystems and their functioning and evolution,
3. based on **multiyear management plans** that define the objectives to be achieved in the medium / long term,
4. on the basis of priority **Programs of Measures and Investment**,
5. with the mobilization of **specific financial resources**, based on the "polluter pays" and "user pays" principles,
6. ensuring the **stakeholders' participation** in decision-making (governmental administrations, local authorities, representatives of different categories of users, associations for environmental protection, etc.).

Implementing integrated basin management implies recognizing that:

- the basins of rivers, lakes and aquifers are the relevant areas for organizing the joint management of water resources, aquatic ecosystems, and all water-related activities,

- the **basins' ecosystems** are very important both for biodiversity and for environmental services, including the regulation of hydrological cycles, the prevention of flood and drought risk, and pollution control,
- the basins of the **276 transboundary rivers, lakes and 600 aquifers** should be given special attention and be jointly managed by the riparian countries,
- the establishment or **strengthening of basin organizations**, in the most appropriate forms, is a priority,
- International Commissions, Authorities or other Transboundary Basin Organizations, facilitate dialogue, cooperation, information exchange and implementation of joint projects and actions, for sharing benefits, anticipating the future and preventing potential conflicts between the stakeholders concerned,
- **joint management of ground and surface water resources** is needed on a basin scale,
- it is necessary to establish or **increase the funding** dedicated to the management of water resources and aquatic environments and, in a general manner, of the "large water cycle",
- the **civil society stakeholders and local communities** need to be better associated with and involved in the management of the basins where they live
- increasing **cooperation among basin organizations all over the world** and in each region is needed to facilitate the transfer of experience and know-how on best basin management practices and on their adaptation in different contexts.

Basin organizations, with the support of national governments and international institutions, should launch practical actions to implement this integrated management:

- organizing a **dialogue with stakeholders** recognized in our basins and ensuring their effective involvement, to get their necessary agreement on priorities and resources to be mobilized, to coordinate initiatives and projects, to analyze the obtained results,
- facilitating, on the basis of a prior situation analysis (assessment), the agreement of the different stakeholders on a **"shared vision" of the future of their basin** and developing, through dialogue and transparency, basin management plans or master plans for stating objectives to be achieved in the medium / long term,
- better valuing water and ensuring an **efficient use of this scarce resource** by better control of the demand, by fostering the adoption of more efficient uses and, as appropriate, the use of non-conventional resources, the reuse of treated wastewater or the artificial recharge of aquifers, in particular, for sustainable development,
- better taking the **significance of ecosystems** and of their services into account when making decisions regarding planning and management in our basins,

- implementing the **necessary priority actions,** especially in the sectors of drinking water supply, sanitation, health, energy, agriculture and fishing, waterways transport, protection against risks and biodiversity conservation and thus contributing to sustainable development, poverty reduction and **adaptation to climate change,**
- mobilizing, as appropriate and as part of mechanisms to ensure their sustainability, the **financial resources** needed to carry out these governance reforms,
- organizing in each basin, in collaboration with the key data producers and managers, the harmonized collection of data, as part of the **Water Information Systems (WIS),** which are permanent, reliable, representative, interoperable and easy to access, enabling a clear vision of the situations encountered and of their evolution,
- **capacity building of basin organizations**,
- organizing **better liaison with research organizations**, to better guide their work on priority issues for basin management and for quickly disseminating their field results.

These principles are now widely accepted by the major international bodies (UN Agencies, OECD, and European Union). They are largely inspired by developments that have been made in Spain or France for over 50 years, and, since 2000, have been based on the work of the European Water Framework Directive (WFD) of which they are the backbone.