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**Business as usual cannot continue:
making the case for change!**

*Integrated and sound water resources management at the level of river basins
is obviously required worldwide!*

**Key principles and best practices in Basin Management
from INBO members' field experiences.**



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Dear chairmen, colleagues and friends,

It is a great honour for me and the International Network of Basin Organizations to be invited to present our views at this closing session of the International River Symposium.

As it is my first visit to Australia, I have learnt a lot on water management in your beautiful country during this week and I am impressed by the efforts made to solve difficult situations.

Clearly, fresh water is a time bomb on the planet in the very near future!!!!

And business as usual cannot continue.

Adaptation of Water Management to Global Changes is urgently needed worldwide!

Floods, water-borne diseases, shortages, pollution, wastage, destruction of ecosystems: the seriousness of the situation encountered in many countries requires that comprehensive, integrated and consistent management of water resources be implemented to preserve the future and the human heritage.

Human activities have the highest impact on water resources, such as the increase in water abstractions for irrigation, the building of structures which modify hydrology, the creation of obstacles to flows, the destruction of wetlands and the increase in pollution of any origin, etc...

Global warming now seems to be unavoidable and will exacerbate this situation and increase tensions, as one of the first consequences will be to modify hydrological cycles.

Changes in rainfall and hydrological cycle have already started and will be very significant by 2040 or 2050: in less than a generation!

Over the past forty years, the number and intensity of floods and droughts have already increased, sometimes in a spectacular way. The melting of glaciers, in particular, has an effect on water supply, especially in low-water periods, and on the increase of flood hazards.

Indeed, these effects will cumulate with the significant pressures linked to demographic growth, urbanization and economic development.

The social, economic and ecological consequences are likely to be very significant. It is thus essential to work now to adapt water resources management policies.

“If the greenhouse-effect gases are responsible for climate change, fresh water is the first victim”!

It is necessary to react quickly, before it is too late.

It is thus essential to adapt water resources management policies and mechanisms to face these changes.

Quick action will allow reducing costs and damage.

THE INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS....

– **“I-N-B-O”** - was created in 1994, twenty years ago, to exchange its members’ field experiences in order to develop and improve basin management and transboundary cooperation in the world.

INBO is worried about the “no-action cost”!

Unfortunately, it should be well admitted that the urgency of launching adaptation programmes, in which water management is a central element, the core, has not yet reached the political world and has not been systematically introduced, as evidence, into the plans of most countries or into the projects supported by many international organizations....

Adaptation is initially a problem of better water management and governance.

Integrated water resources management must have as joint objectives:

- to meet rational and legitimate demands in all sectors,
- to control pollution by developing wastewater treatment and recycling,
- to prevent risks: erosion, floods and droughts;
- to protect and restore aquatic ecosystems...

The importance of aquatic environments in water policies is to be underlined: they are a natural infrastructure playing a key role in seasonal regulation of water resources and pollution control. **we have to protect and rehabilitate them.**

Is it necessary to repeat the obvious? The basins of rivers, lakes and aquifers are the natural geographic areas where water flows on the soil or in the ground, from upstream to downstream, whatever are the administrative boundaries or limits crossed.

Integrated water resources management at the level of basins of rivers, lakes and aquifers, either local, national or transboundary, is essential worldwide!

River basin management experienced a quick development in many countries, which made it the basis of their national legislation on water or applied it in national or transboundary pilot basins. Some of them, such as France and Spain, have successfully implemented their water policy at basin level for more than fifty years.

But mainly significant progress has been made since the 1990's.

For example, the European Water Framework Directive of 2000 imposes good management of their national or international river basin districts to the 28 member states and the candidate countries of the European Union.

Taking into account the experience acquired worldwide, integrated and sound water resources management, organized on the scale of river basins, appears today obviously essential!

It is now widely recognized that water resources management should be organized around six key principles:

- 1) **firstly**, on the scale of local, national or transboundary basins of rivers, lakes and aquifers, including their related coastal waters;
- 2) **secondly**, based on integrated information systems, providing knowledge on resources and their uses, polluting pressures, ecosystems and their functioning, the follow-up of their evolutions and risk assessment;
- 3) **thirdly**, with the participation in decision-making of the concerned governmental administrations and local authorities, the representatives of different categories of users and associations for environmental protection or of public interest;
- 4) **then**, with medium and long-term goals expressing the shared vision of the stakeholders and translated into management plans or master plans to be implemented...;

5) through the development of successive multiyear programmes of measures and priority investments;

6) and finally, with the mobilization of specific financial resources, based on the “polluter-pays” principle and “user-pays” systems; by looking for geographical and inter-sectoral equalizations to gather the necessary amounts;

Legal and institutional frameworks should allow the application of these six principles in each country and at the regional level.

Let me come back to these principles;

1) firstly, integrated water management is to be established on the scale of local, national or transboundary basins of rivers, lakes and aquifers, including their related coastal waters:

In particular, surface water and aquifers must be taken into account in a joint basin management.

Water has no national or administrative boundary: it is thus necessary to take into account the specific situation of the 276 rivers or lakes and several hundreds of aquifers over the world, whose resources are shared by at least two riparian countries or sometimes much more. Their joint management is thus strategic and a priority.

Cooperation between riparian countries should be increased for better management of transboundary rivers, lakes and aquifers.

Although it took seventeen years, the United Nations convention of 21 may 1997, on the uses other than navigation on the international watercourses, has just come into force this summer and its principles are now more and more recognized as a basis for relations among the riparian states concerned.

The resolution, adopted in december 2008 by the general assembly of the united nations, offers to the states the framework for joint management of their transboundary aquifers, and agreements on their joint management should also be developed, taking into account their fragility and the time needed for the restoration of degraded situations.

Implementation of the 1992 U.N. convention on international watercourses management in Europe - called Helsinki Water Convention - is a success and is now open to ratification by all the other countries in the world.

in addition, the European water framework directive of 2000 (WFD) lays down an objective of good status in the national or international river basin districts of the 28 current member states and the countries applying for accession to the European Union.

It seems especially necessary to support the establishment of international commissions or similar joint organizations, such as basin authorities, and to reinforce those already existing.

Such international commissions or joint authorities allow better dialogue, the exchange of useful information, the solving of potential conflicts and the sharing of the benefits of better joint management and the reinforcement of transboundary cooperation.

However, these institutions may be effective only if they have mandates clearly defining their tasks and responsibilities and if they have the necessary and sufficient human, technical and financial resources and their sustainability guaranteed.

"The world pact for better river basin management", initiated by INBO on the occasion of the world water forum in Marseilles in march 2012, today has been signed by 128 member organizations around the world . It adopts the principles outlined above and commits signatories to actually put them into practice: **you are all invited to sign the "Pact" if not already done!**

With regard to floods:

It is, first, necessary to make **the "upstream-downstream" solidarity** a main item of consistent management on the scale of basins and sub-basins, as water obviously flows from mountains and hills to estuaries and the sea, from up to down!

Protection against floods must pass through a coordinated approach, combining:

- protection of people and properties,
- reduction of vulnerabilities, by restoring the free flow of rivers and preserving – rehabilitating the natural flood storage areas,
- forecasting of events by identifying zones at risk, controlling urbanization and prohibiting buildings in exposed areas,

- warning and education.

The European Union's Floods Directive Plans, for example, a new approach passing through:

1. a preliminary flood risk assessment and the selection of areas with significant potential flood risk,
2. hazard and risk mapping of these areas,
3. approval of flood risk management plans and of their programmes of measures by December 2015.

In the transboundary basins in particular, cooperation between riparian states, for jointly looking for coordinated solutions and for sharing information and responsibilities, should be promoted.

with regard to droughts:

Situations of water shortages, too often ignored, are a growing problem in an increasing number of areas and are likely to worsen in the future.

Climate change will worsen the structural problems which already lead to water scarcity in many areas:

On this subject, it is useful to distinguish drought from scarcity, the latter being initially related to a permanent and structural imbalance between available resources and abstractions.

The prevention of recurring droughts can, no more, be done on a case-by-case basis, but must be planned in the long term, by solving the structural problems which occur.

It is essential to intensify efforts for better managing water demand and thus reducing the pressures on the resources, especially in a period of drought.

Mobilizing new resources and creating reserves should be planned after rationalizing water demands and only when it will be ecologically acceptable and economically reasonable.

The economic incidence of treated waste water re-use should not be forgotten, in period of drought in particular.

Building new dams will not be enough without the implementation of water saving and recycling programmes.

Water Scarcity Management Plans should prioritize the various uses, ensuring a better optimization of water and avoiding wastages.

Water saving, leak detection, recycling, the re-use of treated water, groundwater recharge, the desalination of sea water, research on low-consumption uses, must become priorities.

A new approach to water uses in agriculture should be looked for.

In a context of increased pressure on water resources and lands, the importance of the agricultural component should be stressed, as continuing the “business as usual” scenario would be irresponsible.

Feeding the world population today and in the future (9 billion inhabitants foreseen in 2075) implies using, in all the countries, an agriculture which is less water-consuming and less sensitive to climate hazards.

The farmers will be among the first victims of the fluctuations of water supply due to the variations of the climate.

Helping changes in agricultural practices towards water saving should be planned for, with good dissemination of innovation in general, thanks to education, training, research and development and financial incentive mechanisms.

The reduction of non-point source pollution, as regards the use of fertilizers and pesticides, is also a prerequisite to maintain or recover good water status.

2) Second key principle: improving knowledge of water resources, aquatic environments and of their uses is essential to allow decision-making.

We cannot manage what we cannot measure!!

It is recommended to promote the establishment of information systems in each basin, providing knowledge on resources and their uses, polluting pressures, ecosystems and their functioning, the follow-up of their evolutions and risk assessment.

These information systems will have to be used as an objective basis for dialogue, negotiation, decision-making and evaluation of undertaken actions, as well as coordination of financing from the various donors.

It is necessary to define common standards for globally gathering comparable information, produced by the various stakeholders.

But, this information is too often dispersed, heterogeneous and incomplete ... and it is rarely comparable and adapted to the prerequisites for objective decision-making.

Moreover, in many countries, it is a fact that public, semi-public and even private organizations lack sufficient means for exchanging, gathering, standardizing, summarizing and for capitalizing it among them.

The organization of shared Water Information Systems (I.S.) allows enhancing existing data and information at the various levels of action with an overall approach that benefits to all the stakeholders.

These information systems are priority tools to be implemented in order to support an effective policy for water resources management and risk prevention.

Systems for warning against floods, droughts and pollution should be improved, developed and coordinated for better facing the natural disasters caused by water and for protecting human lives and properties.

It is necessary to promote the emergence in this field of resources and skills for specific engineering.

Gathering this information requires a complex and consistent organization and permanent means.

To be useful, this information must not remain in the form of raw data, but be translated into easy-to-understand data, which can be handled by all the different categories of users.

More and more stakeholders are involved in water management: new parties are coming into the scene beside water professionals and their direct or indirect role will become more and more important.

They all have in common, on the one hand, that water is not their profession and, on the other, that they have not been prepared to play a role in this issue.

It is extremely important to develop specific means to raise their awareness, and provide them with the information they require, in the appropriate forms and supports.

With the fulgurating development of internet, new “intelligent” on-line services will develop and allow responding in real-time to the most frequent questions asked by the various categories of managers.

If climate change can no more be doubted, significant uncertainties remain regarding its local impact and the best way of facing it in each situation. It is necessary to reinforce research on climate in each large basin or areas.

3) Third principle, the participation of stakeholders and the civil society should be organized for a real mobilization of partners.

There is nowhere just one single organization in charge of all water issues and management.

The sum of all initiatives carried out by private firms, by riverside property owners or individual users do not necessarily correspond to the general interest, in the absence of a global policy.

Indeed, coordination and consultation between all concerned bodies and stakeholders is essential.

In each country, a clear legal framework has to specify the rights and obligations of the different stakeholders.

A new water resource management approach will only be possible if it is based on its acceptance by all stakeholders in each basin.

To solve possible conflicts on water use:
"Dialogue is the beginning of wisdom".

A concerted participation will ensure the social and economic acceptability of decisions, taking into account the real needs, the provisions to be acted upon and the stakeholders' contribution capabilities in social and economic life and their real mobilization for acting on the same track.

INBO recommends that this participation be organized in basin committees or councils.

These basin committees should be involved in the decision-making related to water policy in the basin, with procedures that clearly define their role.

In particular, they should be associated to:

- the definition of long-term objectives,
- the preparation of management plans or master plans,
- the selection of development and equipment priorities,
- the joint implementation of programmes of measures and multiyear priority investment programmes, as well as,
- the establishment of financing principles and the calculation of water taxes that concern them.

The more the various partners will be involved at the earliest possible time, the best chance there will be of good acceptance of all the measures, which will have to be taken, and of a definition of a true inter-sectoral adaptation strategy.

These basin committees can only succeed if their role is not just reduced to approve decisions taken by other authorities: they should really be associated in the decision making process.

Moreover, it is necessary that users, professionals or not, adopt administrative, corporative or associative structures to represent them in basins and sub-basins joint managing bodies.

The transfers of research outcomes to water managers and decision makers, regarding socio-economics and prospective analysis in particular, should allow improving and providing the basis of these decision-makings.

Finally, significant means should be devoted to public awareness and participation, women and young people in particular, and to the training of their representatives regarding decision-making.

We welcomed, with great interest, the initiative of the International Secretariat for Water in Montréal to jointly promote with INBO a "[Blue Passport of Basin Citizens](#)" so that local decision-makers, economic partners and the population develop a stronger sense of belonging to this basic geographical unit for water management, which is the river basin.

Interested basin organizations, on a voluntary basis of course, may join the project and develop their own passport adapted to the situation of their river basin.

4) Fourth and fifth principles: ambitious basin management plans or master plans and their programmes of measures have to be quickly drafted.

Nothing can be done in a short time!

Adaptation actions will take several decades before having a visible and significant effect, considering the time required for institutional reforms, for large-scale investments, for changing habits of consumption and use.

All the stakeholders in the basin must decide of medium and long-term objectives to be jointly reached and draft their “shared vision” of the future of their water resources to be made official in their basin management plan.

The implementation of regularly updated planning processes is well adapted to the uncertainty that remains on the forms that the phenomenon will take in each basin.

This means that it is important to regularly update the management plans to face, in a pragmatic way, the various situations encountered and their evolution in the coming years, while relying on observation and increasingly fine projections of the climate change effects.

It is necessary to develop more highly integrated approaches on surface, ground and coastal waters and seek transverse and cross-sectoral solutions to reduce pressures on available resources, protect or restore aquatic ecosystems and the hydro-morphology of rivers.

The role and services provided by aquatic ecosystems should be better recognized, as they function as a "green or blue natural infrastructure" also ensuring flow regulation and self-purification of water.

It would be advisable that bi and multilateral donors link their funding of new big structures with the prior approval of an official management plan in the concerned basin.

- 5) Finally, users may contribute in financing water by looking for geographical and inter-sectoral equalizations to gather the necessary amounts.**

The investments necessary for improving public utilities, for their exploitation and maintenance and the renewal of installations, require huge financial resources.

But, the resources specifically devoted to the management of water resources and aquatic ecosystems are notoriously inadequate in the context of current changes.

They only represent a small share of resources devoted to public services (drinking water supply, sanitation, irrigation...) and major infrastructure, while water resource is likely to be the limiting factor!

When a river is dry, or when the level of an aquifer is lowering, how can we feed the supply systems?

Adaptation will require additional financial resources that will undoubtedly have to be found by adopting new mechanisms that are based on the users' participation and solidarity and risk insurance systems.

In the final analysis, it is clear that, except in some particular cases, the funds required greatly exceed the conventional financing possibilities coming from only national or territorial public budgets, whose revenue relies on global tax systems.

The bi or multilateral development aid is usually composed of loans, mainly soft loans, which will nevertheless have to be reimbursed. It only represents a part, which is important, but will be insufficient. It is not realistic to expect its significant increase in the short-term at least, due to the difficult economic situation of many industrialized countries.

It is necessary to establish everywhere complementary financing systems, chosen through dialogue, and to consider specific and additional financial resources by combining:

- national or local administrative taxes, and taxes specific to objectives of water management in each basin.
- the pricing of community services,
- the creation of geographic, social and inter-sectoral equalization or transfer mechanisms.

“OECD 3t rule” - taxes, tariffs, transfers – has to be adopted everywhere to mobilize the necessary funds, based, if possible, on the “Polluter-Pays” principle and “User-Pays” systems.

These arrangements should be an incentive to limiting wastage and to removing pollution by changing the users' behaviour.

In conclusion: business as usual cannot continue!

Integrated and sound water resources management is more than ever a priority when this scarce resource is already a limiting factor for sustainable development in many countries in the world.

Mobilization is essential for humanity to win the water battle and prepare the future!

Organizing this management on a basin scale is an effective solution that deserves to be developed, fostered and supported.

This is not science fiction! it exists and works in many basins in the world...whether national or transboundary ones.

the International Network of Basin Organizations – INBO - was created in 1994, 20 years ago, to exchange its members' field experiences in order to develop and improve basin management and transboundary cooperation in the world.

INBO intends to actively contribute to the efforts for adapting to the effects of changes.

INBO member organizations have experience and expertise which they intend to pool and put at the disposal of all the countries and institutions that would like to follow them in an effective basin management approach.

Investing in water management is profitable!

This produces immediate advantages but also develops a social, economic and environmental strength in the long term.

Fresh water is essential to sustain life on our planet and ensure the health and socio-economic progress of our societies.

In the context of these global changes, improved governance, respectful of the environment, is one of the main keys to sustainable development and poverty alleviation.

We are all together at the frontline of the battle for protecting our water resources in all our countries!

Today, it is useless to "reinvent the wheel", as all effective tools are available to move forward fast, if there is a political will to decide to do so!

Let's get mobilized – yes we can!

Thank you for your kind attention....
