

**INBO WORKSHOP:**

**" USERS' PARTICIPATION IN THE MANAGEMENT  
AND FUNDING OF BASIN ORGANIZATIONS "**

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**INTRODUCTION TO THE PROBLEM**

As it is already the case in regions of the world with an arid climate, availability of inland freshwater resources, in sufficient quantity and quality, will become **a real challenge for economic and social development** in most countries on our planet, at the beginning of the next century.

**Solutions should be found to these problems that already occur or are going to occur fast, to ensure integrated sustainable water management that will concurrently enable:**

- \* the control of natural flood, drought and erosion hazards,
- \* the meeting of sound and rightful requirements of the various categories of users, while remaining consistent with appropriate land use planning in river basins,
- \* the conservation of resources and natural aquatic ecosystems.

The solutions to be found may require **large institutional reforms** that will be useful in settling conflicts of utilization, and huge **efforts** for administrative and professional **training**, as well as for the **information and awareness raising of the users and populations**.

**The setting up of truly modern information systems** is indispensable for elaborating water policies and for following up their efficiency, (as recommended by INBO's General Assembly in Morelia (Mexico) in March 1996). This implies an appropriate and sustainable organization, the elaboration of consistent monitoring systems, investments in monitoring equipment, laboratories, transmission networks, data banks and systems for data processing, interpretation and dissemination, as well as sufficient operational means that will last in the long term.

**But above all, huge financial means must be quickly found or created to make investments in equipment necessary for sustainable water resources and ecosystems management, and to ensure their operation, maintenance and rehabilitation.**

**Indeed, it is necessary to:**

- reduce losses and wastage and improve use efficiency,
- reduce pollution and ensure wastewater treatment and the necessary recycling and reuse,
- make the resources available to meet requirements where they are rightfully expressed in quantity and quality for drinking water supply and irrigation of food crops, but also for industrial development, tourism or fish farming, energy production, etc... within the framework of a global policy.

The requirements are expressed all over in billions of US\$ and the time limit for implementation is very short : one generation (2025) at the most, and serious problems may arise faster

**I) Reminder of the relevance of INBO's founding principles:**

Four principles are the base to any membership of the International **N**etwork of **B**asin **O**rganizations:

I.1 - a global, integrated and consistent water resources management that aims at preventing natural hazards, meeting the rightful and sound needs of the various categories of users, controlling pollution of all kinds, protecting and rehabilitating aquatic ecosystems and areas;

I.2 - the organization of this management on an adequate scale, that of large watersheds and aquifers (global objectives and medium and long-term management);

I.3 - the participation in decision-making of the local Authorities concerned, various interested categories of users and associations for environmental protection beside the appropriate Governmental Administrations.

I.4 - the implementation of appropriate financing systems, based on the " polluter-pays " principle and " user-pays " systems.

## **II) A complete vision of all the tasks to be carried out;**

This global and integrated management of the resource and ecosystems implies that tasks be carried out in a complementary and consistent manner on the whole territory of the river basin.

This concerns tasks that can ensure:

- general administration, security and enforcement,
- planning and implementation of infrastructures, especially to regulate resources and prevent erosion to occur,
- individual and community equipment that are directly linked to the use of water, to its saving and recycling, as well as to the treatment of polluting discharges,
- operation, maintenance and management of hydraulic infrastructures and community services,
- research and studies
- training, education and awareness raising,
- organization of monitoring and information systems on the state of the resources and aquatic ecosystems and on users,
- etc ...

**All these tasks must be organized in a sustainable manner and their funding in investment and operation must be mobilized and guaranteed whatever the conditions.**

II.1 - Too often, the direct costs of water services are generally the ones to be individualized and therefore visible. The indirect costs, often covered by Public Authorities, are ignored or under-estimated, and in all cases rarely fully and rigorously estimated together with operation, maintenance and rehabilitation costs...

**It is very important to get a clear and complete vision of all the costs to be borne.**

II.2 - Also too often, our predecessors have just met the increase of the different demands of the sector by increasing the resource through the mobilization of more and more resources that are farther and farther away and whose investment costs are continuously higher... without giving any particular consideration to either the real efficiency of use or pollution control.

Today, **solutions should first be found in a policy for demand regulation** to control wastage, evaporation and leakage, by improving the efficiency of every drop

of water used, by suitably treating wastewater, by developing recycling and reuse of treated wastewater, etc...

The control of all kinds of pollution should be a priority in order not to get deteriorated resources that are improper for reuse and that could otherwise be sufficient in quantity for the different uses.

II.3 - Too often in the past, water management had been limited to the sole quantitative aspect of water resources.

Nowadays, a global approach to the management of all water-related ecosystems should be initiated in each river basin besides pollution control and the promotion of water recycling with a prospect of sustainable development.

Regional planning, control of soil utilization, land degradation, vegetal cover and of erosion, protection of wetlands, banks and of aquatic ecosystems are as fundamental for water management as water regulation.

The same can be said as regards the management of solid wastes and treatment plants' sludge whose leaching can be a source of serious, even irreversible, pollution of water courses and aquifers.

### III. Long-term rules and objectives must be defined as well as priorities

Any sound water policy implies **regulations, procedures** and **standards** that clearly define a **legal framework** and the **commitments** of each party concerned.

The objectives to be reached and the necessary means of all kinds must be identified in **master plans for development and management**, for a 15 to 20 year-period.

This **policy must indeed be programmed in the medium and long term**, due to the delays required for mobilizing partners and for the study and implementation of projects, and, on the other hand, due to the general limitation of available financial means that does not allow the implementation of all projects at once.

Therefore, **successive Priority Action Programmes** must be elaborated, the duration of which must be realistic and may be 5 years.

**Thus, the efforts, financial ones in particular, required and their possible implementation by operational sectors, should be progressive and sustainable.**

### IV. Transparency is necessary for reaching a consensus and mobilizing all the partners involved:

**All these functions are not usually assumed by a sole organization and the most frequent case is that of coexistence, in the same basin, of many responsibilities and initiatives, either individual or joint, public or private.**

**A consensus must be found.**

It is thus necessary to define, in a clear, indisputable and transparent manner:

1 the role and responsibilities of everyone,

1 the state of the resource, either in quantity or quality in all geographical locations,

1 the withdrawals and discharges of each user,

1 the estimate of expenses to be covered and the follow-up of efficiency of efforts made as regards improvement.

This implies the **setting-up of modern and efficient information systems**, according to the recommendations of INBO's General Assembly of Morelia (Mexico) in March 1996. This is a prerequisite to the mobilization of all partners and to the search for necessary consensus.

The setting-up of technical and economic systems for monitoring efficiency and cost of uses and services could also enable a better allocation of water and financial resources.

A clear legal framework should base approaches and procedures on dialogue and consensus between all interested parties, various governmental administrations, Local Authorities and users.

The representation of everybody who directly or indirectly needs water for undertaking activities must be ensured and foreseen by legislation. It is important that the participation of the public be recognized in the legal texts and that clear guidelines be defined with respect to its development.

Nevertheless, the legal framework should also provide the mechanisms necessary for preventing, managing and settling conflicts which could possibly occur.

Management mechanisms should be established not only for ordinary situations but also to mitigate situations of crisis or emergency and to deal with accident, pollution or water scarcity.

A better coordination of activities with an objective of integrated river basin management, will be achieved by defining priorities and their hierarchical organization.

Finally, the legal framework, as well as master plans, must be flexible and allow for the necessary adaptations to evolution and to the diversity of "field" situations.

When the choice is made of setting up a specific basin organization, it is then advisable to accurately study the following points:

- limits of respective responsibilities between such an institution as compared to these of the authorities or organizations in charge (after simulating a real situation),
- mechanisms to be developed to ensure the preparation and approval of action plans, their control and follow-up and their up-date.

## **V) INVOLVEMENT OF THE CIVIL SOCIETY: A NECESSITY FOR BETTER WATER MANAGEMENT.**

The experience that has been acquired for several decades, regarding water management, emphasized the need for an institutional and structural participation of the "civil society" inside mechanisms of decentralized water resources management, in order to allow an optimum and adapted meeting of growing and diversified needs.

Administrations and public bodies in charge of water management should decentralize their actions for decision-making to be as close as possible to the field, while relying on partnerships that enable a real participation of Local Authorities and users' representatives (households, irrigation users, industrialists, fishermen,...), as well as associations for environmental protection.

Many needs will not be met by way of the traditional channel of Public Authorities but by individual or community field initiatives, which will not necessarily be spontaneous and will imply adequate skills and know-how.

Decision-making will have to become progressively democratic, more open and foressee possibilities of expressing counter-opinions in order not to sink into theoretical and fruitless debates, and have an independent, sound and reliable expertise capacity and access to transparent and complete information.

Finally, improving community services, such as drinking water supply, sanitation or irrigation, will only be possible if mechanisms are set up for recovering costs from the users. This will only be accepted by the users if they are given the guarantee that water is of good quality, services are permanent, management methods are transparent and that they will participate more and more in management

A widely spread movement towards the decentralization of the State's role in the organization of water supply and sanitation services to municipalities and of the tasks of collective irrigation to irrigation users' communities should be taken into account.

Non-Governmental Organizations help the poorest population living in remote rural areas and underprivileged urban districts to have access to health, indispensable minimal services, to the development of activities, especially in agriculture and fishing, by way of education and appropriate organization.

Results can be achieved, some examples are very outstanding, by relying on local authorities and village communities.

The benefit of the participation of environmental protection associations is that impacts on the resource and environment are taken into account as these may become significant and costly for the community in the long term.

**Whatever the approach**, improving the quality of water-related services and the emerging of principles of a global resource management that aims at meeting requirements in an optimal manner, while rehabilitating the environment and aquatic ecosystems, can only be achieved if organizations exist, combining interests and initiatives. These organizations may be perceived as legitimate interlocutors of traditional public authorities to initiate ideas, thwart red tape and assume direct responsibilities without waiting for solutions to come from higher.

The Civil Society must be able to voice its opinion and have the possibility of influencing decision-making.

## **VI) Users' structural participation:**

All users, either directly or indirectly concerned, should be officially involved in the decision-making process.

### **Who is a "User"?**

A "user" utilizes water (industrialists, electricity producers, farmers, population). This notion can be extended to people using water for recreational purposes (fishermen, leisure, etc...) as well as to environmental protection associations.

### **Why consult the users?**

Acceptation and thus the feasibility of a long-term project and its successful completion require the following steps:

- approval of project objectives by the users,
- sharing of the long-term vision,
- definition of priorities by the users,
- mobilization of means, financial ones in particular, necessary to achieve the objectives.

Dialogue with the users is the best means to settle possible conflicts on water use: "Dialogue is the beginning of wisdom".

A dialogue should take into account the impact of the decisions to be made. The more ambitious the project, or far reaching, the more widespread dialogue should be.

On the contrary, a project of local interest will need a more reduced and precise dimension.

Dialogue must be organized in the most decentralized way possible while taking local constraints and specificities into account.

**In a general manner:**

- The extent of public participation in all planning processes must be unanimously approved.
- Representatives of local elected officials, basic communities and of all users concerned should participate in Development Schemes, with the help of experts from the Administration and specialized consulting firms.
- Information should be clearly distinguished from dialogue. In the first case, the administration shares information with the public, it is a one-way process. Dialogue implies a two-way process: the administration listens and takes the formulated comments into account.
- The public participation process should be accessible to a wide range of people concerned: it is an open process that takes the diversity of the interested parties into account (representativeness).
- NGOs are well established in the field and can become efficient partners in programmes involving an active participation of the population.

It is obvious that at the end of this information and participation process, the final decision will be made by the political authorities in charge at the relevant level, provided that possible resort to legal bodies is not being made.

**VII) WHAT MEANS FOR SUCH A PARTICIPATION?**

Such an evolution should be based on three essential components:

- **Training and awareness raising** of those involved in the decision-making process in particular,

- **access to information** that implies:

. the possibility of having access to data and files, to understand them and analyze them,

. the dissemination of information, documentation, knowledge by administrations, the media or educational systems.



- **the coordination of initiatives** within organizations that can gather the partners concerned, develop the necessary expertise and capacity for advocacy and influence to support community actions.

### **VIII) THE FINANCIAL ISSUE IS OBVIOUSLY ESSENTIAL:**

Solutions exist that have been efficiently applied and have proven themselves for several years or are being implemented in some countries and have diverse possibilities.

It is important to know and analyze their adaptability to each particular field situation.

INBO would benefit from gathering information on these solutions and discussing all their aspects in order to help the countries that wish to start the necessary reforms.

Traditional public subsidies have reached their limit and all analyses converge to show that almost everywhere, it is impossible to meet the needs of the water sector with traditional public budgetary means. Therefore **it is necessary to set up funding systems that are based on the participation and solidarity of the users.**

Due to the lack of a sole responsibility, **complementary specific means must be envisaged that have also a reducing effect and create an incentive to limit wastage and decontaminate discharges.**

The modern funding systems must be adapted to the proper situation of each country, but may generally rely on the three following notions:

- **administrative taxes for the issue of regulatory authorizations (deed cost) or for the use of State property** (taxes for granule extraction, concession taxes for hydroelectric falls or infrastructure or reservoir land width, taxes on waterway transportation...) and **penal fines** for non compliance with regulations and standards or for liability in case of an accidental or deliberate action causing damage

- **industrial and commercial tariffing of community services related to water uses:**

It consists in having the consumers and users pay all the direct, and whenever possible the indirect costs, of the community services, either in investment and operation of the services that are provided, using various **tariffing** methods (agreed price, proportionality, quantitative, geographic or social equalization, etc...), with or without external **equalizing devices** (subsidies or public communities bearing the costs of infrastructures, administrative costs, etc...).

These services, organized by either public or private organizations, must balance their expenses with an income issued from invoices sent to the users that are calculated in proportion to the services provided or to consumption (drinking water, wastewater, industrial raw water, irrigation, etc...). This implies the development of metering and measurement devices.

The setting-up of subsidy systems that aim at limiting the exceptionally high costs and/or for equalization between the various categories of users may be adapted to the diversity of the situations encountered.

I **water charges**, to finance actions and equipment for the benefit of the community and whose cost cannot be directly passed to the users or to community services.

They are instruments for economic incentive and solidarity.

For equity and transparency purposes, it is advisable that the basis of such charges be calculated proportionally to consumption and pollution of all kinds, of all categories of water users.

These charges aim to enable the total or part, but incentive, funding of Priority Action Programmes.

They enable the necessary intersectoral " upstream-downstream " solidarity among the users of a country or of a basin.

**Successful experiments that have been carried out for several decades, show that all these financial means can mobilize, if efficiently implemented, the huge amounts necessary for the modernization of the water sector and resources conservation.**

It does not seem that other alternatives can be found to meet the sector requirements and the rightful expectations of the consumers, especially as regards the improvement of the service provided from a quality/reliability viewpoint.

**Experience has shown that modern services can be provided at low or reasonable cost: for instance, the price of a cubic meter of drinking water, including sanitation and treatment, water charges and taxes, corresponds in Western Europe to the price of 2.5 liters of super-petrol, a pack of cigarettes or of a "soft drink" in a bar...**

In fact, integrated tariffs exist in some countries, especially for municipal services (drinking water + sanitation + electricity + town heating + transportation ...) through the intervening of polyvalent service providers;

The main traditional objection is that some low-income categories of the population in underprivileged urban districts or in isolated villages are insolvent to have access to drinking water, or generally speaking small farmers to have collective access to irrigation water.

It must be remembered that:

- the practice of systematically paying water services was only introduced in the industrialized countries twenty years ago and that it has been slow to be implemented: **a progressive implementation should be the rule everywhere,**

- in many developing countries, the most underprivileged populations are often those who pay the highest water price (although in small quantities) due to speculations on the scarcity of an essential good. These categories have either already resorted to costly individual or semi-collective substitute means or buy water, at a high price, proportionally speaking, from suppliers/carriers who deliver it in the districts, under hygienic conditions that are often at the limit of acceptability.

- other public services are already paid such as electricity and telephone and the noticeable improvement in their standard of living and health (water-borne diseases), the time gained by having water at home or nearby, and gains in agricultural productivity with irrigation must be taken into account and enhanced,

Water free of charge is not in reality the most current occurrence, it is even exceptional, if all elements of the analysis are examined.

**The overall funding of all tasks to be assumed for sustainable water management should rely on an appropriate combination of fiscal taxes, charges and prices of community services.**

## **IX) INCENTIVE, UNIVERSALITY AND SOLIDARITY:**

Sustainable management of freshwater resources is today facing the following main problems:

- = **lack of a long-term global vision** of resources and uses,
- = **insufficient solidarity among the users** located upstream or downstream of the river basin or for the use of the same aquifer,
- = **wastage**, which is undoubtedly the first cause of the difficulties encountered,
- = **pollution**, which prevents multi-purpose reuse of the resource.

It is obvious that it is first and foremost irresponsible behaviour, caused mainly by non-awareness of the problems, that must be changed:

\* **Information, awareness campaigns, education and training are obviously necessary** but have not been used for a long time and are often under-estimated and thus must be strengthened as a priority,

\* But, a **financial incentive is also a very efficient means: this is the "polluter-pays" principle** and "user-pays" systems. Should you pay more the more you

waste and pollute, you will soon take the necessary measures to improve your practices, especially if the community will grant you a "bonus", in the form of a subsidy for good behaviour.

The tariffing of services when proportional to utilization and pollution has also a quick educational effect.

In all cases, there is always somebody who pays somewhere in a form or in another, either:

\* **The taxpayer**, who pays his income tax into the general budget, either central or local,

\* **The offender**, who must pay a fine when negligent or when the law, standards and regulations are not complied with,

\* **the user**, who buys the services provided, knowing that these services can either be:

• **direct** : the conveyance of drinking water to the tap, of raw water to the plant or to the irrigation plot, the connection to the community sewage network; etc.

The user pays the invoiced price of the water service, based on a tariff, just as he pays for electricity, telephone, fuel, transport or cleaning...

• **indirect** : the reforestation of the upper river basins, protection against floods, rehabilitation of ecosystems, upstream pollution control or the building of a dam-reservoir ..., but also data bases, research, training ... that are necessary and sometimes directly linked to the service provided, the cost of which was often assumed in the past by the community but nowadays, the users are being called upon more and more to bear the cost as a principle of :

- "**common cause for basins and aquifers**",

- "**internalization of external costs**" which transit by the charges systems, such as those described above.

**The fact that the " right people " must pay is important:** this means that anyone whose activities result in an adverse impact on the water cycle, must reduce the dysfunction he produces to pay less.

It is important to show, as soon as these new measures are taken, **the universality principle of levying charges on all uses and pollution**, whatever their importance, even minimal, in order not to make people believe that pollution is allowed and not to create inequalities.

However, in the phases of the system strengthening, that can be long, for reasons of administrative efficiency or for being generally accepted, a "non-levy" of charges can be envisaged below some thresholds, if no risk of serious consequences on resource conservation exists.

The system must be **progressively organized**, in the medium term, to extend the system to more parameters, to more categories of users, to higher and higher rates and to lower and lower thresholds ...

**Modulations** may be envisaged depending on the scarcity of the resource or the sensitivity of the receiving media to pollution.

This can also be organized progressively, using technical criteria, such as the installation of meters to **measure consumption**, starting with the biggest users, then using **standard assessment systems**, and finally **real assessments** of the pollution discharged.

The very high cost of meters, sampling and analyses, most of the time prevent its systematic implementation in the short term.

**It is always recommended not to theorize the procedures to be established, but to search for a real adaptation to local conditions, which also depends on the possibilities of organizing more and more complex but efficient administrative systems while always taking into account the indispensable time factor.**

X. **Basin water charges: means for funding and mobilization in partnership.**

Who must pay the **indirect or external costs**, investment costs for priority equipment or infrastructures, administrative costs, monitoring networks, studies and research, etc...when they are not covered by governmental services out of tax yields?

We know today that a small levy (# 15 %) as compared to the direct cost of water services, can mobilize huge amounts to implement such actions by means of allocated water charges (see above definition) which in addition, help in reducing investments, regulate uses and mitigate pollution.

**Local water charges systems in particular, organized on the scale of a river basin, have shown their high efficiency.** This does not exclude the advantage of using national water charges systems that are justified by constitutional rule or allow the funding of solidarity between towns and rural areas or between rich and poor basins, or the funding of large inter-basin projects or actions.

In "operational" systems that exist, the "**Basin Committees**" generally set or propose rates for these water charges, the levy and reallocation of which are transiting by "**Financial Basin Agencies**".

These **Financial Basin Agencies play the role of real mutual-aid funds** and levy taxes, negotiated and even accepted by the users concerned, whose rates are calculated to cover the expenses of common interest required for consistent multiannual Priority Action Programmes.

In this case, there is a fair return, or in any case a benefit for the parties paying water charges: for instance funds are levied in the basin to help build infrastructures in the

basin or even at the users-payers' homes..., therefore there is a direct cause and effect relationship between payment and the improvement it provides.

There is transparency and direct correlation between a real programme and the funds brought in. This approach, which is based on a system of consensus, the Basin Committees, is making people highly responsible and is educational.

“Should you want more results, you must pay more and if you pay less you will have fewer results... it is your decision! “

**It is clear that all users and polluters of a basin must contribute in an equitable manner and that the water charges levied must not only cover investment costs or activities that interest each category of users, but also the external costs of management, ecosystem management, protection against risks, studies, information, etc...**

## **XI) THE SETTING-UP OF A BASIN ORGANIZATION MUST BE A " BANKABLE " PROJECT**

The setting-up of a new basin organization is a large project, that will last 4 or 5 years or more, depending on the institutional system of the country concerned and will imply a significant first investment.

The following must at least be taken into account:

- the adjustment of the national, federal/state legal and regulatory framework that will require several years to be completed,
- the mobilization of civil servants, at central and local levels, to constitute a real multidisciplinary, and often an inter-ministerial, project team.
- the provision of information and the association of people in charge of local communities, of all categories of users and of the general public to obtain their approval of the project,
- the gathering of all available information on the river basin in order to obtain a real inventory of the current situation (" white books " ),
- the formulation of a master plan for long-term water development and management,
- the study of a first 5-year priority investment programme,
- the analysis of the capacity to pay of the different categories of water users in the basin and the carrying out of financial simulations to define scenarios for priority investments,
- the establishment of a register of users and the determination of bases for water charges for each category (standard or metered),

- the creation of systems for computing water charges according to the different cases, advices given and to the follow-up of users' payments,
- the creation of teams for sampling and control,
- the setting up of an integrated information system on water resources and uses, together with the installation of all necessary technical equipment (sampling and gauging equipment, laboratories, data bases, telematic networks, teletransmission, etc.),
- finally, the training of all personnels concerned to enable them to efficiently carry out their new tasks.

There are wide variations depending on the local situation and the size of the basin, but the costs for the setting-up of a new basin organization can be grossly estimated and are of the order of 100 million FF (90 to 120 million FF (MFF) or 15 to 20 million US\$ (M\$)) over five years.

For instance, the 5-year estimate cost for PROMMA in Mexico, that plans the setting-up of 13 " Basin Committees ", amounts to 300.000 M\$, 156.000 M\$ of which are borrowed from the World Bank.

This is an argument for choosing quite large " basin territories " that correspond to large rivers, concern several million inhabitants, and have sufficient potential for electricity production and industry or for irrigated agriculture.

A gross estimate can show that, after several years for the starting up, the results could be of the following order for a basin of 10,000,000 inhabitants:

• Cost for starting up a new basin organization (total over 5 years)		#	100.000 MFF  (16.700 M\$)
• 5 % amortization over 15 years (capital and interests)		#	10.000 MFF/an  1.600 M\$/an
• Operating costs of the basin agency (about 100 staff members)		#	40.000 MFF/an  6.800 M\$/an
• Total operating costs per year		#	50.000 MFF/an  8.400 M\$/an

<ul style="list-style-type: none"> <li>• Total of water charges to be levied based on less than 10 % of operating costs</li> </ul>		#	500.000 MFF/an 84.000 M\$/an
<ul style="list-style-type: none"> <li>• Total of aid to investment in the basin, based on a rate of 50 % participation from the basin organization</li> </ul> <p>(i.e. 5,000.000 MFF for a 5-year programme or 850,000 M\$)</p>		#	1,000.000 MFF/an 170.000 M\$/an
<ul style="list-style-type: none"> <li>• Total of water charges paid by the inhabitants based on 50 %, the remainder coming from industry and other water users</li> </ul>		#	250.000 MFF/an 42.000 M\$/an
<ul style="list-style-type: none"> <li>• Annual cost per inhabitant of the basin water charges, based on 10,000,000 inhabitants in the basin</li> </ul> <p>i.e. per year, the price of:</p> <p>2 packs of cigarettes</p> <p>4 litres of super petrol</p> <p>half a litre of a liqueur</p> <p>1 bottle of wine</p>		#	25,00 FF/an 4.20 \$/an
<ul style="list-style-type: none"> <li>• Based on a consumption</li> </ul> <p>of 100 l/capita/day # 40 m<sup>3</sup>/year</p> <p><sup>(1)</sup> to be added to the price of drinking water and sanitation billed to the users</p>		#	0.65 FF/m <sup>3</sup> <sup>(1)</sup> 0.11 \$/m <sup>3</sup>

These results are to be compared with # 1.60 FF/ m<sup>3</sup> paid in France, after a 30- year application of the system, as taxes to the Water Agencies in 1997, based on an average price of the m<sup>3</sup> of drinking water + sanitation of # 15 FF/ m<sup>3</sup>.

Although such a table is a gross estimate as compared to the in-depth economic studies that must be carried out in each case, **it is clear that such a financial basin instrument may mobilize huge amounts for investments and the good operation of equipment with a very small yearly participation of the users.**



The " Water " software, used in training courses, enables a better simulation of this kind of approach.

## **XII) International cooperation**

There are 215 transboundary rivers over the world, the basins of which cover an area of about 50 % of the emerged lands.

**Water has no national or administrative boundary.** Managing resources shared between several neighbouring States should take this reality into account and be organized on the scale of the catchment area concerned.

Managing a common resource - which can lead to conflicts - implies the participation of all riparian states to define the rights and duties of each of them.

The consistency of national and international programmes is a prerequisite to optimizing results. It requires the harmonization of:

- objectives that must be consistent and compatible,
- actions at sector and multisector levels.

The sectoral and multisectoral interdependence and compatibility are prime notions to be taken into account when preparing national and international programmes that focus on shared water resources.

An informal cooperation can be established between basin organizations of 2 neighbouring countries to efficiently prevent or settle a local crisis, but this will never lead to large-scale enterprises nor to the mobilization of important financial means.

Setting up a formal framework can ensure long-term commitments whose constraints will bind the successive local decision-makers.

An international agreement signed by a State might imply a progressive adaptation of national regulations to meet the agreement requirements.

This legal framework is a prerequisite for mobilizing suitable means at the level of each country. Setting up a structure might be envisaged. The prime condition is that this structure must be given an official status to implement programmes requiring important financial means from various donor agencies.

The setting-up of a light structure (focal point, logistics) is a dynamic and low cost solution in a first phase.

Setting up a larger and better structured international organization implies the predefinition of the nature and delegation of responsibilities accepted by the States.

The mandate of this organization may comprise:

- information organization and dissemination,
- assistance to operators in case of a crisis,
- contribution to solving specific problems that exceed the national territory,
- planning of actions at the level of the international basin that will be consistent with national programmes,
- mobilization of national and international financial means.