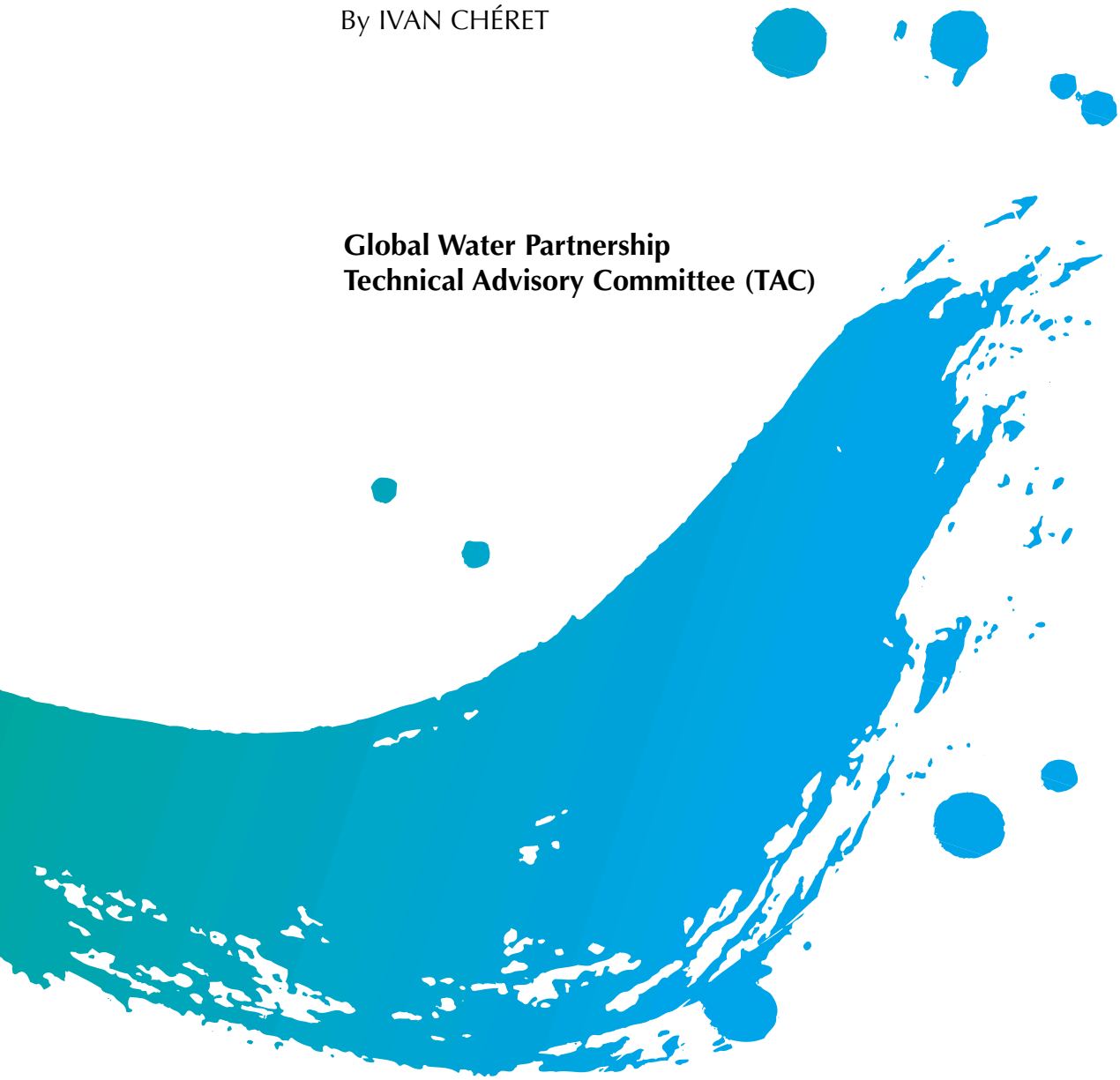
TAC BACKGROUND PAPERS NO. 5

Letter to my Minister

By IVAN CHÉRET



Global Water Partnership
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Ivan Chéret

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IVAN CHÉRET, currently a member of GWP's TAC, was formerly head of the water division of Lyonnaise des Eaux, and Chairman of their waste management subsidiary. Between 1960 and 1970, as Rapporteur of the Water Commission in France, he took an active part in setting up their River Basin Agencies after having gained ten years working experience in Africa.

This Report is a personal contribution from Ivan Chéret in support of integrated water resources management as a means towards coordinating the development and management of water, land, and related resources to provide water security for all. Although the Technical Advisory Committee of the Global Water Partnership has fully endorsed the publication of this report in the GWP TAC Background Papers series, the responsibility for the views expressed in the report rest entirely with the author.

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Letter to my Minister

Subject : IMPROVING WATER RESOURCES MANAGEMENT

Honourable Minister

May I call your attention for just a few minutes on the subject of water? Oh, I know that you are very busy and you have many problems on your hands which concern people and not, as you may think, mere technical problems.

But, what if tomorrow a flood strikes a part of your country and people complain that there was not enough protection and the relief operations came too late and with insufficient equipment? What if people suffering from lack of water and inadequate sanitation begin to voice their rancour? What if peasants do not have enough water to raise a good crop? What if people are fed up of seeing their rivers transformed into sewers? What if industry cannot create enough jobs in the populated areas because there is not enough water to allocate?

These are neither hypothetical nor technical questions, they all concern people, and they become more and more compelling as time goes by and as the level of living increases. They all stem from the fact that every human activity needs water, and uses and pollutes more and more of it every day.

MANAGING WATER IS PREVENTING DISPUTES BETWEEN USERS:
IT IS CLEARLY A POLITICAL RESPONSIBILITY!

Of course, each country experiences its own problems and reacts to these in its own characteristic way. Totally conscious of this local character of the water problem and not wishing to impose anything we, in the Global Water Partnership, believe that each country can learn from the experiences of others.

So, on the occasion of the year 2000 World Water Forum and in parallel to the Vision and Framework for Action Reports, this short

paper is intended to explain in plain words the gist of the experience humanity has learnt with time and how — by calling the various users to speak to each other and not to ignore the economical realities — modern approaches can help to solve the problem and, at the same time, put you Honourable Minister in the chair of an arbiter between competing forces instead of the sole decision maker, the permanent culprit.

Water resources are manageable, but not by conventional methods

"Why think specifically about water?" has always been the first question I have been asked, Honourable Minister, by all your colleagues that I have had the honour to serve. In order to answer this question let us look briefly at the different ways in which humanity has approached the water problems it has encountered.

Traditionally, in the ancient times, water was always offered to the traveller and the stranger, the more so in the desert, as a sign of welcome and peace. Rudyard Kipling describes magnificently this state of mind in his Jungle Book when he speaks of the truce between animals during the drought, a truce that is broken only by the old tiger, the villain. But this sort of friendly exchange has never worked under ordinary circumstances with many users concerned, and does not work today. In the Valencia Valley in Spain, a special court was set up in the Middle Ages to settle disputes between water users and it proved its efficiency, and is still operating. But the scope here is limited as it concerns only one type of water use, irrigation, and does not include arbitration between cities, agriculture, and industry.

Link water rights to land ownership?

The Roman Law instituted this link and this is still the principle behind many laws in force to-day. For instance, in France the owner of a piece of land may:

- "*Use and abuse of all the rain which falls on the estate.*" But should all the owners in the upper reaches use all "their" water, how much water would be available down stream? If the Sudan dried up the Nile, or Nepal the Ganges?

- *"Use the water from the bordering stream to irrigate the estate, provided the flow returns to the river after use."* But after irrigation no water returns directly to the stream.

- *"Use the ground water available under the estate."* But should all the owners pump from their common aquifer they would lower the water table and finally destroy the resource.

This link between water rights and land ownership has obvious limitations so in France navigable rivers were made part of the "public domain" whereas special laws regulated hydro-electric power production or pollution control. But this has proved not to be sufficient.

In the eastern European countries all the waters were part of the "public domain" but this "administrative command" was a failure. It is clear that no conventional methods offer a solution that is truly adapted to modern times when not only is the demand for water close to the available resources but is changing rapidly with the technical revolution. Moreover, no law related to water prevents the owner from choosing alone how to use his land. This seems natural, but the changes in land use often dramatically changes the fate of the rain that falls on the earth and thus the water resources.

As you know, Honourable Minister, in recent years the gist of the modern thinking was laid down by two international conferences in Dublin and Rio in 1992.

Let water markets play?

One of the principles adopted in Dublin states that water is an *economic* good. So recently a Minister of Finance said: Let the market forces play and then why should we go on convening so many conferences? Many economists are in favour of the market approach for water allocation and even for pollution licensing.

Is this market mechanism applicable everywhere today? The market theory implies that all the actors in the market are well aware of their interests and are sufficiently knowledgeable in the economics of their business, or of the alternatives available to them, to make a reasonable choice. Is this true as far as water is concerned? Probably "Yes" for industry, maybe "Yes" for the municipalities in some instances, and more than doubtful for other users, notably in agriculture,

although regulated exchanges between farmers do exist in some countries. And what would become of the poor if they could not afford the water they need?

Water as a social good

So the market alone cannot be the solution worldwide for many years to come. This is why at the Rio conference it was stated that water is also a *social* good. This means that people are entitled to use water when they cannot afford to pay the price. But how can we allocate water according to this principle? Give each person 50 litres of water every day using a coupon system like many citizens in Europe had to do during the war for meat, bread or milk? And how much should go to agriculture and to industry, and how much in daytime and how much at night, and how much when it rains every day or every three days? And this is without mentioning quality or ecological considerations. Even the most powerful computers would not be able to give enough guidance to a central "water authority" to allow it to allocate water efficiently. And is it, Honourable Minister, a "socially acceptable" way of management to set up a "central water authority" delivering individual licenses when people are better and better informed, better and better educated, so that they will only be frustrated if they are not allowed to take their own decisions locally or participate in the national decision making process?

It is clear that no obvious self regulating mechanism can solve the problems today or even in a foreseeable future, and that a specific approach is absolutely needed. *This is what Integrated Water Resources Management (IWRM) is all about*. To better understand the process it is useful to return for a few moments to the fundamental nature of the problem.

Water has extraordinary characteristics

We all know since our childhood the essence of the water cycle which governs water presence on earth: a reservoir, formed mainly by the saline waters of oceans and seas, and a flow of fresh water provided by the evaporation and plant transpiration stemming from the energy coming from the sun. We also know that these resources vary from place to place and in a given location, with the seasons and the years. Assessing the resources in each country and their variability is the first

responsibility and priority for each government in the water field. One cannot put enough emphasis on this aspect of the problem.

It is equally important here to stress the totally exceptional characteristics of water, which explain its paramount importance and motivate its universal use:

- water is essential for life as we know it
- water is the symbol of purity in all the religions and is present as such in peoples' minds
- water is the last resort, the last pure resort in case of illness

(hence the hypersensitivity of the public opinion about water)

- water is an extraordinary vehicle for the transport of heat, diluted chemical substances, and solids
- water flows, which means that the same drop, the same molecule of water, falls in the Andes and goes all the way down the Amazon river
- water is a renewable resource but not in the same way as other renewable resources. Rice is grown one year, eaten and does not exist any more. But next year one can grow rice again and eat this new rice. With water it is different; water does not disappear when it is used, it may evaporate, it may flow further, it may get polluted, but the same molecule of water still exists and eventually comes back through the water cycle mechanism.

This last fact appears more fundamentally important the closer one looks at the uses of water.

Water is our waste carrier

Let us consider first our own experience as a human being. We drink water and we consume some of it with our food; between one and two litres per day. Only a very small part of this water is incorporated in our organism and the rest is evacuated through the natural channels, taking out from our body all the waste which otherwise would poison it, or the heat which would harm it on a warm day. And when we look carefully at all the other ways in which we use water in our household we always find the word *wash: wash* our body, *wash* our linen, *wash* our

dishes or *wash* our tiles. In each instance water is used to take away substances which annoy us, or dirt, or in any case are useless.

Had we not the right to use water to take away these substances we would not have any need for water in our house except, of course, for drinking and eating purposes. But these actions, so natural, also produce harmful and useless substances.

Should we accept then, Honourable Minister, that the wastewater containing these substances should be returned as they are to the rivers creating thus all kinds of pollution? Of course not, but this leads to the fact that in order to avoid pollution we need to build wastewater treatment plants. Sometime maybe, we shall have at the exit of our dwelling some kind of a wastewater washing machine. But these times have not yet come and the treatment plants are collective ones. The State has to stipulate the applicable standards and cities and villages have to find the financial resources to build and operate these plants.

When we consider practically all human activities except agriculture (we shall come back to that point later) one finds the same situation, namely, that a very small part of the water is incorporated in the final product and that most of the quantities of water abstracted from the resources are used in the various phases of the manufacturing processes to take away those parts of the raw materials which could not be incorporated in the final product, and to cool the machines and clean the premises. The workshop, like the apartment, must get rid of these undesirable materials contained in the "waste" waters.

Industry, generally speaking, is in a more flexible position than a household to adapt the ways and means of its water use and methods of disposing of the useless by-products. A good example of this flexibility is given by the process of producing paper pulp from wood. Some production methods may use as much as 500 tons of water to produce 1 ton of pulp, while others resort to oxygen and demand much less water. Of course, the production cost is not the same and the industry manager must receive a clear signal as to which process has to be chosen. Here again, the State has to issue standards and clearly indicate the waste disposal sites and collect the fees corresponding to the cost of the operation of these sites.

Water allows our crops to grow

In the field of agriculture the problems stemming from industrialised feed lots are very similar to those of industry in general. The situation is completely different with crop raising, with or without the help of irrigation, as the influence of this activity on the quality of water resources depends more or less on the intensive use of pesticides and fertilisers. The products, unlike urban or industrial waste which can be transported by pipes to a treatment plant, are spread all over the soil from where they cannot be retrieved. Practical solutions for this problem have to be different and the managerial approach has also to be adapted.

Agriculture, and all plant life, needs great quantities of water and this water leaves for the atmosphere through the so-called evapo-transpiration process. When water is taken from a river in order to irrigate some land, practically no water returns immediately to the river as most is either evaporated or infiltrated in the soil and lost for other uses for a substantial period of time. This is very different from the urban or industrial uses where water, once treated, returns to the river very quickly to be reused by others. This "consumptive use" of water, which appears in agriculture but also, though at a smaller scale in other uses such as thermal power plants, compels managers to consider the exact location of each user along a river. For instance, should an irrigation system be located downstream from a big city the treated wastewater from the city could be used for irrigation so the same water can be used twice. But if the irrigation scheme is located upstream from the city most of the water diverted for irrigation would not be available for the city, and the needs of both consumers need to be added.

Water safeguards our environment

Humanity is not the only living species that depends on water: all plants and animals live on this fundamental resource and man has to take this reality into account when thinking about water management. If mankind does not take into this into account he will soon find himself alone on the planet and would certainly disappear. These other species have grown and developed in their local natural environments with their specific characteristics of water quality, variable flows, droughts and floods, calm periods and natural disasters.

For many thousands of years man has fought against nature to find a comfortable way of life for himself and in this process has performed many destructive actions. But this process is not yet finished as man has still to fight against the disastrous effects of floods and droughts on many populations in the world. However, in many parts of world the destruction of nature has gone too far and the lessons learned have to be taken into account everywhere: rebuild in some places, not destroy too much elsewhere, and so on. Although it is up to each country, to each region or basin to find and implement its own solutions, these solutions must be devised and implemented if only to ensure the protection of mankind in the natural environment.

The battles within the sector

Competition among users of goods or commodities is widespread in the world and is rightly considered as normal. In the water field though, this competition often takes on a very special flavour and acuity, symbolised by the existence of some notions and actions that attract passion and provoke battles.

What is potable water?

Everybody agrees on the fact that water delivered to people should be of such quality as not to cause any illness. We all dream of pure water, naturally pure water but, alas, we have to use the word 'dream.'

In the modern world potable water has to be defined and standards to that effect exist. Whereas everybody agrees on the absence of pathogenic germs, the position concerning chemicals vary widely. The World Health Organization has set standards and many countries have set their own standards, and these standards vary with time. If these changes and differences arose from real medical evidence nobody would have anything to say, but this is seldom the case. In fact, experience shows that regulatory bodies in rich countries tend to prohibit, in potable water, the presence of any chemical at the concentration measurable with the latest available techniques. This is done in the name of the so-called "precautionary principle" which is very commendable. But when one considers the practical consequences there may be grounds for concern: are we using our financial resources in the best interest of health? For instance, when the European Union decided to impose the removal of all lead pipes in old houses it

imposed investments of tens of billions of Euro. But is it the best use of money in favour of the health of the population? Would it not have been better to use this money to fight drug addiction, or for upgrading hospitals, or for cancer research, or even to bring water to part of the 1.2 billion poor people without access to it outside Europe?

Potable water is also a difficult issue when it comes to the use of treated wastewater. Everybody accepts to drink water extracted from a river, even a somewhat polluted river at that, and treated in a modern plant. But when conversation moves to drinking water supplied directly by a wastewater treatment plant to a drinking water treatment plant without a passage through a river, people tend to be reluctant. But efficient techniques are now available and astronauts use them, the city of Windhoek in Namibia also, and megacities may need such an evolution in the future! But how to reconcile technical facts and public opinion? And how to avoid abuses in lawsuits? Anyway, bringing an adequate water supply to people is clearly the first priority.

The fight against pollution

Pollution is often considered as the number one enemy in the water field and, true enough, it has to be stopped. Too many abuses have been committed in the past and are still being committed to allow any distraction from this fight. But there are various fights and they have to be clearly understood in order to facilitate their solution.

The most classical fight can be described as the conflict between an industrial area and a city lying downstream. The wastewater from the industries, if not properly treated, obviously pollutes the drinking water intake of the city. It has to be treated.

A somewhat more difficult problem is the one stemming from the use of pesticides and fertilisers in agriculture. These products are spread all over the land as this is the way they benefit agriculture, but they cannot be collected for treatment after use. However, their presence in the groundwater is very damaging to the drinking water quality, including water for the very farmers who use these pesticides. So what is the solution? Treating drinking water with a more sophisticated and more costly process? Reduce, or forbid, the use of pesticides and fertilisers on the land above groundwater aquifers and hope for an efficient implementation of such a decision? Try and develop biodegradable pesticides and fertilisers?

Apparent from the evidence available — an even less easily achievable goal in poor countries — is the satisfactory treatment of urban wastewater, and more generally of the urban wastes. And the costs involved, not only for the investment side but also more importantly for the operation and maintenance side, are very high indeed compared to the revenue of these populations. And one has to confess that the so-called "northern" countries started to deal with these problems only recently, when they became rich, and when they felt they could afford it.

Can we produce more crops with less water?

Agriculture is the biggest user of water and as food production needs to be increased, the water consumption for agriculture increases also. So conflicts appear between farmers and cities, between farmers in the same limited area — as is the case in Valencia since as early as the middle ages — between populations upstream and downstream a big river such as the Nile, or along the two banks of, for instance, the Jordan river.

The available technical solutions, regrettable as it may be, have their limitations: dams can raise dry period flows only to a certain degree and at a cost; losses in the irrigation networks could be reduced and have to be reduced, but this requires a great amount of training and expenditure in operation and maintenance. The whole irrigation network can be changed from open ditch irrigation to pipe irrigation, and to an even less water consuming network such as drip irrigation. But these solutions require very costly investments indeed, and incur high operational costs. And when one knows that in almost all countries of the world there are state subsidies to farmers to lower the prices of the farm products on local and international markets, one can imagine how difficult it may be to convince the same people to increase their expenses! But these facts are inescapable.

Another fundamental aspect is the evolution of the population earning their living from agriculture. In the "north" the agricultural population has decreased tremendously with the productivity increases in agriculture, and the fact that people have created more value added activities outside agriculture has been the reason for their becoming richer and richer. So one of the goals for poor countries is probably to follow the same path. And, if so, could they not try and reorient their

investments to increase, at the same time, the productivity in agriculture and create new activities by training farmers, at least some of the younger ones, for these activities?

Trade may be an efficient way to provide enough food and allow people to move out of agriculture. International trade in food crops has to be adapted to the development of water related problems to achieve together, *more crop per drop* and *more jobs per drop*.

The water goals

In order to go further it is necessary to separate conceptually the water resources from their various uses. This may not be totally feasible in practice everywhere but it is the only way for a better understanding of what the policy goals could be. Now, if we consider a given river or an aquifer, what basic goals can we assign to it?

1. Generally speaking a river has to exist all the year round, every year, which means that it has to offer in each stretch of its course a minimum flow. This is the first goal. Of course, even such a limited goal cannot be achieved in the temporary "rivers" of the arid and semi-arid areas. But for most countries this goal is valid and can be adapted to the arid areas in order to protect, for instance, the galleries or wells which capture water from under the dry bed. And if the facts suggest that a given stretch should be abandoned, let it be decided openly.

2. A river has to live and offer to its habitat and its users a minimum quality. A sewer is not a river anymore. This means that pollution has to be abated.

3. A river should not present too many and too high risks for its habitat and the people who live along its banks, and this speaks about protection against floods and droughts.

4. Of course, similar considerations apply to the ground water aquifers which represent a fundamental resource that has to be cared for.

These are the fundamental goals that a water resources policy should determine as a first step. With these water goals in mind all the possible levers can be set in motion and, particularly, the *two most important levers: money and people* to prevent the conflicts and avoid the disaster of the drying out of the water resources.

Best use of the available money

Conflicts between users for a limited resource are not restricted to water and are normal events. The market approach usually solves the difficulties: production of the commodity increases with the rise of the price, whereas activities for which this increase of price is too high shift to another field.

We have stated above the reasons why this market approach is not applicable. Yet, in most countries of the world in the water field, this does not have to prevent us from thinking of ways and means to ensure the best use of the always-scarce amounts of financial resources available. And here, though remembering that "economics" shows the way, we should try to use purely pragmatic approaches.

In the case of water a given problem can most often be solved by two different investments. For instance, the wastewater of industrial premises can be treated either by the industries themselves, or by a municipal treatment plant. The best solution is, all expenses considered of course, the cheapest one. But how should we achieve this?

The simplest way is for the municipality to inform the users of its costs and, should the users resort to these facilities, tell them that they will have to pay these costs. Then let each of the users evaluate the costs of their own systems against those of the municipality, and let them make their decisions accordingly.

When this is done sufficiently in advance, or better in a permanent way, the city can choose to install only those parts of its plant which will be used. Thus both the public authority and the industry solve the problem in the cheapest possible way. This principle of a fee system can be widened to fees based on the quantity of "pollution" discharged directly into a river.

The same approach may be applied in the case of the construction of a dam, or of an aqueduct. The owner of such an infrastructure should know the costs, could announce the fees and the various users could adapt their production process to the cost of water, thus

achieving the best global use of money. But, Honourable Minister, you could rightly ask how to deal with the activities where people cannot afford to pay such fees, for example, in agriculture? Should a government consider that to allow the farmers to still earn a decent living on their crops the fee could very well be replaced by a contribution from the state budget to the construction of the dam? In such a way a special low tariff could be devised for the agricultural uses of water. This approach is very widely used in the world by governments who allocate subsidies to investments in agriculture. Such subsidies, unfortunately, do not resolve the problems of water scarcity and a thorough study needs to be made in each given situation to allocate the subsidies in ways that helps to reduce the water consumption. For instance, replace a subsidy delivered through a reduction of the price of energy for pumping water by a subsidy to water saving investments.

Providing good water supply and sanitation services to the poor
This a big challenge in many parts of the world. Although in the so-called "northern" countries the best procedure is to directly help the poor families by grants provided through the social department of the municipality, this is not feasible in many other countries and other ways have to be devised.

One must always remember though, that lowering water tariffs for everybody is never a good solution. The management of the utility then becomes very inefficient, maintenance is not performed, the existing infrastructure deteriorates, and the people who suffer most from such a situation are the poor because the "rich" always can afford other solutions.

The example of the east European countries which, for social reasons, gave out water to their inhabitants at a very low price indeed, demonstrated that such behaviour resulted in a considerable waste of water which compelled the authorities to over invest in drinking water supplies, many of which stand idle to-day. However, the sewage treatment was completely neglected because of the resulting lack of money. It was all a waste of water and financial resources. Maybe should we concentrate public money, including donor money, on helping the poor?

Calling the stakeholders in

Governments are usually organised in a way that assigns to each Minister the responsibility to help people develop a given activity and to protect them. There are Ministers of Agriculture, Industry, Trade, Energy and Mineral Resources, and of Navigation, Transport and so on. There are some horizontal ministries such as the Minister of Finance, of the Interior or of Foreign Affairs, but these Ministers either have their own particular field of responsibility (for security or foreign relations), or have the power to impose their views on others such as the Minister of Finance.

It is fair to say that in more and more countries today, there is a Minister for Environment and, sometimes, even for Water. This is a move in the right direction. But what happens when the people who need water, or those who complain against some adverse event, go and seek the help of "their" Minister? The Minister for the Environment (or Water) has to try and settle the case with his colleague. The problems keep coming up to the highest level of the country's organisation and the governments have to use their authority to impose a solution. The people who raised the problem most often have never discussed the problem with their opponents in the field, do not care to know their views nor, of course, try and understand them.

But the fates of all the water users, the *stakeholders*, are closely linked and it is in their best interest to try and solve their difficulties together. It is in the best interest of government to try and facilitate such direct negotiations and become a welcomed arbiter instead of being considered as the incapable bully who wants to decide everything without taking into consideration the local realities.

This approach has very positive consequences at all levels in a country: for the management of the biggest basins and even the international ones, for encouraging initiatives around a small creek or aquifer between a group of villages, or in the various sectors of a big city.

Integrated water resources management

Taking stock of all these elements the Global Water Partnership's Technical Advisory Committee gave of Integrated Water Resources Management (IWRM) the following definition:

IWRM is a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems

This does not mean at all that a country's development policies have to be decided and managed from a water resources point of view. But this *does* mean that a country's development policies cannot be successful *without* taking into account the water resources. A dialogue between all the stakeholders concerned is essential for defining a possible future given the state of the water resources of a country.

All this is not easy to implement because it implies fundamental changes for the existing water users and they tend, like everybody, to oppose changes in their habits. This makes it essential to let the people concerned see the reality of the needs and that making the required changes is unavoidable.

How to change? Invite the competing parties to the negotiation table!

Whatever the country, whatever its economic and social development, the speed of the changes in the world today compel each and every country to reassess their situation more and more frequently and to try and implement changes which the respective situations may impose.

For the success of the introduction or the improvement in a country of integrated water resources management practices, it is essential for the country to examine the existing problems. The people in the field — farmers, industry managers, mayors, members of parliament and the ministers — cannot waste their time on problems which do not exist. The first step is to look at the existing problems and try and devise new ways of solving them.

One way of moving along this path for instance, is to create or reactivate at the national level a Consultative Commission where all the stakeholders can be represented, with a secretariat of young managers with various academic and practical backgrounds. The stakeholders

have to be truly representative of all concerned, not only the water users, or the polluters, or the mayors, or the members of parliament, or the delegates from the various ministries and planning organisations, but also the academics, the scientists and research people, the ecologists, fishermen, NGO representatives, women associations, and people from the media.

With the help of the local authorities the secretariat should have the responsibility to investigate the problems that exist, or those that are likely to appear, and report them to the Commission. This procedure would have at least the following positive results:

- The different stakeholders could all express their views and explain their constraints and discuss them with the other stakeholders enabling everybody to learn more about each others needs and the reasoning behind their points of view. This will improve the level of understanding of the realities.

- While this does not solve the existing problems, this progress in mutual understanding will have a positive human effect on the people who meet and resulting in moves away from positions of being opponents to positions of being in partnership to seek mutually acceptable policies.

- The authorities concerned at the local and national levels can take a better view of the field realities, better resist unnecessary investment demands, and devise better adapted solutions.

- Finally, on the basis of the real problems of the country the government and Parliament can appreciate whether reforms are really needed, and if so, which ones.

How to manage water resources in an integrated way?

There is no universally valid answer to this question and each country has to adapt itself to the evolving realities, taking due account of its culture, existing structures, development stage and goals, and human and financial resources.

Some countries have experience in Integrated Water Resources Management, books have been published, and experts exist and are

ready to assist. The Global Water Partnership's first Associated Programme is precisely aimed at organising in the best possible way, the exchange of information, sharing of experiences and capacity building. The Technical Advisory Committee of the Global Water Partnership has published a special report on Integrated Water Resources Management. From all this experience one can clearly say that each country has to choose its own system, and that this system will change as time goes on.

This is not the place to go into a detailed discussion of the different ways and means that have been recorded. Instead, I simply suggest as a conclusion that countries consider at least, before deciding on a reform, the validity for their situation for setting up in each geographical river basin an organisation comprising of the three following elements:

- a conscience for water, speaking out the truth
- a forum, the decision maker
- a budget, collecting fees and giving grants.

Let us dwell a little on these notions.

The river basin. Even though it is not perfect as the groundwater does not follow the surface water limits, it is the logical area inside which a clear understanding of the water problems can be reached. There is of course, great freedom for the authorities to choose the most appropriate basins, and it might be useful to create a set of organisations for relatively small tributaries and federate them at a higher level. The latter area may cover a group of basins or the limits of an important groundwater aquifer.

The conscience for water. This is embodied in the staff. This staff should be composed of people coming from various horizons with different training and backgrounds — this diversity is essential to guarantee an integrated approach on their part. The duty of the conscience is to know all the facts about the river, to prepare the decisions concerning the goals for the rivers of the basin, to learn all about the projects and the problems and to prepare the solutions with the interested parties. Its duty is to say the truth about the water

resources situation to everybody. All its proposals have to be submitted to the forum.

Other responsibilities may be imposed on them such as the implementation of the water regulations, or the management of dams or of regional aqueducts, but these are not essential, whereas their role as the conscience is essential for the success of the new approach.

The forum. This is the meeting of all the stakeholders, all those listed above. Their responsibility is to supervise the conscience and listen to its information and proposals, discuss and modify them if needed, approve them, and to transmit them to the authorities concerned. It should behave as a small water "parliament" for the basin, bringing information from the field, and informing all concerned about their decisions and the reasons behind them. The forum should, above all, approve the budget of the given organisation.

The budget. Without funds this organisation would not be able to serve its purpose. Funds are needed to sustain this organisation but should the organisation be merely an administrative consultation tool it would be a waste of financial resources. For the success of a new water policy it is also necessary to find additional funding and financial procedures to encourage the implementation of the needed investment and operational decisions. Thus, the basin organisation should be given the responsibility to allocate grants and loans to cities, industries, and any owner who is willing to invest and properly operate the facilities that contribute to the overall goals of IWRM in the basin.

The most important point then, is to decide where the funds will come from. This is the moment when the facts discussed in the earlier paragraph above titled "Best use of the available money" have to be put into practice, namely, fees on water uses and water pollution have to be imposed. Such an initiative is of strategic importance and has of course, to be well thought through as it is essential to the success of the new policies, and the correct thinking and conceptual approach of the conscience. And without the true responsibility of raising financial resources from the water users the forum might very well indulge in the production of purely demagogic declarations.

So conscience, forum, and budget are completely linked!

Honourable Minister,

The Vision exercise launched by the World Water Council shows that humanity will go on using more and more water and that science does not have in store, as of now, any "miracle pill" for water pains. The Vision also shows that business as usual — developing resources to meet ever-growing needs of the various human activities — brings us to a dead-end. Four major shifts are under way or should be set in motion:

- Shift from ever increasing water "production" investments to "demand" management, which reduces at the same time water consumption and financial expenses.

- Shift from "administrative" water allocation procedures, to the use of "economic" tools.

- Shift from the view that water resources can be adapted to any development policies, to the awareness that water constraints have to be taken into account in all development strategies and actions.

- Return to the ancestral wisdom that water is purity and life, and has to be sustained as such in its natural sites.

INTEGRATED WATER RESOURCES MANAGEMENT, in spite of its awkward name, is the door to a least painful implementation of these inevitable shifts.

With respect

Ivan Chéret

REFERENCE

Integrated Water Resources Management, by TAC. GWP TAC Background Papers No. 4. Global Water Partnership, Stockholm (2000).

Global Water Partnership (GWP), established in 1996, is an international network open to all organisations involved in water resources management: developed and developing country government institutions, agencies of the United Nations, bi- and multilateral development banks, professional associations, research institutions, non-governmental organisations, and the private sector. GWP was created to foster Integrated Water Resources Management (IWRM), which aims to ensure the co-ordinated development and management of water, land, and related resources by maximising economic and social welfare without compromising the sustainability of vital environmental systems.

GWP promotes IWRM by creating fora at global, regional, and national levels, designed to support stakeholders in the practical implementation of IWRM. The Partnership's governance includes the Technical Advisory Committee (TAC), a group of 12 internationally recognised professionals and scientists skilled in the different aspects of water management. This committee, whose members come from different regions of the world, provides technical support and advice to the other governance arms and to the Partnership as a whole. The TAC has been charged with developing an analytical framework of the water sector and proposing actions that will promote sustainable water resources management. The TAC maintains an open channel with its mirror bodies, the GWP Regional Technical Advisory Committees (RTACs) around the world to facilitate application of IWRM regionally and nationally. The Chairs of the RTACs participate in the work of TAC.

Worldwide adoption and application of IWRM requires changing the way business is conducted by the international water resources community, particularly the way investments are made. To effect changes of this nature and scope, new ways to address the global, regional, and conceptual aspects and agendas of implementing actions are required.

This series, published by the GWP Secretariat in Stockholm has been created to disseminate the papers written and commissioned by the TAC to address the conceptual agenda. Issues and sub-issues with them, such as the understanding and definition of IWRM, water for food security, public-private partnerships, and water as an economic good have been addressed in these papers.

Global Water Partnership

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