Workshop 2

"The expectations of citizens"

The workshop was chaired by Daniel Boulnois, Director of the Rhine-Meuse Water Agency. The secretaries were Anne Clabaut, Dominique Frechin and Jean-Philippe Detolle of the Rhine-Meuse Water Agency.

Participants:

Professor Pedro MARSET CAMPOS, Member of the European Parliament (Spain)

Guy SAUVAGE, Chairman of the Water Board of Vraine and Xaintois in the Vosges department

Thierry LAVOUX, Reporting Department Manager, French Environment Institute

David STANNERS, Director of the Evaluation and Survey Programme, European Environment Agency (Copenhagen, Denmark)

Roger AERTGEERTS, Director of the Public Health department of the European Office of the World Health Organisation (Rome, Italy)

Thomas JOLY, French Office of the Foundation for Environment Education in Europe

Monique CHOTARD, Director General of CIEAU

Françoise DE BUTTET, General Delegate of the Mineral Water Confederation

Didier BICCHI, Municipal Policy Department, Canadian Department of Environment

Jean DUCHEMIN, Directorate General for the Environment of the European Commission (Brussels)

Jean-Pierre PEINOIT, President of the National Consumers' Institute

Professor Jacques ANTOINE, Director of CESEM Opinion, Member of the Water Academy

Opening

Daniel BOULNOIS
Director the Rhine-Meuse Water Agency

This workshop is devoted to the expectations of citizens. While people in France are increasingly concerned about the quality of water, the quantitative aspects appear to be not so important. The rationale for this workshop is the fact that citizens are also consumers of water, which they use for drinking, food, cleaning, leisure and well-being purposes. Today, we must cover the fairly wide range of expectations of citizens. We will also touch upon their contradictions, requirements and demands. We might also have the opportunity to address culture through the habits of consumers. The presence of several foreign participants will help us throw light on the wider situation. In order to initiate the exchange, several papers will be read before starting the discussion.

Technical assistants will record the key ideas that emerge from our discussion, in order to enable us to report them as faithfully as possible at the round table meeting tomorrow.

Water, health and policy: the contradictions of Western economic models (Spain)

Professor Pedro MARSET CAMPOS
European MP

Once again, please let me apologise for my somewhat rough and ready French – I have not had the opportunity to make any progress since this morning! I would like to use the five minutes that have been allocated to me to insist on a few issues that were already mentioned in the plenary session.

As a result of the dictatorship of General Franco, there is no public environmental awareness in my country. For example, even though the river that flows through my home region of Murcia is highly polluted, only the very immediate community shows any sign of concern about it. We did try to organise protest demonstrations, but only some 500 to 1000 people bothered to turn out. We had no greater success when we tried to circulate a petition.

Mankind is the result of biological as well as social processes. That is why most of the inhabitants of the area do not see any need to take any action. That is because the canning plant located close to the river is also a source of income for the region. The small political party of which I am a member took the matter up with the water distribution services, the municipality and the national health authorities, in the hope of making them aware of the problem. Unfortunately, the public health authorities failed to respond to our action.

The major political parties, whatever their leaning, prefer not to address the question for strictly economic reasons – intensive agriculture and the local canning plant are the major sources of income in the region.

In my view, these problems must be taken on board by policy-makers. Unfortunately, to date, their position is contradictory to say the least – the authorities invest funds in the conservation of some territories and contribute indirectly to the destruction of others, by building factories.

Thank you for your attention.

Daniel Boulnois

Thank you for your account. French television showed some pictures of the demonstrations organised by the conservationists in your country. You have shown us how difficult it can be to mobilise people for certain causes, especially since the inconsistencies of some public policies are not easy to understand.

The action of an inter-municipal water board: the example of Vraine and Xaintois board in the Vosges department

Guy SAUVAGE
President of the Inter-municipal Water Board of Vraine and Xaintois in the Vosges department

This paper is intended to show the way in which we, elected officials of a small inter-municipal organisation in charge of managing water distribution, have approached the various problems we have had to face in terms of the quality of water and how we work in continuous contact with our communities to keep them informed and reassured and above all to measure their expectations and the degree of concern of consumers.

I. Historical perspective

The water board of the Xaintois valley was founded in 1946, when it covered 24 municipalities. Today, it includes 30 municipalities in 5 cantons. With close to 250 kilometres of piping, the system brings water to 3300 households, i.e. a population of about 7600 consuming 900,000 cubic metres of water every year.

In the beginning, the water was mainly obtained from several catchments in the western part of the region, principally the La Chavée spring, which is capable of supplying up to 250,000 cubic metres per hour, the La Gaule spring and the water of the Vraine. All the water used to go through an ageing treatment plant located in Remouville, and was distributed by means of 12 tanks to supply water to all the subscribers in the area.

II. Achievements in the last six years

1. Drilling

In the 1990s, we began to look for an additional resource to support our production and a borehole was made in Baudricourt, in the eastern part of the area, at a depth of 460 metres. It is worked at the rate of 100 cubic metres per hour. The borehole made it possible to provide a balanced supply to the system, offering potential reserves. At the time, it seemed to provide an answer to our concerns.

When the borehole was started up, a European conformity test showed that it had an arsenic content of about 40 milligrams per litre. The standard was 50 milligrams and there was no reason not to use the borehole. But it soon appeared that the arsenic content tended to fluctuate considerably, reaching on occasion 100 micrograms per litre.

The board immediately decided to solve the problem and find the best solution along with partners such as the authorities in charge of agriculture, those responsible for health and social

affairs and the Water Agency. We appointed a company to design and supply a special treatment system for an investment of FF. 6 million, so that we could have water that was not only in accordance with the standards applicable at the time, but also likely to comply with future European standards. In particular, we wanted to lower the arsenic content to less than 10 milligrams. At the time, ours was the only such plant in the world. Today, it supplies water that offers full conformity to standards.

2. Conservation of the La Chavée spring

The board also initiated major measures to conserve the La Chavée spring, which is a key component of our water heritage. The quality of the spring deteriorated a few years ago, particularly as a result of an increase in its nitrate content. Up to 1987, the nitrate concentration only rarely exceeded 10 mg per litre. But since 1990, the nitrate content has always been greater than 25 mg per litre, sometimes exceeding 50 mg. There too, even though the board was asked by the Water Agency to give up using the spring, we decided to take immediate action to remedy the situation by taking measures to protect the La Chavée spring. We promoted dialogue with the farmers who farmed the land on the neighbouring plateau, which is the chief catchment area for the spring, by contributing to the funding of the "nitrogen fertiliser counselling" operation, participating in measures to convert arable land into extensive grasslands with incentives to convert fields into meadows. The board helped freeze 40 hectares of agricultural land, thereby decreasing excessive fertilising, which was the reason for the nitrates in the spring water. Today, the results are very satisfactory, because the nitrate content is dropping and is now located between 25 and 30 mg per litre. I think I can even say that to date, we are the only authority to have achieved such results, among all those who have tried such experiments.

3. Setting up of a surface water treatment plant

Lastly, the board has helped create a surface water treatment plant. With the water derived from different sources and an increase in the volume produced by the borehole, the authority could have largely met its needs. However, it had no solution for a possible shortage, let us say because of the accidental pollution of one of its resources. The authority decided to reorganise its treatment system and build a new plant that could effectively treat not only the water from the spring but also the surface water, which is often very turbid and exceeds the standards in respect of the ammoniac, iron, manganese and organic material content. Also, the water is very hard and has a high pesticide rate. Construction started in 1997, costing FF. 18 million. The plant was operational in August 2000 and is now giving satisfaction.

Those were the initiatives of our board in the course of the last six years. They have made us take important measures that have enabled us to solve the various water quality problems we have had to face, at least for the time being.

We are aware of the need to comply with the present and future drinking water standards and the need to supply quality water to our communities. We have always had a policy of prevention, reflected by the immediate implementation of programmes that provide effective and durable solutions as soon as any recognised public health risks are identified. This far, the approach has

always enabled us to solve major problems without having to deal with alarmist reactions on the part of local communities every time they get information that offers cause for concern.

III. Information for consumers

However, we have always informed consumers of both the scope of the risks discovered and the solutions put in place to eliminate them. Besides, a report from the local health and social affairs authority is generally and regularly enclosed with the water bill. That report informs the user of the quality of water in the department, its source, the inspections conducted and the various parameters tracked (bacteriology, hardness, nitrates, fluorine, pesticides and arsenic). The citizens are also aware of the result of the parameters in their community, conforming and nonconforming samples and our conclusions about the quality of the water distributed.

In short, the continuous and direct contact we have had with the community clearly shows that there is no real problem as regards information to the consumers. While the information must be open, it is our responsibility to give it out with all the precautions required, as the interpretation by laymen of the various parameters relating to quality of water could lead to delicate and unfounded situations, such as those we had to face in respect of the arsenic content. The consumers were poorly informed and much alarmed by the nature of the pollutant.

The expectations of our subscribers can be summarised by three regularly recurring issues:

– the time taken to repair the system or eliminate any outages in the supply;
– the price of water, which is believed to be too high;
– the perceived quality of the water (we often hear people say “your water is not good, it smells of chlorine”).

These three points admittedly deserve to be addressed, but they are quite far from the serious problems that threaten our water resources and therefore our health.

I would like to end my talk by telling you of my anxiety about our ability to supply quality water to the community. Given all the adverse new parameters and the regular lowering of standards, how long will it be before we cannot fund and install treatment equipment, especially if the service is to be paid for by the price of water?

Daniel Boulnois

Thank you for your very concrete contribution. It shows that it is always possible to implement solutions, providing there is a collective will to do so. Besides, you have pointed out that the system is not yet stable, as the standards are being made more stringent. We must therefore accept that an overall approach must be taken some day to determine whether the price of water should only include the cost of corrective treatment.

The French Environment Institute and the measurement of the expectations of citizens

Thierry LAVOUX
Reporting Department Manager, French Environment Institute

I. The French Environment Institute

The French Environment Institute will celebrate its tenth anniversary in September. The Institute has been set up to produce and distribute information about the environment in France. In other words, it is the statistical department of the Ministry of the Environment and the focus of the European Environment Agency.

From the beginning, we have endeavoured to take account of the issue of the quality of the environment in France. That meant that we had to determine the reactions of the people to the policies implemented. We have also tried to find out how opinions are formed on complex issues such as those relating to the environment. In 1993, we set up a monitoring agency (Observatory of the Practices of the Social Representation of the Environment). I would like to point out straight away that all these details and the information I am about to give you are available in the book referred to earlier by Professor Jacques Antoine, *La sensibilité écologique des Français* (Environmental Sensitivity in France). It contains an overview based on reliable indicators of the development of the perception of the environment.

II. The perception of water in France

Surveys relating to the perception of water in France are still relatively rare. With the help of the Water Agencies and the Water Authority, we have initiated a study of the issue along with the Research Centre for the Study of Living Conditions.

In general, water pollution and air pollution are at the top of the list of environmental issues. The greater importance given by the people to air quality is probably linked to the recent law relating to that subject, and the interest shown by the media in pollution in large cities.

1. Figures

91% of the people of France are quite or very concerned about the pollution of seas and coasts, whilst 86% of them are quite or very concerned about the quality of ponds and 80% for rivers and lakes. Besides, when they are asked who is responsible for water pollution, the French put industry first (75%), followed by farming (58%) and then private consumers (45%). It is interesting to note that that while farmers are named as water polluters, the French do not hold them responsible for the degradation of the environment in general. Agriculture appears in the last place with only 5% of the responses. Industry, closely followed by the government, is named as the chief polluter.

2. The expectations of the people

Among the priorities for public environmental action, reducing the pollution of rivers and lakes (42%) is second behind combating air pollution (63%). The French are aware that personal contributions cannot have the same effect as collective action. In this respect, the fight against water pollution comes sixth, after waste sorting (46.2%) and air, nature and noise (10%). However, I believe these results must be qualified, inasmuch as purchasing phosphate-free detergent, for instance, does to some extent contribute to the fight against water pollution. But the people surveyed are not always aware that such behaviour can be part of an environmentally friendly approach.

In our surveys, we queried citizens about the degree of knowledge and information they have, about the greenhouse effect or genetically modified (GM) organisms. As regards water in particular, 21% of the people believe that tap water comes from treatment and recycling. Even though the idea is completely false, it is deeply rooted in the minds of people. For instance, half the people of France are convinced that wastewater is treated to produce drinking water in the same treatment plant.

We also asked the people if they thought they were better informed. 78% of them believe they are not well informed or not informed at all, 82% find the information is sufficient and 55% think it is not credible. If you ask people which source of information they trust the most in respect of the quality of water, only 14% mention the Water Agency. They would rather trust consumers' associations (22%). We must therefore make more efforts to remedy this situation.

Between 1989 and 2000, the number of people drinking tap water has dropped considerably, from 72% to 58%. When asked about the quality of tap water (*What is your main reason for not usually drinking tap water?),* 45% of the people surveyed stressed the bad taste of the water (45%), and health fears were mentioned by only 13% of them. The reasons that make the French prefer bottled water to tap water are therefore less social and cultural than geographical. For instance, the inhabitants of Nord-Pas-de-Calais and Brittany consume very little tap water. It could be believed that there is a relationship between that fact and the information supplied every day by the regional press about water quality problems.

Bottled water is the only water drunk by 39% of the people surveyed. However, 31% of the people consume only tap water.

I apologise for having given these data in a somewhat disorderly fashion, but the time given to me does not allow me to comment them further. To sum up, the concerns about water pollution and the feeling that the information about the subject is insufficient can only have an adverse effect on the trust the French place in tap water.

The precautionary principle

David STANNERS
Director of the Evaluation and Survey Programme, European Environment Agency (Copenhagen, Denmark)

Contrary to popular belief, the European Environment Agency is not part of the European Commission. It is an independent body, whose chief client is however the Commission. We have a branch in every European country, which means that we can take effective action on all water, air and soil-related issues. Currently, the European Environment Agency covers 18 countries, but by the end of the year, it will have 31 member countries including Malta, Cyprus and Turkey, and we will work in close collaboration with the countries of the TACIS programme (Community programme for Technical Assistance to the Commonwealth of Independent States). We cover the entire territory of Europe, with the exception of Switzerland. Our activities in the field of water and health are closely related to those of the WHO, which has its seat in Copenhagen, like we do. Roger Aertgeerts will provide more details about these. For my part, I would like to tell you how to treat multi-causality, and the consequences of the application of new principles such as the precautionary principle. How are we to satisfy the wish of the public to have a better understanding of the issues? The best contribution of the European Environment Agency was the review of a series of case studies to bring out the best levers for distributing information to the public. The precautionary principle is central in all the problems we are addressing here today.

I would like to present a study, which began more than 18 months ago, relating to the lessons and practices of the precautionary principle in the course of the last 100 years. The precautions relate both to the environment and to health. That will enable us to provide a better answer to the requests sent to us, whether for advice or for guidance about the future application of the precautionary principle. Our action relates to several issues – BSE, asbestos, hormones in beef, greenhouse gases etc.

Four points were evaluated in the case studies:

- When the first cases were detected and early warnings given;
- When action was taken;
- The costs and benefits of the action implemented or the inaction;
- What can be learnt from the case.

Some recent examples like BSE have shown the public that scientific knowledge in the field is not as complete or infallible as we would like to believe.

Please remember that the precautionary principle appeared in the German law relating to the cleanliness of air of 1974. Five types of approach appear every time you speak of the precautionary principle:

- We must improve our research efforts to enable early detection.
- If the impact can be irreversible, the precautionary principle must apply before there is any evidence.
- Environmental risks must be reduced.

- Governments must implement environmental efficiency (clean production).
- We must approximate the application of the principle.

These points are addressed by the concept of sustainable development. The new sustainable development regulations have been defined and will be submitted to the members next week in Gothenburg.

We have learnt eleven lessons from our studies. Here I shall only review these lessons rapidly, but you can always contact me for more information and the report will be ready in September.

- **Lesson 1 : combat uncertainty and ignorance**
  Many falsehoods are declared – that is because the risks can only be calculated if you know the impact and probability of a phenomenon. Wrong affirmations are necessarily made when you do not know the incidence or occurrence. Sometimes, things can happen that we know nothing of, as was the case with CFCs. That is why we must push back ignorance.

- **Lesson 2: ensure long-term monitoring**
  If you have too little evidence or if you do not understand the toxicity of an element, you must at least keep monitoring the phenomenon. This aspect if too often neglected, but it can protect us from unpleasant surprises.

- **Lesson 3 : try to anticipate the actual conditions and behaviour of people**
  People will not apply guidelines if they go against their immediate interests. Most of the time, they do not understand what is the issue, as is the case with asbestos or fishing.

- **Lesson 4: stay aware of the fact that there will be some blind spots**
  Asbestos and microbe activity have been discussed behind closed doors by experts. These discussions have shown that there are blind spots, or points that are not clearly understood. In the case of CFCs, the hole in the ozone layer went undetected because the programmes responsible for collecting data from American satellites were automated to reject such work. The hole in the ozone layer was detected by a scientist with much less sophisticated equipment.

- **Lesson 5 : do not rely on first-hand experience alone**
  Laymen must also have a say in the matter, not just experts. Remember that an ordinary employee looking at asbestos through a microscope found that the fibres appeared dangerously sharp and that it might be necessary to seek protection. But the employee was a layman – or worse, a laywoman – and her discovery was completely ignored for fifty years.

- **Lesson 6 : take account of the values and perceptions of all the people involved in projects with environmental repercussions – scientists, laymen and elected officials – from inception up to completion**

- **Lesson 7: keep agriculture and food apart on the regulatory level**

- **Lesson 8: evaluate and take account of all the benefits and drawbacks of a project, its secondary aspects and costs**

That will maximise effectiveness and stimulate innovation.

- **Lesson 9: evaluate the alternative means of providing a service, which are often not envisaged while proposing a project**
  There were alternative projects for asbestos and CFCs. In the EU, there is the directive relating to the integrated pollution control programme, which makes it mandatory to take account of all the consequences of a project. It invokes the precautionary principle and governance, and makes sure that governments comply with the principles. That is the aim of the directive relating to environment evaluation.

- **Lesson 10 : avoid deadlocks by conducting analyses**
  There are many cases where more research was thought to be required – the president of a major country told us that more research must be conducted before taking any measures to combat climate change! Fish stocks are another good example of the lesson, because we know little about the total stock and the scope of fishing activity.

- **Lesson 11: always act on the basis of the precautionary principle in order to minimise risk and maximise the advantages of innovation, which is too often neglected**

To conclude, I would say that while we must use the appropriate levels of evidence and reduce environmental obstacles, we must also remain aware of the fact that we do not know all environmental processes. As a scientist, I can tell you that not everything is predictable. We must use technologies that are diverse, robust and flexible, envisage different social options and lastly monitor ever closely the impact and effectiveness of the measures taken in order to learn from them.

I hope my paper has been of use to you and that you will be able to adapt these lessons to the particularly complicated field in which you work.

Daniel Boulnois

Thank you for your very clear and pedagogical talk. I have no doubt that it will raise a number of questions.

Discussion with the audience

Gérard MOREAU, Area Manager, Rhine-Meuse Water Agency
My question is for Mr Sauvage. At what price does your authority sell its water? What do you think is the margin for growth in the price of water? In other words, how much do think the customers would be ready to pay for quality?

Guy SAUVAGE
The price of water in our area is a problem. That is because we have a certain number of small municipalities with no sewage treatment system. That leads to a price disparity. In small villages, the price per cubic metre is about FF. 11 and it goes up to almost FF. 20 in the two largest communities. As for your second question, I believe that we already meet a certain number of quality requirements. The people are not happy to accept price rises, even though we endeavour to explain the reasons behind them. However, I would like to remind you that additional costs are also brought on by the increasing stringency of standards. I understand the need to reinforce some standards. But I doubt if the people will accept to pay even more for their water.

Member of the audience

Do you think it is preferable to make the consumers pay or use tax funding?

Guy SAUVAGE

That's a good question! For water, it would perhaps be wiser to make the consumers pay. However, for household waste, we have decided to levy a tax. I cannot give a definite answer. I personally am somewhat against the creation of a tax, which would be another unfair tax.

Jean-Pierre TALLONIC, President of a water board in the Meuse

I am the President of a rural water board serving 55 villages with 5000 inhabitants. Without treatment, the cost of a cubic metre of water is about FF. 7. We do however have a policy of protecting the catchment. We will shortly initiate agricultural and environmental measures under a Territorial Operating Contract in one of the catchment locations. The support resources at our disposal are FF. 1 million over five years. We will mainly be upgrading all the storage systems for compliance with the standards and helping farmers to implement the contract.

Guy SAUVAGE

Do you have a lease?

Jean-Pierre TALLONIC

No, not at all.

Guy SAUVAGE

That would explain it! In the territory of our authority, some communities have their own resources and the price per cubic metre is less than FF 4 in some cases.

Jean-Pierre TALLONIC

I doubt if the communities can have a catchment protection policy for that price.

Guy SAUVAGE

In this respect as in others, I wonder how long we are going to have to accept such a state of affairs.

Emmanuel BRIAND, Engineer in charge of Water and Health, Marne-la-Vallée Authority for Health and Social Affairs

Does the French Environment Institute conduct studies about the willingness to pay in the different regions and by social-economic profile?

Thierry LAVOUX

To my knowledge, we do not study that question. As regards the price of water, we have surveyed the prices in 5000 municipalities. We hope to do a detailed analysis to explain the difference in price between municipalities. Some hypotheses put forward the condition of the untreated resource. But that is far too simple to be true !

Monique CHOTARD, Director of CIEau

I would like to make a clarification. We asked a sample of consumers (2200 people across the country), what price components they would be willing to pay. In 2000, 76% found it was normal to pay for treatment that makes water fit to drink, 70% are ready to pay for the cost of treating wastewater and 67% believe they should pay for the cost of distributing water.

On the other hand, only 52% of the consumers think fixed charges are legitimate, 59% are ready to pay fees for environment protection and only 55% would pay fees to the National Fund for the Supply of Drinking Water.

Mr SAPRANI, President of the Angling Federation of Meurthe-et-Moselle

I would like to say that in some municipalities in my department, consumers pay up to FF. 35 per cubic metre of water. If I may, I would also like to touch upon the issue of distributing the charges between consumers and taxpayers by reminding you of an example. While it has no

direct relationship with our subject here today, it does provide food for thought. Not everybody knows that in respect of the protection of animals, all taxpayers in France contribute to the funding of kennels. Professor Pedro Marset Campos told us of the efforts made by his group to protect the river Segula. I must say that as anglers, we are very sensitive to the question. Unfortunately, Spain is not alone in having such disastrous situations. In France, in Pagny-sur-Moselle, a natural area of interest in terms of ecology and wildlife is about to be destroyed for economic reasons.

Janine PETIT, Vice-President of the association Escaut vivant

For my part, I can see that there are double standards. It would be useful to give some contradictions more publicity, particularly in the field of agriculture. The authorities do not think twice before allocating subsidies to farmers to drain their land, followed by subsidies to irrigate it a few months later. Besides, not much attention is paid to the illegal wells bored by farmers and those abandoned by them. I know some farmers who pay no more than FF 0.04 per cubic metre of water. In my region as well, some natural areas of particular interest in terms of ecology and wildlife have been destroyed to install industrial chicken farms. Lastly, I am sorry to see that so little is being said about vulnerable aquifers, and that industrial estates are still being allowed to be set up close to catchment areas. In general, the citizens are somewhat disheartened by the many problems involved in the protection of water for future generations. The feeling is largely reinforced by the indulgence and laxness of some bodies, which are being paid with taxpayers' money to apply the law and protect the environment.

Daniel BOULNOIS

Let me assure you that we are aware of these problems, which are harmful to the sustainable management of water resources.

Thérèse GIRARD, Regional Authority of Champagne-Ardennes

Are small communities under any obligation to treat sewage?

A member of the audience

Communities with a population of 2000 or more must treat their sewage. Smaller communities with a wastewater collection system are advised to set up appropriate treatment under European directives.

Guy SAUVAGE

In our municipality, we can still supplement the wastewater treatment budget with funds from the general budget. Thankfully that is possible because our sewage treatment taxes are equal to FF. 5

per cubic metre. Besides, we have recently entered into an agreement with the Water Agency and the departmental authority for an investment of over FF. 8 million.

Member of the audience

Such transfers from one budget to another are only allowed when the population is less than 3500.

The action of CIEau

Monique CHOTARD
Director General, CIEau

I. CIEau

The Centre for Information on Water was set up in 1995 by water and sewage treatment companies, which are generally and incorrectly called water distributors. The Centre (CIEau for short) is the fruit of the commitment to create an independent body. In a way, CIEau may be considered to be the "brand" of tap water. Our agency takes charge of information and communication directed towards the public. We cannot directly inform the inhabitants of a given municipality about the quality of the water distributed to them. But we can tell them where they can get the results of the tests of interest to them. We can also make them aware of the annual water quality report that is enclosed with the bills of collective establishments. Every month, CIEau answers about a thousand questions relating to the regulations, quality, price of water etc.

We also deal with a more specialised public – medical workers, local authorities (to help them in their informative task) and schools. Besides, we monitor public opinion very closely and have a large database, the extracts of which are posted on our website (www.cieau.com). Very soon, there will be a version for the general public and young people and also a version for doctors and scientists.

Besides, for the last six years, we have been conducting a study including fifty questions about food safety. We shall come to the perception people have of tap water in a while. The Centre also compares its results with those obtained by the French Environment Institute and the Research Centre for the Study of Living Conditions. In other words, we provide a certain number of tests to all those who are interested.

Since CIEau was founded, we have processed over 35,000 requests.

II. A few results of the latest studies

Today, two thirds of the people of France are satisfied with the quality of the water they consume. However, this year, there is a drop of 5 to 6 points on last year, which shows the impact of the current situation. 60% of the people surveyed believe that tap water meets quality standards, whilst 11% still have doubts.

The complaints often relate to the taste and the presence of chlorine (67%). I would like to add that our questionnaires rely on spontaneity, i.e. we submit no pre-established list to the people queried. The hardness of the water is mentioned more rarely.

At the same time, we have worked with discussion groups (which work we intend to pursue in the course of the year). We would like to collect information about the perception of water in

France. However, we have focused our questionnaires on the subject of food safety. We have two groups, one made up of people with food safety fears who have given up eating beef, and the other with people who are just as fearful but who continue to eat beef. We have noticed that most of the consumers say they are not well informed and that they have no choice but to believe what the authorities decide to tell them. In other words, the consumers are often fairly pessimistic. To my great surprise, water did not feature among the food fears. That is because the people often speak of the denaturing of food, which they believe is a risky operation. But they seem to take for granted the fact that water must be treated and inspected before it is consumed. Human intervention is believed to be indispensable for water to become fit for drinking. I personally have the feeling that there is an increased awareness of the issue of the quality of tap water. We must therefore improve information. At the same time, the authorities must take the measures required to preserve the sources. All the players, from producers to distributors, must perform their task conscientiously.

Having said that, 78% of the population of France feel that the health authorities do what is required to ensure that quality standards, which make for health, are complied with. However, there are some increasing concerns – whilst 49% believe that tap water is good for health, 40% would like water to be subject to more restrictions and inspections.

Water is a fragile and living resource, and its quality is not identical everywhere in the world. The people want to be informed correctly, particularly about inspections and quality standards. In respect of the former, the local water authorities and the Water Agencies have a true responsibility for community-level communication. The issue of standards is more problematic, as it is much more difficult to give information about health. Now, the public expect us to give them correct information, especially since the media tend to lay more stress on the negative points than on the progress and improvements achieved. For instance, to date, there has been no evidence that the presence of aluminium in water has any effect on human health. Some types of public, particularly the elderly, are now being told not to drink tap water. In any event, the mere fact of naming a risk seems to lead to fear.

When you ask people "*what water contains in excess*" (because we tend to say that there is too much of this or that in water), you get the following responses in the given order: hardness, chlorine, nitrates, lead (19%), pesticides, microbes and viruses. On the other hand, when you ask them what in water can be bad for the health, they first mention nitrates, then microbes and viruses, hardness, chlorine, lead (12%) and pesticides. Lastly, when you give them a list, microbes and viruses come first (70%), followed by lead (60%), nitrates (50%), pesticides (60%), chlorine and hardness. That means that we must find a way to inform the people by telling them the situation as it is, considering the fact that the consumer is not a specialist. Beside, we must tell them more about the effect of every additional microgram of a given substance in a litre of water, the more so since the new European directive will come into force soon. Consumers will want to know, in a nutshell, why the water is not good in their region. But what is a region when it comes to water? And who is to tell them?

As you can see, I have no answers. I can only outline the problems that can be found in the various documents we publish. In November 2000, we put the following question to a panel of consumers: "*Who do you trust to give you information about water?*". As mentioned earlier, consumers' associations come first, even though they are not water specialists. Then come

doctors, industry bodies, media and lastly the government. On the other hand, a survey by the national food industry confederation shows that the people of France believe that the responsibility to inform them lies chiefly with the government, before the media, the manufacturers, consumers' associations and doctors.

CIEau has conducted a study with doctors, because they are contacting us in increasing numbers, especially since accidents like the death of infants in the hospital in Nantes. Their queries are many: they ask us about dialysis, or the possibility of cleaning wounds with tap water. We also have worked with pharmacists – to no great avail, I must admit. We asked doctors if the issue of water was addressed in their surgeries. 27% replied that the subject was mentioned several times a week (two or three times a week for 36% of the doctors). Half the time, the subject is raised by the patient. In 18% of the cases, the doctor raises the question. The reasons for discussing the quality of water are as follows:

– a specific disease (mainly gastro-enteritis) for 50%;
– a lifestyle or consumer problem for 43%.

In the course of our study, we also asked doctors of their opinion about tap water. Two thirds of them believe that the quality of tap water is rather good. 54% of the paediatricians queried are in favour of using tap water for milk bottles, providing the nitrate rate is in keeping with the applicable standards. Doctors would like to be able to reassure their patients about the quality of water. In order to become channels of communication, they must have clear information and know whom to turn to for additional details, e.g. during an epidemic of gastro-enteritis. That is why CIEau has set up an information and exchange network which is becoming increasingly interactive. It uses the competencies of specialists in paediatrics, allergies, gastro-enterology, cancer etc.

We would like to cover health issues as widely as possible, regardless of whether they relate to infant rehydration or potential waterborne diseases. The doctors we contacted have given us monographs on these subjects. In this way, we have prepared 19 thematic files that will be posted on the Internet in October. Doctors will be given a serial number or a code and will be able to access the data for their patients.

III. Conclusion

To sum up, I believe that is important to know how to respond to this major concern of public, namely Water and Health. We must respond by teaching them about the technology we used and the chain of players involved in water. Also, we must provide open information about current developments and the vigilance we must adopt when it comes to the new health problems that are likely to arise.

Daniel Boulnois

It is true that these information and communication issues are crucial. Producing data is one thing, but you must know how to publish them effectively and provide them to those who need them.

The bottled water industry

Françoise de BUTTET
General Delegate of the Mineral Water Confederation

As an introduction, I would like to specify that I am here to represent the National Federation of the Bottled Water Industry, which includes the Mineral Water Confederation and the Spring Water Federation.

I. The global market for bottled water

In 1999, the volume of the global market for bottled water was close to 100 thousand million litres. It is very probable that it is now 115 thousand million litres. The growth rates are particularly impressive. For instance, growth in North America from 1995 to 1999 was in excess of 14%. The situation is not the same in Western Europe, where the market is mature. The habit of consuming bottled water, generally mineral water and spring water, is a fairly old one. The growth seen in Eastern Europe is considerable, which is particularly due to the fact that the market is a young one. While the volumes are much smaller than those in Western Europe, the growth rates are much higher.

The South American market is quite large. Lastly, Asia, Africa and the Middle East also have high growth rates.

1. North America

Naturally, consumers' habits differ from region to region. For example, the taste for bottled water in North America does not reflect health concerns. It is chiefly due to the wish to lead a healthier life, to keep down calories and drink healthier drinks. Besides, bottled water has another benefit – it can be carried easily by car, to the office or by sportsmen.

2. Eastern Europe

In Eastern Europe, the growth of the market for bottled water is due to an increase in the standard of living. The water supply systems have trouble competing, as some of them do not comply with the standards.

3. Asia, Africa and Latin America

In some countries in Asia, Africa and Latin America, bottled water, which is treated, offers the guarantee of safety. The tap water in these countries is often not safe.

4. Western Europe

The market in Western Europe is mature. Countries like Germany and Italy are great consumers of bottled water. However, their consumption is very different from that in France. Germans, like Austrians, mainly drink sparkling mineral water with a high mineral content.

Italians for their part like both still and sparkling water. In France and Spain on the other hand, there is a marked preference for still water.

II. The different categories of water

The European directive relating to mineral and spring water distinguishes several categories of water. Contrary to what was claimed by an American participant this morning, I would like to remind you that treated water is not banned in France. However, it does come up against a market problem, because of the large market for mineral and spring water.

– Natural mineral water is underground water, which offers bacteriological safety and a consistent composition. It is bottled at the source and may have properties that are beneficial for the health.
– Spring water is also underground water. In its natural condition, it is intended for animal consumption. It is bottled at the source for human consumption.
– Treated water, which I just mentioned.

For these categories to have any value, they must be strictly regulated.

III. Production and consumption

France produces a large quantity of water, coming in third place behind Germany and Italy. France produces over 6 thousand million litres of mineral water, including 1.6 thousand million of sparkling water. Spring water represents some 2.7 thousand million litres. The total production of bottled water in France is therefore 9 thousand million litres per year. France is the leading exporter of mineral water, since it exports 27% of its production to Europe and other countries, particularly the USA and Japan.

The per capita consumption is distributed as follows: 98 litres per year of mineral water and 41 litres of spring water.

You will see that Germany has a per capita annual consumption of 99 litres of sparkling mineral water. Austria and Belgium consume 82 and 124 litres per year respectively. The Spaniards prefer still water (87 litres per capita). Italy, with 140 litres per year per capita, holds the record. I would like to point out that Italians do not consume spring water, which does not exist in the national market. Lastly, Switzerland, with a small population but a high standard of living, has a per capita yearly consumption of 97 litres of mineral water.

I think that the high consumption of natural mineral water is explained by the diversity of the products on offer. That diversity will moreover increase in future, as drinks made from mineral

water and spring water develop gradually. Besides, it is probable that treated water will soon make itself a place in the European and French markets.

As I mentioned earlier, the Americans like to consume bottled water everywhere. In France, we are gradually developing a similar situation. For instance, small bottles (less than one litre) are used during travelling, whilst larger ones (1 – 5 litres) are used at home, and 18-litre containers are now making their appearance in households. If we follow the American example, you can safely bet that our houses will soon be fitted with fountains dispensing bottled water.

The French appreciate bottled water for a variety of reasons. The origin of the water is certain. The bottles all have labels and the characteristic composition of the water is indicated on the label. The information recorded there means that the consumer can select the product on the basis of his or her taste, and it further reassures them. Besides, the consumption of bottled water is the sign of a healthier lifestyle – water does not contain calories and is good for health. Also, natural mineral water can have favourable properties for health, particularly in areas with a tradition of spas. That does not mean I am claiming that water has healing properties. Only it can be favourable to the functioning of the stomach or intestines and make up for mineral deficiencies.

Water management in Quebec

Didier BICCHI
Municipal Policy Department, Canadian Department of Environment

I would like to thank you for giving me the opportunity to describe the way in which Quebec handles the issues of drinking water and health. During my presentation, I will try to make a few comparisons with the situation prevalent in France.

I. The situation in Quebec

1. Overview of the province

As you know, Quebec is a vast land lying along the Atlantic Ocean. It covers 2.6 million square kilometres, i.e. 2.8 times the area of France. Our country has some 7 million inhabitants, 50% of whom occupy just 1% of the land. The population is highly urbanised (80%).

2. Development planning and regulations

The organisation of the country is currently undergoing major changes, as we move from a federal structure to a provincial system. The regional municipalities of counties are local authorities. Their number is presently approximately 1400. In five years' time, that number is expected to drop to 600. The movement towards concentration will reinforce the role of regional governments and make it possible to distribute the costs more evenly over the entire territory.

Responsibilities are shared between the regional municipalities of counties and the local municipalities and the latter handle most of the services. The legal framework is provided by four major acts (environment quality act, development and town planning act etc.).

As regards water management, our regulations date from 1984 and ought to be revised soon. They apply to all the water supply systems serving more than 50 subscribers. These 2400 systems undergo regular bacteriological inspections. In actual fact, 1200 systems serve close to 96% of the population. These systems are exposed to greater risks as a result of the problems of treatment and catchment inadequacy. 45% of the distributed water comes from the St. Lawrence and 10% from individual wells, numbering 200,000 in Quebec. For twenty years, we have had non-collective sewage treatment regulations. In France, such regulation is expected by 2005. Lastly, 70% of our supply systems are fed by underground water. Only 1% of the water is consumed for drinking. As regards residential consumption, it must be remembered that we do not pay individual water bills. The price of water is included in land taxes, as is the cost of treating drinking water, treating wastewater, refuse collection and residual material. The average consumption is 450 litres per day.

We have not surveyed the people of Quebec on the issue, but I am quite sure that if you ask them, they will tell you that they pay too much land tax !

3. A few recent facts

In recent years, there have been problems in North America. That has led to a report from the water management commission. I would ask you to look up our website for more about that. We have initiated a public investigation on what we should do with water in Quebec. That is because we possess 3% of the world's reserves and close to 8% of these reserves if we are considered along with neighbouring Canada. There is no doubt that water will be a source of wealth in the future. To date, nobody has raised the question of the value of water. We consume that natural resource as if it were free. You only have to think of the impressive number of swimming pools in Quebec, where they can only be used during the short period from June 1st to August 15th.

As I said earlier, we have had to face a few major incidents in recent years. The epidemic that took a toll of 11 deaths in Walkeltonrevived the debate about the quality of water. The lesson we learnt from this unfortunate experience is that the government must be prepared for these phenomena, which can rapidly degenerate into collective panic. It is important for the authorities to respond as quickly as possible to the issues raised by such epidemics. A little while later, some individual wells were contaminated by trichloroethylene. Remember that we have no inspections of water supply systems that serve less than 50 subscribers. That is why we had to issue a health warning. We intend to systematically study all the individual wells in the affected catchment area in the near future in order to check the nitrate content of the water among other things. We hope that this will bring out the relationship between agricultural contamination and human health. During the last two years, we have observed a certain number of waterborne epidemics. Today, we must take advantage of the incidents to move forward.

4. Cooperation between the Departments of Environment and Health

Our system provides for cooperation between the Departments of Environment and Health. Each department has its own laws (environment act and public health act). The Department of Environment handles the regulations relating to drinking water, whilst the Department of Health addresses the field of health. Each of the two ministries includes 17 regional departments, and it is indispensable that we harmonise practices. The Department of Environment must ensure that the operators of water supply systems fulfil their responsibilities satisfactorily.

It is extremely important that the two ministries cooperate with each other. The Department of Environment is made up of engineers, technicians and physicists, whilst the Department of Health employs toxicologists, doctors and microbiologists. These eminent specialists do not have the same approach towards risks. For us to have a common appreciation of the problems we have to face, we have set up inter-departmental agreements. For instance, there is no need to alarm the population about the contamination of a water supply system if it has no effects on human health.

Giving out raw data with no analyses makes no sense whatsoever. On the whole, the Department of Environment takes charge of preparing regulations, implementing training for municipal personnel and operators and monitoring problems. For its part, the Department of Health drafts health data sheets, trains health personnel and defines specific studies. The responsibilities towards the population are therefore divided between the two.

II. Broad lines of action

We have defined six broad lines of action.

– drinking water regulations,
– three-year monitoring programme,
– review of the microbiological and chemical quality of drinking water, prepared once in every five years,
– studies of waterborne epidemics,
– specific research and development studies,
– beach environment programme similar to that existing in France.

1. Drinking water regulations

The Standard Drafting Committee, which is in place since 1984, has established that operators are responsible for supplying clean drinking water at all times. The Department is responsible for enforcing the regulations. The operator is required to regularly test the water provided and then submit the results to the Department of Environment. The data are then entered in the computer system and act as the reference for the preparation of reports and the possible implementation of action. Any deviation from the standards is to be reported to the Departments of Environment and Health. The population is then kept informed by means of newspapers and television.

Last year, Mr Begin, the then Environment Minister, called the press to announce that 90 municipalities were to be upgraded for conformity. You can imagine the mayors' surprise when they learnt that they only had 30 days to solve any problems. The approach was a great success, because the Department of Environment had the resources to meet the requirements. Mayors of other municipalities were sorry not be part of the programme, as their municipalities could have benefited from subsidies.

2. The monitoring programme

The system enables us to regularly review the drinking water regulations. Today, water is said to be fit for drinking if it meets some 77 parameters. Upgrading for conformity, particularly in respect of turbidity, required investment worth 600 million dollars. From now on, the turbidity standard will be 0.5. In order to define the level, we have studied the risk factors. At the same time, we put in place a committee to assess the new technologies.

We have set up a working committee along with the Department of Health and the social services. Once in every three years, we review the major focuses of the programme.

3. Review of the quality of drinking water

Once in every five years, we review the fitness for drinking of the water. The last such review dates from 1994. No follow up review was done in 1999, as a result of the upcoming revisions of the regulations. 75% of the population of Quebec has drinking water that meets all the standards.

But we did find 5% deviation from standards in large systems. In 1984, we decided that any nonconformity would lead to the implementation of an alert system. However, some parameters need to be fine-tuned. All water can be made fit for drinking – it is only a question of cost !

4. Epidemiology studies

We have the same approach towards epidemiology studies – we work under an agreement with the Department of Health and the social services. The Department of Environment is responsible for technical expertise, while the Department of Health handles health issues. All water testing is done by accredited laboratories.

5. Studies specific to research and development

I assume that the studies are almost identical to those conducted in France. In particular, we study the contribution of new technologies and assess them. For instance, in respect of wastewater, we have set up a demonstration and experimentation process on our website.

6. The beach environment programme

It is almost identical to that in France. We take samples and classify the beaches on the basis of the bacteriological quality of the water. The media interest in the issue is very great.

III. Outlook

As I told you before, our drinking water regulations are presently being revised. We would like to define standards based on the highest quality requirements. Also, we are decontaminating surface water and any contaminated ground water. From now on, while operators shall be responsible for testing the quality of the distributed water, approved laboratories shall be responsible for submitting the results to the Departments of Environment and Health and the operator. That means that our information system must run in real time.

We are also working on the revision of the regulations relating to the catchment of underground water, which is about to be approved.

On December 6th 2001, we shall propose 15 broad lines to the cabinet in order to optimise our water management policies. The issue of the cleanliness of water will be raised increasingly, as water exports rise.

All these measures show the importance of closer cooperation between the Departments of Environment and Health and the population. If we do not succeed, we will be exposed to major problems.

Daniel Boulnois

Your account shows the concern of the authorities of Quebec for these issues, which are sometimes treated somewhat hurriedly. The audience will judge if the Canadian model can be imported into this country… I personally would not want to answer that question !

Understanding, considering and responding to citizens' expectations

Roger AERTGEERTS
Director of the Public Health department of the European Office of the World Health Organisation (Rome, Italy)

I would like to outline how we are organised, our fields of intervention, our action, and our links with consumers.

The role of the WHO

The WHO is one of the oldest specialised agencies of the United Nations. Its chief aim is to provide people with the best level of health, which is defined as a condition of social, mental and psychological well-being and not merely the absence of disease. To that end, we give advice in all fields of health, propose international standards, cooperate with governments and endeavour to help them reinforce their national health programmes. Through our programmes, we try to promote the development and transfer of good technology. The WHO meets in World Health Assemblies held every year around the month of May. This is the higher deciding body, where we define our priorities and the actions we need to take.

We also have an international secretariat including some 3000 people across the world, and several regional offices in Africa, America, Eastern Europe and South-East Pacific. Our European regional office is in Copenhagen. We have an information department and a technical assistance division, which assists those countries that ask for assistance, e.g. by conducting studies. We often work in partnerships, particularly with countries, to conduct shared health projects.

Following the issuing of the European health and environment directive, we have organised the creation of the European Centre for the Environment and Health. There are different types of such centres in Europe, and each has its own field of competence and expertise. The centre offers technical cooperation programmes, mainly in Central and Eastern Europe. Our definition of Europe covers countries that are traditionally not included in Europe, such as Israel and Russia. The office where I work in Rome handles water, industrial waste and analytical epidemiology. Recently, we initiated a programme relating to children and health.

The strategy behind the work of the WHO is based on a political document titled *"Health for all"*, which defines the policy of the organisation up to 2005. Members of the civil society and private persons can use the document as the basis for working with the WHO. It is the result of very advanced scientific analysis, followed by a consultation with the 51 member states and 50 major European organisations in the field. The document explicitly recognises the right to

participate as a basic value in the application of the policy of the WHO. That goes for all health partners, i.e. all the private persons who can contribute and all professional organisations.

I recognise that the goal is far from being reached. However, we must admit that things are moving in the right direction. In 1989, we had found that while defining their health policies, the various European countries were selecting a limited, purely medical approach. Since then, we have balanced out our way of working and extended it to areas that were missing in the health policies of countries. We have a pragmatic approach, and try to work as far as possible with members of the civil society.

In my own field of expertise, i.e. water, sewage treatment and health, we issue documents about the assessment of drinking water and bathing water and the use of water, and also bacterial problems. What is more, we have a risk assessment programme under way in industrial installations. Our approach consists in working with NGOs, members of the civil society and private persons to develop a methodology. We also work on the quality of drinking water. In this field, we are preparing the third amendment of our guidelines. We prepare advice and guidelines, not laws and regulations, which is the business of other agencies. Here too, we work in consultation with consumers. We give them an e-mail address to which they can send their suggestions for revising the guidelines. We do the same with bathing water, water distribution and wastewater treatment. In this field, since the UN conference of 1997, we have advised governments to develop national plans for wastewater treatment and distribution, which we supervise along with UNICEF. This is the first time that we have deviated from the traditional method of sending out questionnaires to water distributors and consumers. This time, we met people directly in their homes, and I can assure you that their answers are sometimes very different from those you get from official reports!

The Water and Health protocol

This is the first legally binding document relating to water and health, applicable to all WHO regions. It is attached to the water convention, which can be found on our website. The protocol is fundamental for several reasons. First of all, under article VI of the protocol, signatory countries are required to define objectives in terms of a timescale, the number of the people receiving drinking water, the level of cleanliness reached, the protection of water resources and the enforcement of measures. Our objectives have been announced and published. In principle, the development of the various countries towards the objectives must also be published. In that way, the members of the civil society can measure the progress made and make suggestions if the expected results are not achieved.

We also have a health protocol, but for the time being, there is no vigilance system for waterborne diseases. We have the intention of developing programmes relating to health and water.

To conclude, I would like to insist on the international cooperation to which the WHO contributes. We work with all the UN agencies, particularly UNICEF in respect of diseases of children and infants and the ILO in respect of vocational diseases and also the European Commission, with whom we entered into an agreement to intensify our cooperation. We have

also established continuous cooperation with the European agency for environment and health, with which we have entered into an agreement in 1995, under which we undertake to cooperate in data collection, waterborne diseases and the social dimension. Publications and results are available, particularly in the form of monographs addressing health and water, children and the environment. I would also like to stress that the NGO network is particularly active and is one of the key partners of the WHO. Some 200 NGOs are recognised by the WHO as its partners and about 1200 NGOs working for health and hygiene are considered to be centres of collaboration. They distribute the advice of our scientists to citizens and we owe the success of our programmes to them.

The contribution of Blue Flag to the environmental education of European citizens

Thomas JOLY
French Office of the Foundation for Environment Education in Europe (FEEE)

The FEEE was set up in 1981 as a result of the commitment of the experts of the Council of Europe to environment education, and their will to take concrete action for more practical environmental education. To that end, they decided to set up an association, which was first formed in the Netherlands before spreading to the rest of Europe. The French chapter was founded in 1983. Today, our agency spans 28 countries. We work in two main fields of activity – the first one concerns schools, while the second one relates to tourism issues.

I. Action intended for schools

These measures take the form of two broad campaigns.

1. Eco-school campaign

The eco-school campaign is designed for primary schools and helps children address four subjects – water, power, waste and biodiversity. In that perspective, teachers and local authorities work closely to turn schools into effective tools for environment education. For instance, we install water meters in the corridors to show children that clean water is a prepared commodity, a complete commodity that goes through a cycle.

2. Young Reporters for the Environment campaign

The Young Reporters for the Environment campaign is intended for high school pupils. We turn them into reporters who do local investigations. They report the collected information to the surrounding community – schools, associations in which they work and their towns. For them to go beyond these local investigations, we put them in touch with youngsters from 16 different countries and organise newsgroups on the websites under our management. Thanks to that exchange of information, they can draft a documented press article, which we publish. In that way, they understand that the local problems they face in their community are also global, because they also occur in say, Cyprus and Estonia. In any event, we want them to understand that environmental questions are complex and that they extend well beyond national borders.

II. Action in the field of tourism – European Blue Flag

In this field the FEEE has two campaigns – Green Keys and the European Blue Flag.

I would like to talk of the European Blue Flag here. The Blue Flag is in a way the federating campaign of our agency. That is because 25 of the 28 member states have joined the campaign, which is the result of an initiative from France.

1. Principles of Blue Flag

The Blue Flag idea emerged in 1985, at a time when the environment was chiefly approached from the point of view of major environmental catastrophes. The officials of the Foundation wanted to recognise beneficial action taken in the field of the environment. That is why they created the European Blue Flag, which is based on four major principles:

– laying stress on achievement ("naming and shaming" is definitely not the idea),
– preferring a voluntary approach from candidates, who can be local authorities or marinas, in order to encourage a partnership approach,
– organising the approach on an annual basis (the Blue Flag application is made every year),
– keeping the mark open to development (it would not make sense to have an inflexible mark in view of technological development).

It is increasingly difficult to obtain the mark, even though we are moving progressively. The candidates are first informed of changes in criteria, in order to help them adjust their efforts.

The Blue Flag is managed on the basis of certain selection criteria which are applied to each application. To date, we have four major families of criteria.

– First of all, the general environment of the applicant municipality – clean beaches, presence of litterbins, water taps and telephones, town planning quality and conformity with town planning rules.

– Besides, we also take account of environmental education issues, as they are the very object of our agency. We want our candidates to be ambassadors and channels for environmental education. To that end, we ask them to include five practical measures in favour of environmental education in their application.

– The third family of criteria relates to waste management. We press local authorities to include waste treatment in a dynamic approach, using selective sorting and recycling.

– Lastly, we take account of all the issues relating to water – the quality of drinking water in the area, the cleanliness of shellfish farming water, quality of bathing water, operating of water treatment plants and wastewater collection systems.

In all our work, we are supported by many partners of major importance, such as the Development and Environment Ministries and their public agencies, the Water Agencies, the Agency for Environment and Energy Management, the Coastland Monitoring Authority, the department of Tourism, the Ministry of Health, the Ministry of Infrastructures etc. The private company Eco-Emballages and the association of the Mayors of France also make their contribution.

2. The role of Blue Flag in Health and Water information

The Blue Flag mark optimises the information relating to Health and Water, particularly through local decision-makers. We turn our efforts towards the mayors of municipalities and managers of marinas in order to encourage them to manage water and the facilities more effectively. We help them change future constraints into present advantages, by anticipating the preparation of European directives on the national level. We also act by putting local decision-makers in contact with our partners. At the present time, we have much to do as new municipal officials have taken up office.

The Blue Flag helps elected officials to make their environmental management policy easier to understand, particularly their water management policy. While wastewater plant worksites are inaugurated frequently, a new separated sewer system is not opened so often, even though the investment made for such installations can be considerable. The Blue Flag raises the profile of such constructions. What is more, the Blue Flag gives environmental education a true place in the community – we get the commitment of the local officials in the approach, even though it is not one of their prerogatives. However, they rarely get involved directly in our efforts – they generally work through subsidies to associations and schools.

As regards the general public, the Blue Flag gives them some information about the water in the communities that are awarded the mark. In other words, it provides a response to the increasing need for quality expressed by public opinion. By communicating the results, we enhance the awareness of the general public by giving them an incentive to prefer destinations that are more environmentally responsible. We also advise them to recognise the efforts of some localities. That leads to a virtuous circle which leads to a win/win situation.

FEEE has participated in the redrafting of the European directive on bathing water, *via* its Danish agency.

Every year, an increasing number of countries join the Blue Flag campaign. For the first time, we will receive a non-European member at our General Assembly in next June, namely South Africa. We are glad to receive the South Africans, as the work done by FEEE for over 18 years has now achieved recognised quality that can be applied by a very large number of countries.

In France, the situation is also changing. The Minister Dominique Voynet will announce the 2001 winners on June 2nd, along with an extension of the Blue Flag campaign to all continental sites. We hope that the measure will come into force in September.

Thank you.

Discussion with the audience

Gabriel RIOU, Loire Brittany Water Agency

I would like to make two comments. The first one relates to wastewater. While small municipalities are under no obligation to have wastewater treatment plants, the users are responsible for treating their wastewater themselves. I though it was important to clear that up first. My second comment relates to mineral and spring water. I would like to remind you that there is a major difference between the two products, in that mineral water is not necessarily fit for drinking. In other words, mineral water is not required to meet the standards of fitness for drinking. Mineral water is currently approved by the Ministry of Health. It is therefore important that consumers change mineral waters often.

Françoise de BUTTET

I have not tried to hide that fact in any way. That is in fact one of the essential features of mineral water. I would like to point out that the labels on the bottles show the composition of the water they contain. Besides, I have indicated that the water can have properties that are good for health. Indeed, natural mineral water is not really fit for drinking in the ordinary meaning of the word. Besides, that is mentioned in the preface of the last paragraph of the guidelines provided by the WHO relating to the quality of drinking water. Mineral water is authorised on a case-by-case basis by the health authorities. The Codex, which is a system common to the FAO and the WHO, has decided to make an explicit reference to the high fluorine content of some mineral water.

Emmanuel BRIAND, Water and Health Engineer, Marne-la-Vallée Health and Social Affairs Authority

I would like to come back to the independent wastewater treatment issues, which are suffering from an attention and image deficit. Have requirements for independent water treatment systems been laid down as part of the Blue Flag programme? How are the efforts of municipalities to encourage wastewater treatment recognised ?

Thomas JOLY

We take account of all types of wastewater treatment. It is not for us to promote or encourage one system or the other. As regards wastewater treatment issues, we work in collaboration with the Water Agencies. They give us information about independent wastewater treatment performance and we go by their advice. Besides, we regularly issue a certain number of recommendations intended for the local authorities. We also issue a guide for local elected officials, where we inform them of the best practices.

Georges MOREAU, Artois Picardy Water Agency

Ms de Buttet spoke of the rate of growth of the consumption of bottled water. Can you tell us more about their advertising budgets, especially those of spring water? I wonder how the consumers are supposed to know what they should buy from the many products that are offered to them.

Françoise de BUTTET

Unfortunately, I cannot tell you anything about advertising budgets. But I will submit your question to the appropriate party. The development of spring water is international. In France, the lawmakers have put in place guidelines and ever stricter standards to regulate these new denominations. That is why the labelling must be extremely clear. Only labels can inform consumers about the type of water, its origin, the spring from where it comes, the composition etc.

Michel SINGER, Director of the Competition, Consumer Protection and Fraud Authority of Lorraine

We have no complaints about this specific issue. However, we do know that some water is derived from different springs and marketed under the same brand. Also, I believe we must inform the consumers about the adverse effects of drinking water that is not really fit for drinking on a regular basis.

Sylvain JAMES, Health and Social Affairs Authority of Moselle

I would like to come back briefly to the slides shown by Ms Chotard. You told us that two-thirds of the consumers believe that tap water is quality water. I do not agree that the proportion is sufficient to say that consumers have confidence in the quality of the water. You also say that the citizens do not have much trust in the data issued by the government, even though it is the responsibility of the government. Our agencies are trying to communicate better, particularly via quality reports, summary memos etc. Is that sufficient? We have no way of knowing, because the feedback we get is very limited.

Monique CHOTARD

I would like to remind you that our surveys concerned food safety in general. It stands to reason that consumers designate the government as the party responsible for providing information about food and public health. I agree with you – enclosing the annual report of the health authorities on water quality with the water bills is a real move forward. I confess that I have no feedback about the scope of the reports. However, I am surprised that the media don't mention it very much.

One could nevertheless say that it is a pity these reports are not easily understandable in all areas. I am ready to add a question about these reports during our upcoming survey.

Also, it might be useful to post these data in the entrance halls of buildings.

Daniel BOULNOIS

I believe a certain number of local authorities publish water test results in the local press. In any case, the need for information seems to be ever more acute.

Josée CAMBOU, National Secretary of France Nature Environnement

Our association is interested in the human species within biodiversity. I would like to take this occasion to tell you about the expectations of citizens. I have listed six of them:

– fair and transparent information for all, rural and urban citizens alike,
– ongoing training,
– implementation of true governance, which means that the citizens must become the interlocutors of local authorities and a real public debate should be initiated,
– public surveys,
– relevant investment choices (in particular, citizens want the authorities to devote more efforts to prevention and the implementation of consistent action to assess risks),
– transverse treatment of the health and environment issues in many projects.

Citizens often stress the unequal rates they are asked to pay. Also, they do not appreciate the fact that the resources implemented to test and monitor water differ depending on whether you are in a city or in the country. True, there is a reason for this distinction. But for the individual, everyone is concerned with their health and that of their family, whether they live in the city or the country.

Citizens expect you to give them transparent information about the quality of water, by giving them precise references. They would also like to know the customary precautions, health risks etc. Besides, the government must stop feeding us useless if not incorrect information. We are flooded with files in which the data have been averaged out over thirty years. What is that supposed to mean? We expect data that represent the reality. You must stop thinking that the consumers are fools. We are quite capable of understanding things, thank you! The general public is not made up illiterate ignoramuses!

To conclude, I would like to inform you that the general public have had enough of having risks imposed on them. Nobody ever asks us which risks we are ready to take…. And that is what we want in a certain way.

The genesis of the expectations of citizens

Professor Jacques ANTOINE
Director of CESEM Opinion, Member of the Water Academy

I will not come back to the subject of my paper of this morning. It seems to me that we must now address the way in which the expectations of citizens are formed.

Professor Jacques Antoine illustrated his paper with the projection of a summary chart of the mechanism of the genesis of social expectations.

I can distinguish three stages in risk information.

- **Perception**
  Perception is the result of psychological proximity due to the information given out by the media, in particular, or physical proximity. The information conveyed by the media introduces an initial shift. That is because engineers and technicians and the general public do not have the same perception of the risk culture. The general public gets its information from daily newspapers, women's magazines, health magazines etc. That phase of perception includes a qualitative dimension – the image – and a quantitative component – the reputation. I would like to specify that the chart presented here has been prepared on the basis of survey results.

- **Assessment**
  Assessment consists in weighting the risk with a probability. An assessment is therefore often subjective. The seriousness of the damage depends on the values reached. Besides, the idea of probability is often difficult to understand for the general public.

- **Acceptability or refusal**
  This phase depends on the relation between the benefits expected and the risks. For example, while the French name road accidents as the greatest risk, they continue to use their car, because they have confidence in their driving. Besides, the phase also depends on the qualification of the risk manager. The trust depends on the competence and credibility of the manager. To date however, the general public often does not know who is responsible for managing the risk, specifically when it comes to water issues.

To conclude, I would like to insist on the need to fill the gap between the culture of public opinion and that of experts. An effort must be made, the more so since the general public has nothing against learning. However, risk managers must become more familiar with the culture of public opinion.

For simpler information

Jean-Pierre PEINOIT
President of the National Consumers' Institute

I. The consumers' paradox

The consumers are currently living in an age rife with the suspicion of sleaze and underhand dealing. Even though their knowledge has grown, consumers expect simple information, especially since the information of offer has become much more complex. Let us take the simple example of computer equipment or telephones – all consumers want to know which is the best subscription system. Even though they have developed their fields of understanding, consumers have not turned into engineers or specialists. Do not forget that we devote on average less than 40 seconds to a purchase. Consumers are therefore in need of information, even though they may not use it immediately. That is the consumers' paradox.

II. The price of water

In the last decade or so, the price of water has doubled. And that is not the only rate rise consumers have to face. Telephone charges, the cost of banking services, food and taxation are also rising. All these items compete with each other in a consumer's budget, which is of course not extensible at will.

III. Consumers' expectations in terms of information

Consumers want new information. What is the profit margin of the companies that manage water? How often are water systems cleaned? Admittedly, the Internet is a major source of information. But it cannot be a cure for all ills! Only 15% of the consumers use the web. Many of them get lost in the multitude of existing sites. In other words, the Internet cannot replace all the other forms of communication.

IV. The assessment of services

The same standards must apply to all forms of service operation. In that respect, the certification of the company or authority, the definition of objectives and the implementation of performance indicators are important elements. Indeed, we believe that it is indispensable to reintroduce the idea of risk in the management process, the more so since contracts are often entered into for a long term. In my view, it would be useful to take disciplinary action against operators who do not meet the set objectives.

The Aarhus convention

Jean DUCHEMIN
Directorate General for the Environment of the European Commission (Brussels)

For my part, I would like to remind you that communication is an essential component in the implementation of European directives. It covers disciplinary procedures, technical advice and exchange, research programmes and cohesion funds to help implement preventive measures and information for the public. We expect the public to give us feedback and put pressure, whether in respect of the classification of beaches or the issue of wastewater treatment. Indeed, the awareness of citizens often forces governments to take action.

The Aarhus convention is made up of three parts: access to information, participation in decision-making and easier access to justice.

The sixth action programme for the environment is named "Our future, our choice". It relates to preventing climate change, maintaining the diversity of nature, environmental health and the reduction of waste in the years to come. To that end, we must improve the implementation of existing regulations, get the market to become interested in the environment, empower citizens to change their environment and introduce more environmentally responsible use and management of soils. I would like to point out that to date, the soil was never considered to be an ecosystem in its own right.

In the field of health, the plan pursues a certain number of principles – prevention, precaution, application, holistic approach, substitution of toxic substances etc.

Today, we have listed over 30,000 chemicals that have been introduced into the environment by the human race. As compared to the average in European countries, France uses some 100 additional substances as pesticides. We must endeavour to evaluate the risks inherent to each substance. The sixth action programme for the environment also addresses the contamination of the air, the soil and food. We must make sure that substances that are banned in Europe do not make their way to developing countries.

To conclude, I believe that we must recognise the consumers' ability to receive the information they ask for. Also, we must learn to prioritise risks and tell the public about the sources of exposure. For instance, we could remind them that one cigarette contains more micro-pollutants than thousands of litres of water. The same applies to medicines, which the French are so fond of, and even some cosmetics. Similarly, we absorb more nitrates in our food than we do in the water we drink.

The consumers are not specialists, but they are quite capable of handling information. However popularised, information must be given complete. Ultimately, consumers are not fools; they are sometimes a bit lazy. That should be taken into account in the information processes implemented. It could be wise to use the general media to train mothers and young children, who are the most receptive audiences.

Discussion with the audience

Ms KESSLER, Representative of rural consumers

In order to combat pollution effectively, it might be useful to give organic farming the same financial assistance as intensive farming. All this is not very fair. The consumers must be informed about how their food is produced, especially since they are turning increasingly towards organic methods. For my part, I would like the authorities to treat farmers who have opted for alternative modes of production like those who use the methods in force for the last thirty years.

Jean DUCHEMIN

As regards the CAP, the European Commission has proposed to address environmental issues more closely.

Georges MOREAU, Artois Picardy Water Agency

Let me come back to the image deficit of tap water as compared to bottled water. I believe that we must think of the support we can give some information channels like consumers' associations. We must promote the image of public water for all.

Monique CHOTARD

Communication cannot be made of a single block. I believe it would be idealistic to promote tap water on a national scale, because people want to know more about the water distributed in their area. That is why we must use the regional media. In any event, we must use the means of communication available to us.

Member of the audience

Consumers are not lacking in information. Actually, they are flooded with a variety of information, which is not always relevant. In my view, consumers' associations should be represented in water management agencies. They will be the best channels of communication. Let us give consumers the resources to become true partners in the process!

Prepared by Hors Ligne from the recordings made during the sessions.