

# The European Community and Water

## European File

Water covers two-thirds of the earth's surface. But only one percent is directly available for use by man. Even this small part is increasingly threatened by pollution of all types.

Overall, the European Community has enough water to meet its estimated needs over the next twenty years. However, there are problems :

- In Europe — a highly populated and industrialized continent — rising pollution levels could very quickly cause water supply problems. Pollution already restricts the use of certain water courses and lakes.
- Water is not always to be found in places where it is needed most. On average the Community has one metre of rain a year. Yet it is not exceptional to find places with an average of more than four meters, whilst others sometimes have less than 10 cm per year.

Despite the advances in recycling techniques, we could still be faced with certain difficulties by the year 2000. Total demand is expected to rise to about double 1970 levels, but this increase will vary considerably between regions and countries. By the end of the century, according to certain estimates, water demand will rise by some 226% in the Netherlands, by 166% in Luxembourg but only by 63% in Germany and 26% in France.

## Why Community action

The Community cannot ignore the problem of water.

- The water we drink, swim in, fish and the water used by industry are common to all of Europe. Apart from the fact that Europeans are highly mobile and often frequent the beaches of neighbouring countries during summer, our rivers and groundwaters do not recognize any frontiers: 80% of Europe's lakes and water courses are shared by several countries. The Meuse runs from France to the Netherlands via Belgium, the Rhine from Switzerland to the Netherlands via France and Germany. Coastal waters are another obvious case, not to mention rainwater. From this the conclusion can be drawn that water is never purely a national matter. Neither is the pollution which moves together with the water, or falls with the rain after moving through the air, or seeps through the soil. Given these conditions, how can one country protect its water whilst the next country continues to pollute it?
- Water also poses major economic problems. It is an indispensable raw material for industry and is used in great quantity. A certain amount of pollution is consequently inevitable. Whilst pollution must be reduced to levels which do not harm the health of either man, fauna or flora, it must be reduced in a way that is fair to all companies in whichever Common Market country they are located. Otherwise we could find certain enterprises benefiting from cost advantages in the less strict countries which could threaten the existence of their competitors who are obliged to adapt their production equipment to stricter national standards. The problem is all the more difficult to resolve since certain regions have the advantage of natural conditions which could permit them to accept present pollution levels and even slight increases whilst other areas have been over the danger level for a long time.
- Finally, as we have seen, water is becoming a scarce resource. Since the major basins often extend over the territories of several Community countries, any progress towards common management will permit greater effectiveness in the use and protection of these resources.

The Community's intention is, therefore, to improve the use of available or potentially available resources, to protect high quality water resources and to improve the presentation and comparability of data on resources and demand forecasts. The Community has already implemented various types of action. A number of European directives specify objectives which the Nine have to translate into their national legislation (water quality objectives, discharge limits for particularly dangerous pollutants etc.). These directives can be adapted to scientific and technical progress by experts brought together at the request of the European Commission or Member States. The Commission also participates in international agreements outside the framework of the Nine and undertakes studies and scientific research on the problems of water pollution.

## Quality objectives for European water

To limit or reduce water pollution, the Nine have jointly set quality objectives — following proposals from the European Commission — which vary according to the ultimate use of the water.

- Drinking water: two European directives, one adopted in June 1975 and the other agreed in principle in 1978, fix criteria applicable to surface waters intended for the abstraction of drinking water and for water intended for human consumption. Verification methods and the frequency of testing of surface waters will be harmonized by October 1981 at the latest as a result of the directive adopted in October 1979 which defines measurement methods relating to the physical, chemical and microbiological characteristics of water.
- Bathing water: the safety of bathers who frequent the Community's rivers, lakes and coastal waters has become a major cause for concern. The warm, calm waters of the Mediterranean, in particular, are less able to cope with the effects of pollution. Thirty million tourists a year visit these sunny regions and multiply the risk of spreading certain illnesses such as typhoid, cholera, dysentery, viral hepatitis and polio. A European directive adopted in December 1975 has set Community governments ten years to progressively improve the quality of their bathing waters. Physico-chemical and micro-biological quality objectives and testing methods have been established both for freshwater and seawater.
- Fishbreeding waters: the quality of the fish, shellfish and crustacea which we eat depends on the quality of the rivers, lakes and seas they live in. Fish absorb bioaccumulable pollutants which can be harmful to consumers and occasionally cause serious danger, as was the case in Minimata (Japan) as a result of mercury pollution. The Community has consequently adopted directives which lay down quality objectives for water intended for fishbreeding (December 1977) and shellfish breeding (October 1977).

## An end to dumping

Both water quality objectives and the continuance of fair competition between all European companies can only be achieved if common rules are defined which prevent or restrict the discharge of certain toxic substances and pollutants in particular areas.

- The Community's most important contribution in this area is probably the directive adopted in May 1976 on the discharge into the aquatic environment of dangerous substances which accumulate in organic tissue and resist neutralization by the natural environment. The directive has introduced a system of prior authorization for the dumping of toxic substances. It calls for the establishment of limit values and water quality objectives for the most dangerous substances which are set down in a 'black list' (these discharges can still be authorized as long as the prescribed limits are not exceeded). Other less dangerous substances are contained on a grey list; the directive calls for the introduction of programmes to reduce the pollution caused by these substances.

- In addition, the underground water sources which Europe is increasingly relying on to provide its water supplies at the turn of the century, are protected by specific measures. A European directive adopted in December 1979 prohibits the discharge of the most dangerous substances and lays down limits for dumping other materials subject to prior authorization. Direct discharge into water is not the only concern: indirect pollution by seepage through the soil has also been covered.
- Other European directives aim to reduce the pollution caused by specific industrial products:
  - for instance, two directives adopted in November 1973 govern the production of detergents and define ways of measuring the biodegradability of the anionic surfactants which they contain;
  - Another European directive adopted in February 1978 aims to reduce the pollution caused by the titanium dioxide industry. These wastes — approximately one million tonnes per year — which result from the extraction of this product, can cause a 'red sludge' when discharged into the sea and can destroy the plankton and break or disrupt the food chain. This is a typical example of pollution by a biodegradable substance where the quantities discharged make it an acute problem, as was seen in Corsica a few years ago. Fortunately, less polluting production processes can be found and their use will progressively become obligatory. The European directive calls for authorization and monitoring procedures for waste disposal and requires the Nine to introduce programmes which will reduce and then eliminate by 1987 the pollution resulting from the liquid, solid and gaseous wastes from the factories already in operation.
  - A draft Community directive which has been before the Nine since the beginning of 1975 aims to reduce pollution caused by paper pulp production. The European Commission is also drawing up proposals concerning three pesticides, aldrin, dieldrin and endrin, and heavy metals such as mercury and cadmium (every year 94 tonnes of mercury and 200 tonnes of cadmium are discharged into the Rhine). The Commission is also proposing the creation of a common procedure for evaluating and distributing information dealing with chemicals available on the market, a system which would complement the different Community directives on the classification, packaging, sale and use of dangerous substances and preparations.
- Petroleum products can cause special problems:
  - 2.5 million tonnes of waste oils are generated each year in the Community. They are thought to account for approximately one-fifth of the total pollution from industrial sources. How can we prevent these oils ending up in the water courses which even now can scarcely cope with the existing pollution load? A positive way to achieve this is through recycling which can also save precious resources. According to certain experts, this could save around one million tonnes. A European directive adopted in June 1975 obliges Community countries to organize the collection and recycling of waste oil using private organizations which can be subsidized by public authorities.

- The Torrey Canyon, Ekofisk, Amoco Cadiz... oil is a major source of marine pollution. Oil tanker accidents can cause ecological disaster over extensive areas. What is less well known, however, is that oil discharged through 'routine operations' such as tank cleaning outside ports, discharges in total much more. Several international conventions deal with these problems: the London Convention (1954) on routine discharges, the Oslo Convention (1972), the Paris Convention (1974) on pollution from land-based sources, the Barcelona Convention (1976) on the protection of the Mediterranean etc. But not all Community countries have signed or ratified these Conventions. There is scope for Community action here, either by encouraging all Member States to adhere to certain conventions, or by defining its own standards in concertation with the specialized international bodies. Thus, two European directives were adopted in December 1978 to reduce the risk of pollution through accidents. One sets out the qualifications required of deep sea pilots operating in the Channel and the North Sea, the other defines the safety standards applicable to tankers which frequent the Nine's ports.
- Amongst the gaps in Community provisions should be mentioned the problem of sodium chloride (salt) waste from the Alsace potassium mines which help make the Rhine water less suitable for human consumption and for supporting vegetable and floral cultures. A dispute on this subject arose at the end of 1979. France, which is concerned about polluting its underground waters by dumping wastes in its subsoil, has postponed ratification of an international convention signed in Bonn in 1976 to combat the salinization of the river.

### **International action by the Community**

The pollution battle cannot simply stop at the Community's frontiers. To give greater protection to their coastal waters and international rivers, many Community countries have signed international conventions which are not restricted to the problems of oil and sodium chloride mentioned above. The criteria adopted in these texts and particularly the lists of prohibited products are not identical and — as we have seen — individual countries in the Nine can unilaterally decide whether or not they want to adhere. In such a situation, the equality of competition between companies in the Common Market could be at risk. In addition to harmonization which is already assured by European directives dealing with water quality and the discharge of dangerous substances, the Community attaches great importance to participating as a body in the preparatory negotiations on these international conventions. Apart from a proposal for accession to the European convention on the protection of international water courses, the Community has already signed the Berne Convention (1963) on the protection of the Rhine against chemical pollution and the Barcelona Convention (1976) on the protection of the Mediterranean.

Finally, in the framework of its studies and research, the European Community is developing its cooperation and information exchanges with a series of third countries, including its West European neighbours.

## **Studies and research**

Since 1973, the Community has been conducting various research projects into water problems, both in the laboratories of the Joint Research Centre and in certain universities and national centres which benefit from Community subsidies. Subjects dealt with include:

- the analysis and monitoring of pollution and the measurement of their effects;
- the epidemiological analysis of the effects of water pollution;
- developing analytical systems relating to the pollution and 'death' of lakes through lack of oxygen;
- the toxic effects of lead and micropollutants on man;
- various theoretical studies on thermal pollution, the catalytic oxidation of water pollutants, the possible creation of a data bank on chemical pollutants etc.

Moreover, information exchanges between the Nine are increasing. In December 1975, it was decided to set up a constantly updated inventory of information sources on environmental problems. More specifically, the quality of surface freshwater has been the subject of joint monitoring programmes covering 18 different parameters at more than one hundred strategic points on the main water courses. Since 1977, the results of these monitoring activities must be made known to the European Commission, which publishes annual reports and will propose measures to increase the effectiveness of the system. In addition, the Community has undertaken a series of studies on the Nine's water resources, the medium and long term supply problems, the classification of the various basins according to their ecological characteristics, the national resource management methods and the models implemented in this area by the Nine. These efforts permit particularly valuable data to be brought together on:

- the major hydrographic basins, their management and their regional problems;
- national water resources for an average year;
- the annual rate of increase of consumption and the foreseeable demand for freshwater up to the year 2000 if we are to meet the requirements of the general population, of agriculture and of industry.

Whilst the Nine's resources appear sufficient overall to meet our needs up to the year 2000, there are local, temporary imbalances which we need to be concerned about:

- many consumers live in regions which do not have sufficient water resources. Regional studies are thus necessary to gather together and process information on this problem and find solutions;

- the 1975-1976 drought has demonstrated the vulnerability of the national supply systems and shown the advantage of using underground waters which are less dependent on climatic variations. The Community has therefore undertaken a study on the evaluation of underground resources. The objectives are to draw up an inventory of groundwaters, define their hydrogeological characteristics, estimate the volume of water they contain, study the methods of exploitation and the processes which would enable us to resupply them if needed, measure the pollution risks they face and ways of preventing them.



In combating pollution of all types, the European Community is contributing to the preservation of our water resources. It is also forming the basis of a more ambitious policy which will enable us to manage more effectively this rare and precious resource which is also part of the common heritage of Europe ■



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The contents of this publication do not necessarily reflect the official views of the Institutions of the Community.

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