COLLABORATION WITH THE UNITED NATIONS SYSTEM
THE INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

The International Drinking Water Supply and Sanitation Decade (1981-1990) was launched by the United Nations General Assembly in 1980.

This report analyses the results achieved in the European Region during the Decade and makes recommendations as to the efforts which still have to be made in order to reach the ambitious goals of the Decade.

This report will become an integral part of the global report which will be presented to the World Health Assembly in 1992.

1. Introduction

The United Nations General Assembly, at its thirty-fifth session, formally launched the Water Decade through resolution 35/18, adopted on 10 November 1980 proclaiming the period 1981-1990 as the International Drinking Water Supply and Sanitation Decade (IDWSSD).

At the beginning of the Water Decade, the European Region of WHO comprised 33 sovereign Member States plus two non-active Members; two countries were situated outside the geographical boundaries of Europe (Algeria and Morocco) and were later transferred to other WHO Regions, while Israel joined the Region on 11 May 1985.

The analysis made at the beginning of the Decade showed certain deficiencies in the level of services provided in the different countries. A large disparity was found between the services available to urban and to rural areas as regards both quantity and quality. Similarly, great differences existed between the provision of water services and the disposal of wastewaters. For that reason, it was considered appropriate, for evaluation purposes, to subdivide the Region, with some minor adaptations, into three groups of countries, following the criteria used by the United Nations for providing technical assistance to countries.
Group I comprised 5 states whose governments regularly applied for external financing (Algeria, Morocco, Malta, Portugal and Turkey).

Group II comprised 12 countries whose governments were receiving or had received technical assistance from UNDP (Albania, Bulgaria, Czechoslovakia, Greece, Hungary, Ireland, Italy, Poland, Romania, San Marino, Spain and Yugoslavia). It included countries which had made considerable progress industrially but still had a large underserved rural population.

Group III comprised the remaining 16 countries of the Region. Their concerns related more specifically to management of the quality of water and sanitation services and to control of pollution of water sources.

In 1981 at its thirty-first session, the Regional Committee, by resolution EUR/RC31/R9, established the priorities for the Regional Office's Decade programme in line with World Health Assembly resolution WHA30.33. In 1984 the Regional Committee adopted target 20 as one of the Region's 38 targets for health for all.

Target 20 - Water pollution

BY 1990, ALL PEOPLE OF THE REGION SHOULD HAVE ADEQUATE SUPPLIES OF SAFE DRINKING-WATER, AND BY THE YEAR 1995 POLLUTION OF RIVERS, LAKES AND SEAS SHOULD NO LONGER POSE A THREAT TO HUMAN HEALTH.

2. Objectives and strategy

2.1 Objectives

The above-mentioned Regional Committee resolution "recommend[ed] Member States to take the necessary action to improve conditions at the national level, particularly through:

(a) establishment of national drinking-water quality criteria;
(b) improvement of water source protection, including toxic chemical control;
(c) improvement of rural water supply and sanitation, including adequate measures for quality control;
(d) development and application of appropriate technology, including that for the reuse of water;
(e) improvement of structures for organization, management and the planning of water resources both in relation to future demand and other land use;
(f) development of manpower, with emphasis on operational personnel;
(g) provision of necessary resources to achieve the objectives of the Decade;

(h) support to research on the health effects of substances contained in water."

2.2 Strategy

In line with the main thrust of the global Water Decade programme, the Member States of the Region adopted a common European strategy for the attainment of the above-mentioned objectives. The strategy placed emphasis on the "meaning of the Decade as a component of health for all". The main elements of this strategy were:

(a) promotion of the Decade;
(b) national institutional development;
(c) development of human resources;
(d) information exchange and monitoring; and
(e) mobilization of financial resources.

3. Evaluation of results achieved

An analysis of the results achieved by the end of the Decade indicates that, so far as the supply of drinking-water in urban areas is concerned, it is only in the slum districts of a few urban agglomerations that there will still remain some people served by poorly maintained stand-pipe networks. One of the major problems to be solved, however, relates to the interruption of services in heavily populated Mediterranean towns receiving a seasonal influx of large groups of tourists. Another problem common to many of the large European cities is the considerable amount of treated drinking-water that never reaches the consumer due to leakages or unnecessary wastage.

With regard to rural areas, the level of water connections in the home as originally envisaged, is not yet sufficiently high to claim total coverage. It is expected, however, that by the turn of the century the whole rural population of Europe will at least have easy access to proper water supply systems (see Annex 1).

In the matter of the disposal of wastewater, a major effort is still required to provide many urban towns with appropriate sewerage networks, to connect dwellings in peripheral urban belts to sewerage networks, and to provide a large number of existing networks with appropriate treatment facilities to avoid the discharge of raw sewage into the aquatic environment (see Annexes 2 and 3).

With regard to future water quality problems, the control of pollution of surface water and groundwater must still be considered high priority for many countries in the Region. A wide range of old and new organic and inorganic pollutants will undoubtedly continue to reach drinking-water sources, and there will therefore be a need to strengthen programmes for arriving at a more accurate determination of the health effects of water pollutants.

Particular emphasis will have to be laid on the development of human resources in order to sustain the development achieved. Countries will have to conduct a thorough analysis of their training needs in order to strengthen...
existing institutions dealing with human resource development and achieve the improvements required in this sector, which is vital for the optimization of water and sanitation investments.

With regard to the evolution of diseases related to water and sanitation, epidemiological assessment has proved difficult, because the systems of data collection on infectious diseases at country level are oriented mainly towards diseases preventable through vaccination campaigns.

Most of the health problems encountered at the beginning of the Decade in connection with the biological quality of drinking-water and recreational waters were located mainly in southern Europe. The incidence of enteric diseases was not, however, confined only to areas in the Region with inadequate water and sanitation services. Other factors, such as social habits, types of food and lack of public health education, were also responsible for repeated outbreaks of diseases such as: typhoid, hepatitis, cholera, amoebiasis, shigellosis, salmonellosis and other waterborne diseases which are still present in the Region.

In 1981/1982, studies on coastal water quality and the associated health problems were carried out in Mediterranean countries. Bathers were affected particularly by eye, ear, throat and nasal infections. Dermatitis, furunculosis and diarrhoea were also very common. In many instances, however, the illnesses reported were not supported by laboratory analyses. Epidemiological assessment was therefore possible only in terms of the number of outbreaks occurring per country per year.

The available records indicate that the improvements achieved in the provision of adequate water and sanitation services have resulted in a considerable decrease in disease outbreaks. However, there are still concerns with regard to such diseases as legionellosis and diarrhoea associated with the presence of Campylobacter. Protozoa and helminths are also detected with increased frequency, particularly in rural water supplies. Giardiasis caused by the protozoon Giardia lamblia, and the presence of Entamoeba and Balantidium in water supplies that have not been filtered during the treatment process, also require increased attention by water managers in order to reduce the health risks of the population exposed.

On the question of chemical contamination of seafood, while available evidence indicated that problems were probably confined to relatively isolated "high-consumption" coastal areas, the extent of the overall situation still requires determination.

3.1 Water quality

The development of drinking-water guidelines was organized and carried out jointly by WHO headquarters and the Regional Office, with the active participation of scientists from more than 30 WHO Member States. The guidelines, published in 1984, describe the quality of water suitable for drinking purposes under all circumstances.

With regard to the use of "guideline values", the majority of the Member States follow either international standards such as the EEC Directive on drinking-water quality or their own national standards, or simply apply the recommended WHO guideline values.
It has, however, been recognized that the formulation of recommendations for the quality of drinking-water is an ongoing process, as new and better data and improved methods of assessment become available, but also as the interpretation that people give to "guideline values" evolves with time. Because of the presence of new pollutants in drinking-water, and because further knowledge has been acquired in connection with the health effects of water contaminants, the above-mentioned guidelines are therefore now under review. It is expected that this revision will be completed in 1992.

Another major area of concern has been the adoption of quality criteria for "raw water" which is to be used for domestic consumption. In the European Region, a wide range of chemical micropollutants resulting from industrial or agricultural activities and from the disposal of waste, including atmospheric fallout, are affecting the quality of both surface water and groundwater. To overcome this problem, a large number of Member States have not only developed "raw water quality criteria", but have also introduced strategies to prevent pollution of water sources.

With regard to the quality of "recreational waters", which is one of the most important components of the Water Decade programme in Europe, mention needs to be made of the various efforts successfully conducted by Member States for the adoption and implementation of international agreements and conventions aimed at protecting the quality of seawaters and of seafood. Examples of such efforts can be found in the established programmes for the protection of the Baltic Sea and the North Sea, and in the Mediterranean Action Plan in which the Regional Office plays an important role.

European countries have also recognized the increasing importance of the health aspects of the reutilization of wastewater and of human and animal excreta in agriculture or aquaculture. A score of scientists from various countries have been engaged in research activities to find appropriate technology for the safe use of waste matters in agriculture.

3.2 Protection of water sources

The first European Water Decade consultation convened by the WHO Regional Office at Copenhagen (7-11 December 1981) strongly emphasized that, because of the recognized increased danger of contamination of water sources by chemicals and other hazardous wastes, there was a need for mobilizing public opinion on source protection and for adopting adequate protective measures at national levels in the early planning stage of water supply services.

The above-mentioned consultation urged Member States to implement sound managerial strategies for the protection of water resources. The first recommended step was the assessment of contamination sources, together with the identification of the mode of entry of pollutants and respective concentration levels.

The second recommended step was the adoption of national codes of practice for the protection of water resources that would include not only the assessment of water resources available, but also guidance for agricultural and waste disposal practices, and for land use planning. Priority was to be given to the introduction of preventive measures and particularly to the establishment of an early warning system for the protection of transboundary water sources.
The consultation considered that, as contamination of a large proportion of water sources had already occurred in many countries of the Region, there was a need to establish research programmes for the rehabilitation of such sources when no other solution was available.

As a result, most countries in the Region took measures with respect to the following:

- adoption of legislation to regulate the use of different agrochemicals, their rate of application on land, the kind of equipment to be used during application, and permissible rates of concentration of agrochemicals in soil;

- introduction of improved wastewater collection and treatment methods, for both domestic and industrial wastewaters;

- introduction of regulations to establish quality criteria for treated wastewaters and for the aquatic environment receiving such emissions;

- enlargement of the national network of municipal sewer systems conveying domestic and storm waters, whether together or separately; the surveys made at national levels showed that a large proportion of urban municipalities in Europe were without appropriate sewerage systems, including sewage treatment facilities;

- improvement of the operation and maintenance of sewerage systems; to achieve this objective, countries developed training programmes and guidelines for plant operators, particularly for small and medium-sized municipalities;

- inventory and mapping of solid and hazardous waste tips, especially of those representing a potential threat to water resources, and adoption of regulations with regard to the selection of waste-dumping places;

- adoption of national land-use codes of practice in order to regulate all development activities that may have an influence on water quality, such as: urban developments (housing, streets, industrial, commercial and leisure areas); agricultural, forestry and horticultural uses; energy and mineral exploitation;

- introduction of methods for controlling the deposition into the soil of hazardous substances resulting from domestic and industrial emissions; the risk of such events can be reduced by good engineering design and the installation of efficient air filtration devices.

The Regional Office, together with a collaborating centre in the United Kingdom (the Water Research Centre), also organized an international conference on "The health effects of land use on fresh waters" at the University of Stirling in June 1985. The conference focused on the effects of four major uses of land on fresh water above and below the ground: agriculture, forestry, urbanization and the exploitation of minerals. Agricultural practices were seen as those requiring most attention.
3.3 Improvement of rural water supply and sanitation

The results of the rapid assessment exercise carried out at the beginning of the Water Decade period indicated that rural areas were particularly poorly served in some European countries, with up to 75% of the rural population not receiving satisfactory water supply and, in some cases, almost none having a satisfactory means of sewage disposal.

The second consultation on the Water Decade programme in Europe, held in Copenhagen from 9 to 12 January 1984, proposed the identification and adoption of indicators and parameters for evaluating the success of the Decade in terms of the European Region. It was felt necessary to collect basic data on water supply and sanitation on a country-by-country basis, since this information was essential for the establishment of the indicators. Such indicators would be complementary to the global indicators for monitoring the progress of the health for all movement.

The consultation proposed to use as an indicator the percentage of households with a sufficient volume of water for drinking purposes and for keeping the house and its immediate surroundings clean. It was, however, pointed out that the existence of a water outlet in the house was not in itself a guarantee that water would be safe.

In the absence of a water outlet in the house, another proposed indicator was the availability of a water standpoint or protected well within a given walking distance from the home - for example, 15 minutes.

With regard to safe or adequate wastewater disposal facilities, the majority was of the view that in urban areas, connection to a sewerage system was the desirable target. For periurban and rural agglomerations, a water closet at home, connected to an appropriate disposal facility (a septic tank followed by a pipeline for the dispersion of liquid wastes into the soil), was to be considered a safe method. For isolated rural houses, a hygienic latrine was considered appropriate.

Analysis of the results achieved by the end of the Decade indicates that, so far as the supply of drinking-water in rural areas is concerned, the level of appropriate services will reach total coverage before the turn of the century, while, with regard to the disposal of human excreta, there will be very few families in Europe that will not have at least a hygienic pit latrine at home.

3.4 Development and application of appropriate technology

Priority has been given to the development of guidelines for solving basic water and sanitation problems in areas with specific geographical characteristics, such as cold climate areas, arid areas, islands with a fluctuating tourist population, inland and coastal recreational areas, and international waters affected by transboundary pollution problems.

In this context, a group of countries along the Mediterranean Sea have extended their work on the health-related aspects of an Action Plan for the protection of the Sea against pollution, more particularly in the Long-term Programme of Pollution Monitoring and Research in the Mediterranean Sea (MED-POL). The activities are aimed at implementing methods for the safe
disposal of liquid and solid wastes in order to protect water quality against land-based sources of pollution.

Another example of effective collaboration in technological developments has been the introduction of computerized information systems, such as AQUALINE (the on-line database created by the Water Research Centre in the United Kingdom), and the TOXLINE and ENVIROLINE database systems. The Regional Office has used those systems to answer an increasing number of ad hoc queries from Member States, thus providing rapid scientific and practical information when and where needed.

In the southern part of the Region, technological development has focused on the provision of services rather than on the quality of the services provided. The problems addressed have been the provision of water and sanitation in arid areas, rural water fluoridation and disinfection methods, demineralization of brackish waters, and the development of low-cost and low-maintenance water and wastewater networks. In the highly industrialized regions of Europe, efforts have been directed to the identification of pollutants and their concentration in water sources, and to investigations of their harmful effects on human health.

3.5 Planning, organization and management of water resources

The planning and organization of water and sanitation services vary from country to country. It has now become frequent to find a structural pattern such that, in addition to the private sector, more than one ministry or government institution is involved, due to the wide range of vested interests in water and wastewater management. Experience has shown that whatever organizational structure is adopted, local management must be given the necessary authority and resources to carry out its responsibilities effectively, and the managers must be supported by the central authorities to enable them to deal with exceptional or emergency situations.

The Regional Office, recognizing the importance of multisectorality in the development of the water and sanitation sectors, has promoted increased coordination and cooperation in this area between ministries and between United Nations specialized agencies. In addition, important institutional and legislative changes have been introduced since the beginning of the Decade with a view to controlling water pollution, and these have markedly improved the protection of water sources.

Several instances of modification to systems of water charges have been reported, the aim being to make water supply and sanitation more economically viable. The introduction of "the polluter pays" policy is another important development that the Organization has been continuously advocating, as well as the notion that the cost of services, particularly in urban areas, needs somehow to be recovered.

National action committees have been established in Finland, Greece, Hungary, Morocco (no longer a Member State of the Regional Office for Europe), Portugal and Turkey.

Perhaps one of the most important promotional activities of the Decade in Europe has been the continuous effort to ensure proper monitoring of the progress made during the Decade. Improvement of the collection and analysis of basic data still remains one of the highest priorities of this Region.
The evaluation process established has made it possible, within certain limitations, to measure how far countries are from reaching their Decade targets, thus enabling the programme, through consultations with Member States, to reformulate national commitments with regard to this objective.

One of those commitments was the establishment of new evaluation procedures to overcome the difficulties encountered during the early days of the programme. The new evaluation system will, however, be in full operation only in 1991.

3.6 Development of human resources

The activities of Member States for the development of human resources throughout the years of the Decade, have focused on:

(a) increasing the capacity of national training institutions so as to reduce their dependence on external assistance and, when required, arranging fellowships and study tours to enable national technicians to visit countries with advanced technology in water and sanitation subjects;

(b) establishment of collaborative agreements with national training institutions for the provision of courses on water and sanitation activities for technicians from the less developed countries of the Region, and also for participants from other WHO Regional Offices;

(c) assessment of the availability of human resources at country level;

(d) promotion of planning for human resources development, with due regard to career structures;

(e) identification of training institutions in Europe, of their training syllabi and timetables, and of the cost of training;

(f) production of training handbooks and guidelines.

Model curricula for the training of water supply or waste disposal technicians have been collected from collaborating institutions.

Special mention should be made of the important role that the European Water Decade programme has played with regard to the development of human resources for other WHO Regions. The Regional Office publications have been widely accepted in the other WHO Regions, as basic documents permitting the transfer of technology, where needed (see Annex 5).

3.7 Mobilization of financial resources

During the first years of the Decade, no appreciable increase in the funding of water and sanitation projects was noted. Member States, however, gradually came to appreciate the relevance of the IDWSSD to general socioeconomic development, and this has resulted in increased political and financial commitment on the part of governments so that, in those countries of the Region where work was required to attain the Decade objectives, the funds allocated to water supply and sanitation programmes have been progressively and substantially increased.

In order to optimize the financial resources available at country level, Member States have promoted the introduction of cost-effective solutions to
problems, placing emphasis on the use of technologies appropriate to each specific situation, e.g. the adoption of appropriate tariffs to secure an economic return and, in some instances, to allow for the use of some of the resources collected to subsidize needy communities.

In view of the administrative decentralization that has taken place in most countries in Europe, the strategy for procuring investments for the water and sanitation sector will require some fundamental modifications. As financial resources are now in the hands of municipal authorities, it will be necessary to establish contacts with such authorities, through central administrative coordinating mechanisms.

3.8 Research activities

There is hardly a country in this Region that has not been engaged, during the last decade, in research activities related to the development of water and sanitation services. Extensive research has taken place within the various fields of water and sanitation (water resources, water treatment, water supply (transmission and distribution), water analysis and quality monitoring, water quality and health, wastewater collection and disposal) and its application has resulted in improved quality of services.

4. The network of WHO collaborating centres

One of the major achievements of the European Water Decade programme has been the establishment of a network of national institutions appointed as WHO collaborating centres for Water Decade activities. Such institutions have provided valuable contributions by making available to other Member States and to the Regional Office their technological experience and institutional facilities for convening meetings or conducting training activities on their premises. In addition, the centres have, in many cases, allowed their professional staff to carry out various kinds of temporary assignments.

- The Water Research Centre (WRc), in the United Kingdom, a major contributor to investigations on water pollution control, has actively collaborated in the preparation and review of the WHO Drinking-Water Quality Guidelines.

- The "Centre national du machinisme agricole, du génie rural, des eaux et des forêts (CEMAGREF), France, has assisted the Region in the development of various guidelines on wastewater disposal.

- The Research Centre for Water Resources Development (VITUKI), Hungary, has completed studies on the protection of water resources and on the removal of pollutants from contaminated water.

- The "Centre international de l'eau" (NANC.I.E.), France, has assisted the Region in monitoring and evaluating Water Decade activities and has also conducted various missions to areas stricken by disasters.

- The Public Health Institute in Pamplona, Navarra, Spain, is assisting the Region to develop human resources and is making another major contribution through the development of the environmental health component as an integral part of primary health care services in Navarra, a pilot project which is being successfully implemented.
The Research Institute for Hygiene and Microbiology (FHM), German Democratic Republic, conducts research studies on water microbiology and on the health aspects of different water pollutants.

The Robens Institute, University of Surrey, United Kingdom, has a dual role, being also a collaborating centre for WHO headquarters. The centre has been engaged in activities related to the protection of drinking-water quality and of human health.

The WHO International Collaborating Centre for Primary Health Care in Alma-Ata, USSR, has been engaged in activities related to intersectoral collaboration and community participation in water and sanitation developments.

The International Training Centre for Water Resources Management (CEFIGRE), France, a headquarters collaborating centre, has assisted not only this Regional Office but the rest of the world in activities related to the development of human resources.

The International Water and Sanitation Centre (IRC), another WHO headquarters collaborating centre for community water supply and sanitation, has collaborated with the Regional Office in supplying technicians in our Member States with valuable technical documentation. The Centre has also provided training facilities and has organized meetings on its premises.

5. Brief summary of country activities during the Decade

A short description of the main Water Decade events that have taken place in some countries of the Region, with the participation of WHO or of another United Nations agency, is given below:

Albania. The Regional Office helped in the drafting of proposals for two UNDP-supported projects, relating respectively to the control of dental caries through fluoridation and to techniques for the treatment of liquid wastes.

Denmark. The Greenland Technical Organization assisted the Regional Office in the preparation of guidelines for water and sanitation in cold climate conditions.

Finland. The National Board of Health provided consultants for missions to other countries in the Region. In 1989 a meeting was organized in Tampere to analyse intersectoral cooperation for post-Decade activities.

France. This country has actively supported the European Water Decade programme not only through the activities developed at the two collaborating centres (CEMAGREF and NANC.I.E.) but also through the direct collaboration of the environmental health engineers at the Ministry of Health, particularly in emergency situations.

German Democratic Republic. Through the collaborating centre in Bad-Elster, investigations have been conducted on the removal of nitrates from water, and on the presence of potential mutagens in drinking-water.
Greece. Studies were conducted to assess the environmental impact of major water development schemes, and on eutrophication of lakes, as well as a sectoral study on rural water supply.

Hungary. Increased efforts were made to attain Decade goals, substantially improving the coverage of water and sanitation services. In addition, the national water authorities have actively collaborated with the Regional Office in work for the protection of the River Danube water resources.

Malta. Construction of a municipal water desalination plant was completed as well as of a sewage network, including a scheme for wastewater reutilization.

Netherlands. A new policy on water management was introduced, to provide a network of water systems that ensure a balance between human needs and ecology.

Norway. Studies of water quality parameters for inland waters were completed, using computer technology. The national water authorities have provided assistance in drafting guidelines for cold climate conditions, and in designing a new evaluation questionnaire for Water Decade activities in Europe.

Poland. With UNDP assistance, a project was implemented on municipal water and wastewater technologies. An international course for municipal engineers, open also to other WHO Regions, is being conducted on a yearly basis, with the financial support of the Polish Government.

Portugal. Decade activities have included the training of national municipal environmental health personnel at the National School of Public Health and the New University of Lisbon.

Romania. This country has been the operational base of an intercountry UNDP project for monitoring chemicals in drinking-water.

Spain. The collaborating centre in Pamplona, Navarra, has intensively promoted environmental health, and more specifically, water and sanitation, as an integral part of primary health care programmes.

Sweden. Problems relating to the training of environmental health officers have been studied at the collaborating centre in Umea.

Turkey. The level of public investment in the water and sanitation sector has continued to increase. Substantial efforts have been made to solve the remaining problems, particularly those related to urban demographic explosions and the development of human resources.

USSR. Decade activities have been oriented towards the control of water pollution of the rivers Volga, Moskva, Dnieper, Kama and Don, and also for protecting the quality of the Arctic Basin and of the Black, Baltic, Caspian and Azov Seas.
United Kingdom. The Water Research Centre has provided training facilities for numerous visitors on short-term study tours. It has also assisted the Regional Office in drafting several technical documents used as the basis for the elaboration of guidelines, its major contribution to the programme being technical inputs in the preparation and review of the WHO Drinking-Water Quality Guidelines.

Yugoslavia. Several UNDP-supported projects have been implemented, especially with regard to river pollution control, and support has been given to the River Danube intercountry programme.

6. Conclusions and recommendations

Analysis of the results of the Water Decade programme in Europe indicates that, with regard to drinking-water, there are people still receiving inadequate services only in some urban fringe areas whereas, in rural areas, the percentage of the population unserved is still significant in some countries. With regard to the disposal of wastewater, major efforts are still needed to provide many urban sectors with appropriate sewerage networks and efficient treatment facilities. So far as rural areas are concerned, although the evaluation of results proved to be more difficult than expected, the information collected confirms that substantial efforts are needed to improve sanitary conditions in these areas.

The WHO Regional Office for Europe, with the support of the United Nations Development Programme and the Federal Institute of Public Health, Belgrade, organized a consultation in Dubrovnik, Yugoslavia, from 26 to 30 June 1990, for the purpose of conducting a subregional evaluation of the progress made during the past decade and analysing proposed national strategies and policies for the period beyond the Decade. The consultation recommended that the momentum created by the Decade should be maintained and reinforced in order to attain satisfactory levels of services, if possible before the turn of the century. The adoption of a common European strategy for the post-Decade period was strongly recommended, to ensure sustained commitment to the sector through the 1990s. The common strategy should initiate and promote actions both at the regional (European) level and at the different administrative levels of its individual states.

The global strategy, of which the regional strategy will form a component, should provide a frame of reference for the national strategies.

The general objectives of the common European strategy for community water supply and sanitation for the post-Decade period can be enunciated as follows:

"Water and sanitation developments should be oriented towards the achievement of integrated management of water resources, stressing its perspective of environmental protection and health."

"This orientation must be undertaken in the context of its overall goal of health for all through primary health care approaches."

"Investments at the national level should be based on cost-recovery for the services provided. The price of water must be established taking into account both capital and recurrent costs. Where appropriate, the cost of sanitation services may be incorporated into the charges levied for water."
"At the international level, the strategy should be oriented towards the promotion of investments and of technology transfer to countries in the Region where systems are less developed. There should be mutual support between countries through exchange of experience, using approaches similar to those used by the United Nations Department of Technical Co-operation for Development."

"There should be a role for all countries of Europe to utilize their acquired experience, knowledge and skills to support the development of water supply and sanitation programmes in the less developed countries of the other regions of the world."

The First European Conference on Environment and Health, held in Frankfurt, Federal Republic of Germany, from 7 to 8 December 1989, endorsed a "European Charter on Environment and Health". The Charter is considered to be an integral part of the European regional strategy of health for all, adopted in 1984 by all Member States of the Region. The Charter established that one of the major urgent issues requiring attention for the protection of the environment and health is the provision of safe and adequate drinking-water supplies and hygienic disposal of waste matter. It urged Member States of the European Region to take all necessary steps for the attainment of the objectives of the Charter.

The Dubrovnik consultation recommended that, in order to comply with the European Charter on Environment and Health thus adopted, the post-Decade European strategy should be fully endorsed by national governments and by the United Nations system in order to ensure the political commitments necessary to sustain development efforts. At national level, such endorsement should be effected through the ministries and departments with responsibility for the sector, which implies the establishment of effective interdepartmental and interministerial coordination. At international level, to ensure the endorsement of this strategy, WHO should take appropriate action through its governing bodies and other established mechanisms within the United Nations system.

In the context of east/west and north/south cooperation, the United Nations system should act as a reference point for the identification of countries requiring various types of assistance and those willing to provide it. Potential has already been identified for cooperation between the countries of western Europe and the rapidly changing countries of eastern Europe in tackling their water and environmental management challenges. This must form a vital element of the post-Decade water supply and sanitation strategy for Europe.
Annex 1

WATER SUPPLY SERVICES IN EUROPE

- Water at home (public or private network)
- Easy access to safe water
- Inadequate supply

Population served:

- 80-90% URBAN
- 80-90% RURAL

Groups:
- Group I
- Group II
- Group III
EXCRETA DISPOSAL SERVICES IN EUROPE

- Sewers at home (public or private network)
- Adequate sanitation
- Inadequate sanitation

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### Annex 4

**WHO/EURO: DEMOGRAPHIC INFORMATION**

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Annex 5

LIST OF MOST IMPORTANT DOCUMENTS AND PUBLICATIONS PRODUCED BY OR ON BEHALF OF THE WHO REGIONAL OFFICE FOR EUROPE


Health hazards from nitrates in drinking-water. Copenhagen, WHO Regional Office for Europe, 1985 (Environmental Health Series, No. 1).

Treatment and discharge of industrial wastewater in the Mediterranean Area. Copenhagen, WHO Regional Office for Europe, 1986 (Environmental Health Series, No. 8).

Environmental aspects of the control of legionellosis. Copenhagen, WHO Regional Office for Europe, 1986 (Environmental Health Series, No. 14).

Drinking-water quality and health-related risks. Copenhagen, WHO Regional Office for Europe, 1987 (Environmental Health Series, No. 21).

Drinking-water guidelines for selected herbicides. Copenhagen, WHO Regional Office for Europe, 1987 (Environmental Health Series, No. 27).

Landner L. & Wahlgren, V. Eutrophication of lakes and reservoirs in warm climates. Copenhagen, WHO Regional Office for Europe, 1988 (Environmental Health Series, No. 30).


Standard model designs for rural water supplies (prepared in cooperation with Hydroprojekt Consulting Engineers, Czechoslovakia). Copenhagen, WHO Regional Office for Europe, 1986.


Natural wastewater lagoons management. Lyon (France), CEMAGREF, 1989.

Bacteria resistant to antibiotics in water and wastewater and their public health implications. Copenhagen, WHO Regional Office for Europe, 1989 (unpublished document ICP/CWS 199/g53).


Appropriate technology for the treatment of wastewater for small rural communities. Copenhagen, WHO Regional Office for Europe, 1985 (EURO Reports and Studies, No. 90).