



ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ  
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

Consultation on the Programme in  
Environmental Pollution Control

Vienna, 13-16 September 1977

*En v. pool control  
- All of*

28.9.77  
WHO  
REGIONAL OFFICE FOR EUROPE  
VIENNA

ICP/PPE 002  
24 February 1978

ENGLISH ONLY

INDEX

REPORT

1. Introduction

A consultation on the programme in environmental pollution control was held in Vienna from 13 to 16 September 1977, organized by the Regional Office for Europe of the World Health Organization, in collaboration with the Government of Austria.

The European Region of WHO comprises highly industrialized countries, several of which are very densely populated. Problems of air and water pollution have been causing increasing concern. New chemicals are increasingly being used in industry, agriculture and food processing. Countries are organizing national pollution control programmes, and there is also much international collaboration both within and outside the United Nations system.

In 1969 the WHO Regional Committee for Europe authorized the Regional Office to start a 10-year programme in environmental pollution control. Following a consultation at Copenhagen in 1974, the Vienna meeting was designed to review further the progress achieved, to reassess priorities and to make proposals for the future development of the programme.

Dr H. Pindur, Director-General of the Austrian Ministry of Health and Environmental Protection, welcomed the participants on behalf of the Austrian Government and the Minister of Health and Environmental Protection, Dr Ingrid Leodolter. It was of great value to have the meeting in Vienna as problems of environmental health were of growing importance in their country.

Dr F.A. Bauhofer, Director of Health Services, WHO Regional Office for Europe, opened the meeting on behalf of Dr Leo A. Kaprio, Regional Director, and thanked the Austrian Government for the facilities accorded the Regional Office for Europe for arranging the meeting in one of the few countries where health and environment were within the same Ministry. The development of standards for environmental quality was in the first instance a health-related problem. Public health agencies should further strengthen their participation in environmental control programmes, and take the lead in setting standards of environmental quality and ensuring their application.

In many European countries responsibility for environmental health was divided among several ministries and other authorities, which had necessitated the organization of special committees or commissions for the coordination of environmental health matters. Those bodies were called upon to give information about health hazards and advice on alternative methods of pollution prevention, both to industry and to the general public. In that connexion, WHO had an important role to play, together with other international organizations, in harmonizing the guidelines, standards and permitted levels which should be recommended to governments and might be incorporated in their national legislation. While most European countries had an abundance of environmental legislation, its practical application was not always as good as it could be due to lack of manpower, training resources and funds.

It was difficult to generalize on the environmental problems affecting an area so large and diverse as the European Region, and containing a large proportion of the world's most highly industrialized countries. In many, however, problems of air and water pollution had been evident for well over a century. Only recently, following a long period of neglect, had ambitious programmes of pollution abatement been developed, reflecting greatly increased public concern in that field. Not only were there comprehensive schemes to control long-standing sources of pollution, but more effective control was being exercised over the siting of new industrial developments and the quantity and composition of the wastes they were allowed to discharge. It must be remembered that the pollution of air and water might affect more than one country. There was therefore a need for intercountry collaboration.

The Regional Committee, at its recent meeting in September 1977, had emphasized two points for future Regional activities in environmental health:

- (1) the growth and increasing danger to health from contamination of foodstuffs and from foodborne infections and the great need to improve food control and, especially, the techniques employed in catering and animal feeding;
- (2) the need to study the potential long-term toxicity of certain substances, particularly carcinogens (an area where WHO was particularly well placed to coordinate activities and to promote the adoption of proper legislation) and to develop at national and international levels information systems concerning the effects of toxic substances.

The Regional Committee had stressed the need for WHO to concentrate its efforts within the most important areas. Collaboration between WHO and national health services, research institutes and other national resources should be strengthened as the major part of the Regional Office's programme, and must be implemented through the Member States. The importance of research in public health and environmental health had also been emphasized, especially the selection of priorities, coordination and avoidance of duplication and the practical application of research findings.

In the Sixth General Programme of Work of WHO covering the years 1978-83, a principal objective at the global level was to promote and develop environmental health policies and programmes. Detailed objectives had to be adjusted to the conditions and the needs of each Region. The development and implementation of programmes for the early detection and control of environmental pollution, the practical application of research findings, the development of programmes to ensure food safety and measures to improve health conditions in human settlements and housing were some of the main fields of activity in the European Region. One of the meeting's important tasks would be to study the present activities of the Regional Office in that field, to identify trends and future problems within the Region and to propose priorities for forthcoming action.

Mr J.I. Waddington, Chief, Promotion of Environmental Health, WHO Regional Office for Europe, introduced the main working papers, "Present status of the long-term environmental health programme" and "future development of the programme". He emphasized that the European Region was largely industrialized and urbanized and many of the environmental health problems result from industrial production and the utilization of industrial products.

The United Nations Conference on the Human Environment held in Stockholm in 1972 had stimulated a greatly increased interest in environmental problems. Even though there was now very great interest in the conservation of the environment within all countries of the Region, often the emphasis had been on problems affecting the ecosystem rather than on human health. As a high proportion of environmental pollution problems resulted from industrial activities it was increasingly necessary for a close dialogue to be established with individual industries. If the Regional Office for Europe was to have an effective programme, it was essential that it should be flexible and capable of timely response to the development of environmental health problems within Member States.

Seventeen participants from 12 countries attended the consultation, including 4 staff members from the WHO Regional Office for Europe (a complete list of participants is given in Annex II). Dr H. Pindur was elected Chairman and Professor S. Forssman Rapporteur of the meeting. The agenda is given in Annex I.

## 2. Discussion

### 2.1 Integration

It was agreed that a holistic concept of human health in relation to the environment was required. This should eventually lead to the right approach for an integrated system.

The Regional Office's activities, while harmonizing with the global programme, should be adjusted to European conditions, taking account of present priorities and future trends. The Office's resources being limited, it should work through the Member States, for example, through collaborating centres and other research institutes. It is important that the environmental health programme be linked with the other Regional Office programmes, i.e., disease prevention and control, strengthening of health services and health manpower development.

Coordination with the work of other international organizations, e.g., FAO, ILO, UNDP, UNEP, UNESCO together with CEC, CMEA, ECE, OECD, should be maintained and where necessary, strengthened.

## 2.2 Effects on health of environmental factors, including the work environment

### 2.2.1 Chemical substances

The increase in the number of chemical substances in the human environment to which man is exposed is a health problem of growing importance. Problems associated with chemical substances could be compared to those associated with bacteria at the end of the last century. It is of great importance to review and improve methods of testing the toxicity of chemical substances and to evaluate toxicological effects in relation to exposure to contaminated air, water or food. It is essential from the environmental health standpoint to have methods to evaluate the carcinogenic, mutagenic and other long-term effects of chemical substances. Acute effects must of course also be considered. WHO should play a leading role in harmonizing methods of evaluating the toxicity of new chemical substances being introduced into industrial production or included in new products. A number of minimum tests and a system for pre-screening substances should be recommended. It is often possible to predict to some extent the public health or occupational health hazards from new substances. It is, however, important to collect further experience on the relationships between long-term exposures and effects. The WHO Environmental Health Criteria documents for toxic chemical substances are considered to be a very useful development. Criteria documents for four chemical substances (lead, mercury, oxides of nitrogen, PCB) are already available and a considerable number are planned or already in preparation. A system of collecting "first observations" of health effects should be organized to serve as an early warning system for the Regional Office which could pass on this information to Member States.

There are considerable difficulties in controlling environmental health hazards from new substances and products, particularly when they are imported. The international agencies, including WHO, should play a major role. It is important that the Office harmonize its activities with what is already being done within the Region by such agencies as ILO, UNEP and OECD. The adoption of resolution WHA 30/47 at the last World Health Assembly should lead to an expanded programme by WHO. It is clear that it is a matter of high priority in the European Region.

Carcinogenic effects have attracted much attention. It would be of interest to develop further rapid screening methods (e.g., effects on bacteria, cell- or tissue-cultures or on enzymatic processes) for studying carcinogenic effects instead of the classical methods of animal experiments over several years. It may also be useful to classify chemical substances into different groups according to their existing and potential carcinogenic effects and to ask a working group to discuss this problem and establish a basic approach. Such a classification might be based on: (a) substances which have been proved to cause cancer in humans; (b) substances which have been shown to cause cancer in animals; and (c) substances which have caused single cases of cancer in large series of exposed animals. Relevant codes of practice or recommendations could be established for each group of substances.

The testing and evaluation of toxicity will call for enormous resources; available research capacities in individual countries are limited. It is, therefore, very important that the Regional Office facilitate and stimulate the exchange of experience between research institutes and collaborating centres and organize a system of information on ongoing research. Principles for this are already being worked out by the Office. It would be of great assistance if the Office could establish a network of collaborating centres to study and report on environmental toxicological research. However, considerable toxicological research is being carried out by chemical industries which play an important role in developing toxicological research on new chemical substances. It is, therefore, strongly recommended that the Regional Office use this information and organize an exchange of experience through meetings, industry by industry, giving priority to those with especially complicated or urgent environmental health problems: e.g., petrochemicals, polymer chemicals and nonferrous metals. A few particularly important industries should be selected as prototypes for studying methods of predicting potential hazards and necessary control measures designed to safeguard workers, the surrounding population and consumers of the products.

In order to study the health effects of chemical substances, more systematic monitoring should be encouraged, using harmonized techniques, particularly within the UNEP/WHO GEMS programme (Global Environmental Monitoring System). Epidemiological studies of exposed groups, of industrial workers and among the general population should be carried out and, in the light of the Office's experience, a study on the long-term effects of air pollution. They should be planned on a modest scale to allow comparison, as far as possible, with results from comparable studies in other countries.

Research on toxic chemical substances and their health effects is very costly, but the "polluter-pays" principle should be extended to the field of toxicological evaluation.

Legislation exists in several countries on the use and introduction of chemical substances in industry, but the techniques (including toxicity evaluation), to assess environmental hazards are often not available. The Regional Office should therefore promote the collection and distribution of data on health effects of chemical substances and recommend practical methods for testing their toxicity. A number of national and international systems of information on toxic chemicals are now being developed in Europe. The Regional Office should not collect actual data, but rather develop a comprehensive service covering information systems. This is a very urgent problem calling for a quick reaction on the part of WHO.

### 2.2.2 Other factors

The effects on hearing of excessive noise are well-known. However, more information is needed on psychosomatic effects. Studies have already shown the influence of noise on blood pressure, blood circulation and the nervous system. The effects of combined exposure to noise and vibration should now be studied. There is a great need to disseminate the available information and stimulate further research to fill the gaps of knowledge in this field.

Food infections and intoxications have increased in importance in the Region during the last decade. More than 90% of all foodborne ailments are caused by microbiological agents. An increased incidence of infectious diseases caused by salmonella has been reported from several countries and still more than the official figures have probably occurred. Health impairment from food contaminants such as heavy metals and mycotoxins have been reported.

It is important to consider several environmental health factors together as they often occur at the same time. The effects of combined exposure should therefore be studied, the main methods for this being a simultaneous combination of monitoring the environment and studying the health of exposed groups.

## 2.3 Different environmental factors and their control

### 2.3.1 Air

The development of an international system of air pollution monitoring (GEMS) was considered to be of great importance. It was stressed that monitoring should cover both outdoor and indoor air.

In order to evaluate air pollution, it is essential to have standardized methods which should be intercalibrated so that the results obtained by laboratories in different countries are comparable. This is of importance, for example, in the analysis of suspended particles in air, for which a number of methods are at present used, yielding very different results.

It was emphasized that air pollution from new industries should be controlled, in so far as possible at the planning stage, by careful attention to optimum siting and by the installation of suitable equipment. Air pollution from vehicle exhaust gases is now, in several countries of the Region, a major source of air pollution. Its control should be given high priority.

Air pollution from domestic sources continues to be a major problem. The recent energy crisis has called for energy saving, for instance, through the more efficient insulation of houses. This may, however, make for impaired indoor ventilation. The increased cost of oil has led to greater emphasis on the use of coal in some countries, especially where soft brown coal is the most readily available fuel, and this can lead to greatly increased pollution.

It may be possible to predict the health hazards of air pollution for the population at large from experience in places of employment where occupational exposure to particular types of air pollution may well have been carefully studied.

### 2.3.2 Water

WHO has at present both international and European standards for drinking-water quality. It is very important that the Regional Office contributes to the revision and unification of these two sets of standards. Differences between the two sets should, if possible, be eliminated.

Chemicals used in water treatment and chemical pollution from organic substances in small concentration may create health risks. These must be recognized and controlled.

There is a need to establish regulations for water quality where recreational waters are used for water supply to communities. As an example, the recent Austrian legislation on hygiene in bathing places was mentioned.

Ground-water pollution is a very serious problem as contamination may persist for very long periods. Increased ground water pollution is now arising from agricultural activities.

Pollution control of international rivers such as the Danube and of international coastal waters such as the Mediterranean is only possible through international cooperation. The activities of the Office in these two areas were considered to be of the greatest value.

### 2.3.3 Soil

Soil pollution, for instance from heavy metals, oil or pesticides, is a serious problem in many parts of the Region. Preventive measures must be taken at an early stage to protect both soil and ground water. Once pollution has occurred it may persist for a very long period. A particular problem arises with uncontrolled dumping of industrial wastes.

### 2.3.4 Solid wastes

Toxic wastes will present an increasing environmental health risk in the future and the introduction of registration systems for their transport and final disposal should be encouraged.

The increased recycling and reuse of solid wastes also create new occupational health hazards. It is, however, possible to predict these in the light of experience from exposure in the relevant industries. It is important that proper controls be introduced at the planning stage of any such developments.

### 2.3.5 Non-ionizing radiation

Information is much needed on the environmental health aspects of non-ionizing radiation. It was emphasized that the manual in preparation by the Regional Office should be completed as soon as possible and distributed, preferably chapter by chapter, in such a way that it can reach the proper target groups. It was noted that the Office might assume global responsibility for environmental health problems arising from non-ionizing radiation.

### 2.3.6 Ionizing radiation

Following the appearance of a Regional Office report on the health implications of nuclear power production, it is important in the near future that it go on to study the environmental health implications of plutonium technology (fast breeder reactors) and of high level radioactive wastes.

The use of natural materials that emit ionizing radiation should be studied by the Office. Ground waters in certain areas contain high levels of radon and some building materials have been found to be radioactive. The production of certain fertilizers is causing the radioactive pollution of river waters.

### 2.3.7 Noise

Noise is an environmental health factor of increasing importance in modern industrialized society. The great increase of traffic in cities is creating a considerable noise problem. The health effects of noise should be studied and more attention given to the development of control strategies, involving legislation, administration, surveillance, urban planning and the engineering aspects of both vehicle and building design.

Occupational noise is an increasing problem connected with the design of increasingly powerful machines. The technology for satisfactory control is usually available. It is essential that noise prevention be considered at both design and installation stages. Information and education to production and construction engineers, as well as to the consumers are needed.

A noise criteria document is being published by WHO which will provide a background for Regional Office activities. It was considered important that a "companion" document should be produced, perhaps by the Office, to facilitate the implementation of control measures. Noise prevention technology is, for most situations, already available. The importance of adequately distributing information as well as the need for education and training in noise prevention and control was emphasized. It was noted that the Regional Office might take on global responsibility for the environmental health aspects of noise within WHO.

### 2.3.8 Food

Food safety is of continuing concern and controls should be considered as an essential element of environmental protection. As regards foodborne infections and intoxications, knowledge of

preventive measures is largely available and in many countries the necessary legislation exists. However, much more information needs to be distributed to the proper target groups to secure effective implementation. The increasing number of foodborne diseases caused by microbiological agents, especially salmonella, indicates a need for better control in food production and preparation, especially where mass catering is involved. The use of chemicals should not be regarded as a substitute for high standards of hygiene at all stages of food production and distribution. Mass catering has increased in many European countries and, in at least one of them, more than 50% of meals are now served outside the home.

The hygienic standards of personnel employed in food production and mass catering stand in much need of improvement. Pre-employment and regular health examinations for food-handling personnel are compulsory in many European countries. However, there are great difficulties in applying this legislation for several reasons, among others the high turnover of personnel. The Regional Office could usefully convene a working group to review the question of health examinations and to make recommendations covering all categories of food-handling personnel.

With recent developments in the food industry and mass catering, it is important that the Office review the roles of the different professions involved in food control, such as veterinarians, bacteriologists, chemists and health inspectors.

It was emphasized that food control should deal with technical aspects of food production such as mechanical and processing aids and packaging material. It was pointed out that animal feeds have been a source of foodborne infectious diseases. It is essential that their quality be controlled. The health aspects of feed additives, such as antibiotics and hormones, should be further considered.

#### 2.4 Basic sanitation, including human settlements

One of the main problems in basic sanitation is the achievement of satisfactory environmental health standards in smaller communities. Water supply and the disposal of solid and liquid wastes are often unsatisfactory in rural areas. The amelioration of this situation will call for a great effort within the Region during the next decade if the terms of the World Health Assembly resolution WHA 30.33 are to be fulfilled. It was noted that a rapid assessment of the present situation was to be made out by the Office in 1978. Special attention ought to be given to basic sanitation problems in tourist resorts and in areas where there are special difficulties such as arctic and mountain regions and on small islands.

The Regional Office needs to place more emphasis on the public health aspects of housing and settlements. Although there has been a considerable improvement in housing standards in most of the countries of the Region during the last quarter of a century, a number of major problems are emerging. Although high-rise apartment blocks may have excellent facilities and services, they can also give rise to serious psychosocial problems, particularly for families with young children and for old people.

In some countries, a deterioration of city centres is taking place as much of the population moves to the suburbs or to satellite towns. Elsewhere, there has been a rapid movement from the countryside to urban areas with the establishment of persistent slum areas on the peripheries. Low-cost housing for the urban poor, often built by occupants themselves, is often of an unsatisfactory standard.

It is important that the Regional Office provide, on a continuing basis, guidelines on these and other public health aspects of housing and settlements. Gaps in knowledge should be pinpointed and institutes within member countries encouraged to carry out coordinated programmes of research and investigation. The subject area would include indoor climate, noise and psychosocial factors. The results should be disseminated and their use promoted in community planning, which is one of the main means of improving environmental health in human settlements. The findings should also be incorporated, where appropriate, in codes of practice.

#### 2.5 Occupational health services

A Regional Office survey at present in progress has already shown that there is a need to extend occupational health services to small industries as well as to groups of workers employed in non-industrial undertakings, for example, building, long-distance transport, agriculture and forestry. The services should be designed to meet the special needs of individual occupations. Methods of evaluating occupational health services should be developed. Pilot studies should be undertaken, which could also be used for demonstration and training.

Occupational health services can often provide useful "first information" on the effects of new substances as well as on the long-term effects of exposure to toxic substances. By studying the same individuals for a long time, the long-term effects of exposure to chemical substances or physical factors, as well as the effects of combined exposure, may be ascertained through monitoring as well as by using epidemiological techniques.

In many countries, the administration of public health and occupational health are separated. It is essential that close coordination be established at all levels between the occupational and public health services, with comprehensive sharing of experience and data.

In a number of countries, occupational health services have recently been considering psychosocial factors. For instance, a number of large-scale research projects on the humanization of work are being undertaken in the Federal Republic of Germany. There is an increasing need to improve the training of occupational health physicians and other occupational health staff in psychology and other behavioural sciences.

#### 2.6 Environmental health services

Surveys of services within the countries of the Region need to be made, covering all aspects of environmental health including basic sanitation, pollution control, food safety and occupational health.

#### 2.7 Environment impact assessment

It is important at the planning stage to utilize systematic techniques to predict environmental health hazards from new industries or other developments. Guidelines for such assessment should be worked out as a matter of urgency. Impact checklists used by regional planners should include health aspects. A survey of experience in Europe should start with a consultant study, distribution of a questionnaire and finally a working group which the Federal Republic of Germany has offered to support.

#### 2.8 Contingency planning

Recent experience has shown that accidental releases of toxic substances from industrial plants may prove serious for local populations. Health authorities should be prepared for such accidents, and plan for emergency action. WHO headquarters is to undertake a study on this question, to which the Regional Office can usefully contribute with experience from European countries.

#### 2.9 Manpower

The Regional Office needs to study manpower requirements in environmental health and to follow the changing needs of the European countries. Professional profiles should be prepared for various categories of personnel. All sectors of environmental health work require an interdisciplinary approach and special training is needed for environmental managers and decision makers.

One of the main reasons for inefficiency in environmental health management is certainly the lack of middle-level personnel. It is particularly important to envisage the establishment of a category of environmental health officers who would carry out inspection, enforcement and advisory work.

The training of personnel in all environmental health aspects should be supported by the Regional Office. In this connexion it is interesting that a network of institutes or training centres in occupational health has been planned and a survey on occupational health training has been carried out.

#### 2.10 Collection and distribution of information

The distribution of Regional Office documents needs to be improved if target groups are to be more effectively covered. Strong support was given to the production of glossaries covering different aspects of environmental health, as a common language is needed for all those who work in this field.

The manuals on air and water pollution, solid wastes and non-ionizing radiation which are being developed by the Office, were considered extremely valuable. However, manuals may become out of date after some years. The rapid distribution of individual sections, is therefore essential, as is the revision of those parts quickly that are out of date, maybe through a loose-leaf system. After completion of the present series, the period for producing manuals may well be over for the Regional Office and resources can thereafter be utilized for other priorities in the field of environmental health.

It was stressed that a network of collaborating institutions needed to be set up to carry out research and to collate and disseminate information on completed and ongoing research projects. The Regional Office should initiate harmonized and cooperative research in many different sectors of environmental health. The practical application of research results should also be encouraged.

First observations on the effects of new toxic substances should be collected as an "early warning system" (similar to the reporting of side effects of drugs). The Regional Office needs to react quickly to such information, calling small groups of experts together at short notice to evaluate it. The WHO criteria documents on various environmental hazards are proving useful, but there is a need for companion guidelines which will show how the information may be utilized by national authorities, perhaps in the form of codes of practice.

## 1. Main conclusions and recommendations

### 3.1 General aspects

#### 3.1.1 Integration

Environmental factors and their relationship to human health should be considered from all aspects in a holistic manner. An "integrated-systems" approach should be developed.

#### 3.1.2 Coordination

Regional activities in environmental health should continue to be coordinated with those of WHO headquarters and other international organizations. It is important that linkage be established where possible with other programmes of the Regional Office.

#### 3.1.3 Training

Promotion of training for middle-level personnel, such as environmental health officers with inspection duties, should be given priority. Efforts should be made to improve the effectiveness of WHO fellowships, sometimes through group or in-service training.

#### 3.1.4 Information

It would be of great value for the Regional Office to publish surveys of national environmental health administrations and of occupational health and food control services.

Manuals should be published chapter by chapter as quickly as possible. In some cases, a loose-leaf system might facilitate periodic revisions. Attention should be given to more effective distribution so that reports and publications, including manuals, reach all those concerned.

#### 3.1.5 Environmental impact assessment

The Regional Office should produce guidelines for the inclusion of environmental health in environmental impact statements.

### 3.2 Individual subject areas

#### 3.2.1 Toxicology

Methods of evaluating the toxicity of new chemical substances should be harmonized, considering especially a system of prescreening and recommending a number of minimum tests, including quick screening methods for carcinogenic effects. Special attention should be given to testing combined exposure to several environmental health hazards. The Office should use the considerable toxicological information collected by industry, and arrange a series of meetings with specific industries. Toxicity information systems should be coordinated and an early warning system developed for first information on the effects of new toxic hazards.

#### 3.2.2 Air

Harmonized air monitoring should be promoted and standard methods recommended and intercalibrated. More attention should be given to indoor air quality. Prevention and control of air pollution from vehicles should be given high priority. Methods should be developed for assessing the effects on health of air and other forms of pollution from new industrial plants.

### 3.2.3 Water

The WHO standards for drinking-water should be revised and should be globally applicable so far as practicable. Ground-water pollution should receive special attention. Regional Office assistance in developing systems of surveillance and control of the water quality of international rivers and international coastal waters is of great importance. Guidelines for the recreational use of water supply reservoirs, lakes and rivers should be laid down.

### 3.2.4 Soil

Soil pollution from heavy metals, pesticides, solid wastes, etc. is increasing and should be controlled before the problem becomes acute.

### 3.2.5 Solid wastes

The disposal of toxic wastes will present increasing environmental health problems in the future which require the Office to draw up recommendations on control measures and health safeguards.

### 3.2.6 Non-ionizing radiation

The increasing use of non-ionizing radiation justifies continued Regional Office activity in this field.

### 3.2.7 Ionizing radiation

Wide distribution of the recent Regional Office report on the health implications of nuclear-power generation is of great importance. The health aspects of plutonium technology and of high level radioactive wastes should now be investigated. Enhanced natural radiation, for example in ground water and building materials, should be studied.

### 3.2.8 Noise

The control and health effects of traffic noise should be given high priority. The psychosomatic effects of noise should be studied and the results made widely known. Measures for the prevention and control of exposure to noise should be introduced when planning and designing various kinds of new machinery. Codes of practice should be established and training and information services stimulated.

### 3.2.9 Food

Foodborne infections and food contamination should be a major field of activity, particularly in relation to mass catering. The personal hygiene of people working in the food industry and catering staff should be improved through information and education. Health examinations for this group of people are important and new guidelines should be prepared.

### 3.2.10 Basic sanitation

The standards of water supply and disposal of wastes in small communities should be surveyed in order to collect information as a background for further Regional Office activities. The health aspects of human settlements need to be investigated with a view to preparing codes of practice.

### 3.2.11 Occupational health services

The coverage of occupational health services needs to be improved in many countries, especially where small industries and non-industrial undertakings are concerned. Methods of evaluating occupational health services should be developed and pilot studies on the services for small industries should be initiated. Information is obtainable from occupational health services on the effects of new toxic substances, the long-term effects of exposure and on epidemiological studies and public health services should be encouraged to use this for general environmental control.

AGENDA

1. Introductory remarks
2. Review of existing environmental health promotion activities in the context of:
  - (a) the overall programme of the WHO Regional Office for Europe
  - (b) international environmental programmes
3. Detailed discussion and evaluation of individual sectors:
  - (a) control of environmental pollution
  - (b) basic sanitation
  - (c) food safety
  - (d) occupational health
  - (e) training
4. Discussion on future activities
5. Conclusions and recommendations

LIST OF PARTICIPANTS

TEMPORARY ADVISERS

- Dr P. Benedek  
Head, Institute for Water Pollution Control, Research Centre for Water Resources Development,  
Budapest, Hungary
- Dr J. Bouquiaux  
Institute of Hygiene and Epidemiology, Brussels, Belgium
- Professor K.A. Buštueva  
Head, Department of Community Hygiene, Central Institute for Advanced Medical Training,  
Moscow, USSR
- Dr W.H. Goerke  
Federal Ministry of the Interior, Bonn, Federal Republic of Germany
- Professor J.A. Indulski  
Director, Institute of Occupational Medicine, Lodz, Poland
- Dr Judith Lang  
National Institute for Research of Heat and Noise Technology, Vienna, Austria
- Dr J. Nilsson  
Head, Research Department, National Swedish Environment Protection Board, Solna, Sweden
- Dr H. Findur (Chairman)  
Director-General, Ministry of Health and Environmental Protection, Vienna, Austria
- Professor F. Pocchiari  
Director-General, Istituto Superiore di Sanita, Rome, Italy
- Dr J. Rantanen  
Director-General, Institute of Occupational Health, Helsinki, Finland
- Professor T.A. Tashev  
National Institute of Hygiene and Nutrition, Sofia, Bulgaria
- Dr G.F. Wilmink  
Cabinet Adviser, Ministry of Agriculture, The Hague, Netherlands

CONSULTANT

- Professor S. Forssman (Rapporteur)  
Arbejdstilsynet, Direktoratet, Copenhagen, Denmark

WORLD HEALTH ORGANIZATION

Regional Office for Europe

- Dr F.A. Bauhofer  
Director of Health Services
- Mrs B. Blomberg (Secretary)  
Technical Officer, Promotion of Environmental Health
- Mr E. Giroult  
Regional Officer, Basic Environmental Services
- Mr J.I. Waddington  
Chief, Promotion of Environmental Health