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FIRST COMMUNICATION OF THE COMMISSION
ABOUT THE COMMUNITY'S POLICY ON THE ENVIRONMENT

PREFACE

The present document is the Commission's first communication on the whole field of environmental problems. It is intended for transmission to the appropriate authorities and also to the economic and professional circles concerned in both the Member States and the candidate countries, with a view to obtaining any useful comments and suggestions.

It is also being forwarded for information to the European Parliament, the Council and the Economic and Social Committee.

On the basis of the information obtained, the Commission will later draft concrete proposals for the Council concerning fulfilment of the aims set out in the communication.

Initial Communication by the Commission on the Community's
policy with regard to the environment

I. The Community and Environmental Problems

1. A general outline of environmental problems

The protection and improvement of the environment - i.e., taking a generally accepted definition, all the elements which, interacting in complex fashion, shape the world in which we live and move and have our being - is one of the most urgent and formidable tasks now facing the Community and its Member States as well as all highly industrialized countries.

At one and the same time, and as soon as possible, studies and research must be carried out, and decisions taken and implemented which will make it possible:

- to limit (and, wherever possible, eliminate) the effects of technical progress, and economic and social activity generally, which are harmful to the environment, while ensuring that the fight against pollution does not turn into a fight against economic growth and progress in general;
- to conserve natural resources which already are or may become scarce, even wasting commodities, by keeping ecological systems in balance and protecting the biosphere;
- developing areas in order to combat, in particular, the harmful consequences of the increasing concentration of the population in towns;
- to indicate lines along which future advances are to be made - new lines if necessary - so as to meet man's real needs - no longer expressed merely in quantitative terms, but also in qualitative terms.

The increase in production and consumption, the efficiency of modern methods and technologies, the rapid growth of the urban areas, the faster rise in the population, all of which result from or reflect economic progress, are being accompanied more and more frequently by damage to our natural resources and environment, while at the same time there is a decline in well-being, which should nevertheless be the aspect to benefit most from such progress.

2. The rôle of the Community

2.1 The improvement of living conditions

Consequently, the Community and its Member States must not only exercise increasing vigilance over the harmful aspects of the changes taking place, but also make the necessary efforts to ensure that the economic and social advances secured for them by their joint action produce both a rise in the standard of living and a continual improvement in living conditions¹. Improvement of the quality of life, through effective pollution control, and of man's environment is now a primary aspect of the "harmonious development of economic activities throughout the Community", a task laid upon the Community by Article 2 of the Treaty.

The Council and the Governments of the Member States reaffirmed their determination to pursue this objective as recently as 9 February 1971, in the Third Medium-Term Economic Policy Programme.

Chapter One, Section C of that Programme contains the following statement: "The Community's economic policy cannot be confined to the pursuit of the combined aims of growth and stability. It becomes meaningful to the extent that it contributes to improving living conditions; it must aim simultaneously at raising the standard of living and improving the quality of life; it must also help to bring about greater stability which benefits the most underprivileged social categories".

¹The Preamble to the EEC Treaty states: "the High Contracting Parties... affirm as the essential objective of their efforts the constant improvement of the living and working conditions of their peoples".

Rather than simply seeking a compromise between a policy of economic growth and a better environment, the Community and its Member States must henceforth direct their efforts towards the adoption of a new attitude: paying more attention to the qualitative than to the quantitative aspects of technological progress, taking account of the social cost of damage to the environment, integrating ecological factors into economic programmes and decisions, accepting the financial sacrifices required by the fight against pollution and by improvement of the surroundings in which we live our lives, adapting existing institutions so as to enable them to tackle and solve problems that often go beyond the scope of traditional political and economic frameworks. In an increasingly populous, urbanized and industrialized society, the environment can no longer be viewed just as an external medium to whose noxious influences we have to submit, but as a datum indissoluble from the organization and promotion of the progress of mankind. The conservation and improvement of the environment are truly a civilizing duty, and are henceforth to be among the essential tasks of the European Community.

2.2 Specific economic and regional tasks

It is also worth recalling that the solution of the problems arising out of environmental damage and deteriorated living conditions also concern the Community for reasons more specifically related to particular tasks assigned to it by the Treaties.

Both the nature of pollution, which is no respecter of frontiers, and the economic and commercial consequences of measures intended to eliminate it require such measures to be taken at an international level, and at Community level in the first place. The expenditure necessary to eliminate, or merely reduce, nuisances will be considerable in some cases. The fight against pollution will call, in particular, for research and development work, the establishment of observation and monitoring networks and new investment by industry (for laboratories, purification facilities, new production plants, etc.). The more stringent the maximum permissible levels laid down by the public authorities, the higher will this expenditure be. Consequently, the

measures taken by a country may handicap certain sectors of its economy and industry in relation to competitors showing less concern about the harm due to nuisances or having different ideas as to how the cost of the fight against pollution should be shared.

While it is as well to preclude such distortions by international agreements, it is particularly urgent, and essential, to do so within a Community which already constitutes a single market and intends to establish an economic union. Indeed, any disparities between the measures taken in the various member countries which may reflect a different assessment of either the effects of pollution, the objectives, or the allocation of the costs due to the fight against pollution would inevitably result in distortions of conditions of competition and investment which would be incompatible with the proper functioning of the common market.

Likewise, disparities between laws, regulations or administrative provisions relating to substances liable, either in themselves or through their use, to cause certain nuisances create technical barriers to trade which must be removed in implementation of the requirements of the EEC Treaty as regards the Member States and, where necessary, between the Community and non-member countries through international agreements.

Moreover, the growth of industrial and agricultural activity, the expansion of the urban population (living in towns of ever-increasing size), the use of ever-wider areas for leisure and recreational purposes all generate a particular need for the rational development both of space from a geographical and economic standpoint and of natural resources. The latter, which have hitherto been regarded as unlimited and free, will henceforth be scarce and expensive commodities which should be safeguarded and conserved.

Further changes of a technical, economic and sociological nature are now taking place which must be prevented from having any destructive effects on the quality of the environment, and which should rather be used to improve and develop it. The scope of these changes over the

coming years makes it reasonable to think that the quality of the natural and urban environment that will be enjoyed by Europeans in two or three decades may be greatly affected, for the better or worse, by the policies pursued at the present time - with all the favourable or unfavourable consequences that may arise as regards social equilibrium and civilization.

The Community must direct careful attention to these problems forthwith, in view of its high average density of population¹, the speed of the changes now in progress and the length of time taken to formulate and implement development plans based on thorough-going forward studies.

The extensiveness and natural diversity of its regions and terrain which characterize the Community, the uneven distribution of population and economic activities over those regions², the removal of obstacles to the free movement of persons, services and capital as laid down in the Treaty mean that solutions must be found at Community level to the environmental problems facing all the Member States.

Lastly, problems like the cleaning-up and development of rivers and waterways, e.g., the Rhine and its tributaries, passing through a number of Member States, or the fight against the pollution of seas such as the Mediterranean and the North Sea, which are the common heritage of all the Member States, are immediate and urgent. Such an undertaking can only be carried through properly by formulating and implementing joint decisions on the objectives sought, the solutions required and the means to be used.

¹An average of 163 inhabitants per km², one of the highest densities in the world for such an extensive area.

²The density of population varies from over 1,000/km² in the Randstad, Holland (the Western Netherlands conurbation) and the Ruhr, to 33/km² in the Val d'Aosta and 15 in the Basses Alpes département of France.

II. General Action Programme

1. A Community environmental action programme, both wide-ranging and concrete, is needed if the aims and tasks defined above are to be fulfilled. In particular, such a programme should include the following points:

- (1) The introduction at Community level of regulations aimed at reducing or removing the hazards to human health and welfare which are due to pollution or nuisances. This would make it possible to protect the health of the people and the quality of the environment in the Community, while avoiding the creation of fresh barriers to trade or the distortion of conditions of competition between Member States.
- (2) The organization, starting from the existing national facilities, of a Community observation network covering water, air and soil pollution, and the setting-up of a joint centre for processing the data thus acquired in order to provide the Community and its Member States with full and comparable information on pollution levels and to ensure effective supervision of the application of the common regulations.
- (3) The institution of a coordinated research programme, possibly with a Community contribution towards the cost of implementing it, in order to:
 - improve the understanding of pollution phenomena; this is necessary in order to introduce the Community regulations mentioned under point (1) above;
 - improve the measuring methods and techniques mentioned under point (2) above;
 - carry out research and development on new industrial products and processes causing less or no pollution.
- (4) Cooperation between the Member States with a view to harmonizing and strengthening, on the one hand, supervision of the observance of anti-pollution regulations by private citizens and, on the other hand, measures to deal with infringements of such regulations.

- (5) The possible granting of financial inducements for attempts to combat pollutants in specific regions or sectors.
- (6) The preservation and improvement of the Community's open spaces, resources and natural environment, notably as part of regional and agricultural policies.
- (7) The promotion and development of certain regions of benefit to the Community generally (e.g., the Rhine basin and the coasts) and financial contributions towards the establishment and running of supervisory and development agencies for these regions.
- (8) The involvement of the Community as such in the work of international organizations aimed at the preservation of the world's natural wealth and preventing impediments to international trade. Action of this kind would be a means of securing the specific interests of the Community.
- (9) Studying the advisability of setting up a European Institute for the Environment, with due regard to the various steps being taken in the Member States. The task of such an institute could be that of ensuring coordination at Community level of the studies and research undertaken in the Community in the field of environmental conservation, for the purpose of:
 - promoting more radical thinking about the improvement of living conditions, by means of studies or seminars and conferences, and developing a model for European civilization;
 - taking stock of the Community's natural resources and preparing an overall plan for their long-term management and development;
 - collecting, processing, supplementing and disseminating information and data relating to the environment, particularly information on new techniques and processes which could be used to reduce pollution;
 - holding training courses, particularly for post-graduates, in this field.

2. Ways and means

In order to carry out this programme the Community must not only be able to rely on the work done and the infrastructures existing at national level, but also have at its disposal, at Community level, appropriate legal instruments and funds.

2.1 Legal instruments

The Treaties provide the Community with very few such instruments. A detailed analysis of the activities already carried out by the three Communities in the environmental field is given in Annex A to this document, which shows that the Communities are not entirely lacking either in a certain experience or in all powers to act to protect and improve the environment¹. The analysis makes it quite clear, however,

¹The analysis may be summed up as follows:

- From the legal angle, Articles 54 and 55 of the ECSC Treaty make it possible to facilitate the conduct of investment programmes and provide incentives for technical and economic research with regard to the production of coal and steel and the expansion of consumption thereof, or to safety at work in those industries.

The Euratom Treaty contains a whole chapter (Chapter 3) on the protection of health against the dangers from ionizing radiation, which provides for the institution and periodic revision of basic standards, ensuring compliance with these basic standards and the monitoring of radioactivity levels in the soil, air and water, the delivery by the Commission of opinions on proposals for the disposal of radioactive waste and the Commission's having power to issue directives in cases of urgency, and the establishment of a health and safety documentation and study section.

The EEC Treaty, in Article 100, confers on the Council, acting unanimously on a proposal from the Commission, power to issue directives for the approximation of such laws, regulations or administrative provisions in Member States as directly affect the establishment or functioning of the common market. Such direct effects may be due to either differences between laws, the fact that certain laws in force in some Member States have no equivalent in others and thus engender technical barriers to trade (and the Council has drawn up a general programme for the elimination of such barriers), or that the requirements with which the undertakings in a given sector in one Member State should comply may change their competitive position in relation to undertakings in States in which similar requirements are not laid down. Articles 101 and 102 can also be invoked in certain cases.

- Regarding financial resources, the ECSC Treaty permits loans to be granted or guarantees to be given in the coal and steel sectors in order to facilitate investment programmes and for financing research, notably by appropriating funds accruing from the levies prescribed in Article 50.

The Euratom Treaty makes provision for the financing of research under the research and training programme.

Lastly, contributions from the EAGGF towards the cost of such measures as grants for leaving the land, investment aids, and aids to vocational retraining can assist with the development of areas intended for recreational purposes and help to conserve the natural environment in certain regions, e.g., the mountains.

that the measures available to the European Community, although not inconsiderable, are limited to particular sectors and problems and, furthermore, differ in nature and scope as between Treaties.

In the case of the EEC Treaty, the existing provisions of Articles 100, 101 and 102 permit only an indirect and incomplete attack on problems of environmental conservation.

Article 100 empowers the Community to issue directives only where laws, regulations or administrative provisions directly affect the establishment or functioning of the common market. That article is not aimed specifically at the protection of health or the enhancement of social welfare.

Moreover, it gives the Community power to step in only when the matter has already been settled by national provisions. In addition, it lays down a procedure for the formulation of directives which requires a large number of expert opinions to be obtained at both Commission and Council level and which therefore, as practical experience has shown, is inevitably very slow despite the efforts made. Again, the formulation of directives generally results in the acceptance of compromises which are not conducive to achieving the essentially humanitarian and social aims of environmental protection.

Hitherto, interpretation of Article 101 has derived from the Spaak Report, namely, that the article in question concerned only "specific" distortions. For a specific distortion to exist, certain undertakings or industries in a given State must be placed at an advantage or disadvantage in relation to the other economic transactors in that country and no similar difference in treatment must obtain in the other Member States. Like Article 100, Article 101 cannot be used to initiate anticipative action.

Article 102, on the other hand, does give the Commission power to intervene where there is reason to fear that the enactment or amendment of a national provision may cause distortion of the conditions of competition; in point of fact, application of this article results merely in the formulation of a recommendation to the Member States to take equivalent measures.

It is therefore apparent that the powers available to the Community are not geared to coordination of the Member States' law- and regulation-making activities with the urgency needed for the protection of human health and the environment and before these activities find expression in barriers to trade or in the distortion of conditions of competition.

In order to enable it fully to achieve the objectives set forth in the foregoing passage, the Community should have the power to issue provisions governing these matters which would be directly applicable in each Member State and which, once adopted, would supersede the existing national provisions or fill gaps in national legislation.

2.2 Financial resources

Provision is made in the Treaties for the funding of certain specific activities concerning:

- the protection of the health of the population and workers against dangers from ionizing radiation (Chapter III of the Euratom Treaty);
- safety at work in the coal and steel industries (Chapter III of the ECSC Treaty);
- projects for developing less developed regions, modernizing or converting undertakings, and projects of common interest to several Member States, financed through the European Investment Bank (Article 130 of the EEC Treaty).

The EAGGF also finances certain aids which can assist in improving the environment (see page 9, last paragraph).

Lastly, the Commission has requested funds, under the Euratom multiannual research programme, for certain pollution research projects.

* * *

As with the legal instruments, therefore, the funds at the disposal of the Community for the environment are earmarked for specific and partial measures. At present the Community has no means of financing schemes aimed at improving and protecting the environment. The Commission considers it necessary for the Community to have the use of appropriate budgetary resources to help to carry out the above-mentioned programme.

In conclusion, as has been pointed out previously, the qualitative improvement of living conditions through an effective fight against nuisances and improving the environment is now a leading aspect of the "harmonious development of economic activities throughout the Community", the task assigned to the Community by Article 2 of the EEC Treaty. This task must, in conformity, moreover, with the case law made by the Court of Justice, be interpreted in a manner evolving in harmony with the current economic factors, of which environmental problems are today undoubtedly a part.

The Commission therefore feels that, where the Treaties do not expressly provide powers to act to this end, use should be made of Article 235 to give the Community direct regulation-making power over environmental policy and to implement the general action programme (set forth on pages 7 and 8 of this document) which, apart from a very small number of items, cannot be fulfilled with the powers to act as specified in the Treaty. If measures transcending those which can be based on Article 235 were to be taken, the Commission would have to make use of Article 236.

The following pages set out certain subjects for action on which, in the opinion of the Commission, preliminary work could begin immediately, concurrently with the steps required to give the Community the powers needed to carry out the general programme.

III. Priority Measures

The complexity of environmental problems, as recapitulated above, and the need to study them both thoroughly and rapidly in order to find

overall solutions at Community level have resulted in the Commission formulating five priority measures which are to be initiated immediately:

- reducing the concentration of the most dangerous pollutants in air and water;
- reducing pollution due to the use of certain substances available through commercial channels and to substances arising out of industrial production processes;
- improving our knowledge of pollutants (their origin, spread and effects), particularly with a view to achieving the foregoing objectives;
- developing and improving open spaces and the natural environment;
- basic studies needed for better understanding, identification and solution of environmental problems not referred to in the foregoing.

These measures will be backed up by greater participation by the Community in the work of international organizations and by cooperation with non-member countries.

1. Reducing the concentration of some of the most dangerous pollutants

1.1 Pollutants selected for action

Of the many pollutants in existence, some can be earmarked for immediate action, in view of their particular harmfulness and current knowledge of their origin, spread and effects on man and his natural environment. The pollutants in question are:

- (in air) - sulphur dioxide and particles in suspension;
- lead;
 - photochemical oxidants and oxides of nitrogen;
 - carbon monoxide;
 - carcinogenetic substances (notably carcinogenetic hydrocarbons).

- (in water)¹ - phosphates and their nitrogenated derivatives;
- hydrocarbons and phenols;
- effluents of urban origin;
- micropollutants;
- thermal effects.

With each of these substances or pollutants, considered separately or in combination with the others, the aim will be to establish common methodology with a view to laying down the basic levels for the Community.

As regards water pollutants, criteria and indices (see paragraph 1.2 below) will be determined in the light of the various uses to which water is put (drinking water, water for agricultural or industrial purposes, liquid waste of urban, agricultural or industrial origin, river and lake water for fishing, fish-farming, sports and recreational purposes) and the maximum assimilative capacity of hydrological systems.

The first phase will involve standardizing the criteria and indices for liquid wastes, in view of their effect on production costs in both industry and agriculture.

1.2 Application of common methodology

It is essential to use an approach and methods of assessment accepted by all if a joint effort is to be made at reducing environmental pollution in the Community. The following procedure should be envisaged:

- (a) laying down criteria (or controls) for establishing the nature and scale of the harmful effects of pollutants on man and his environment;
- (b) harmonizing of methods of measurement and of interpreting the measured data;

¹It should be pointed out that problems relating to the radioactive contamination of the environment are dealt with at Community level, in compliance with the provisions of the Euratom Treaty.

- (c) determining indices, i.e., levels (concentration of, exposure to and absorption of pollutants) corresponding to certain specific effects on man and his environment¹;
- (d) the adoption of minimum provisions relating to public health, based on the above-mentioned criteria and applicable throughout the Community, possibly with more severe provisions on the quality of the environment which would be applicable at regional or local level and would differ as between regions;
- (e) the establishment of a common methodology for determining the appropriate level (regional, national or Community, as the case may be) of emission standards which will ensure compliance with the foregoing provisions;
- (f) organizing a Community network for the observation and monitoring of the quality of air and water, and the institution of appropriate measures for monitoring emission standards;
- (g) periodic review of the criteria, indices and provisions in order to bring them into line with the advance of knowledge and scientific progress.

In the implementation of these tasks the greatest possible use should be made of the results of work already done on the subject of human health and conservation of the natural environment, both in the Member States and internationally. The present status of knowledge as regards the pollutants earmarked for action is set forth in Annex B, together with the proposed methodology.

2. Measures to combat pollution due to the use of certain commercially available products and certain industrial and agricultural processes

2.1 Measures relating to pollution due to certain commercially available industrial products

The Community must permit the Member States to bring in the anti-pollution laws and regulations necessary for the protection of

¹Indices will be divided into two classes, namely:

- those relating to the effects of pollutants on human health, depending on concentration levels and exposure times;
- those relating to effects on organisms other than man, or on biological processes adopted as reference criteria for assessing the deterioration of the quality of natural resources and of natural purification and regenerative systems.

human health and the environment, but without prejudice to freedom of trade and conditions of competition.

Until such time, therefore, as Community provisions can be instituted directly, the Commission considers that it is advisable:

(a) to initiate, without delay and as a matter of priority, the procedure specified in the general programme for the removal of technical barriers to trade in respect of the following products:

- dangerous preparations - solvents;
- dangerous preparations - pesticides;
- fertilizers;
- diesel-engined vehicles;
- detergents;
- oil pipelines;
- gas pipelines;

(b) to speed up this procedure, while endeavouring to minimize the time taken to prepare and process the files, and to finalize the directives as rapidly as possible;

(c) to add the products listed below to those already included in the general programme for the removal of technical barriers:

- aero-engines (as regards noise and pollution);
- steam-driven locomotives and tractors;
- packagings;
- machines and equipment for the manufacture of cellulose pulp and the manufacture and finishing of paper and board (water pollution - smells);
- machines and equipment for the dressing and working of hides and skins (water pollution - smells);
- machine-tools for working stone, ceramics, concrete, asbestos and similar materials (air and water pollution).

2.2 Measures relating to pollution due to industrial production processes

Compliance with the rules and regulations to which manufacturers will be subject, as regards both the composition of certain marketed products and the use of certain manufacturing processes, will involve industry in serious economic consequences which should be studied at Community and, if necessary, international level. In certain special cases the fight against pollution will involve industries in considerable capital expenditure. Care should be taken to ensure that identical principles are applied in the assignment of additional expenditure in the Member States. Should it become apparent that aids are required, owing, for example, to the specific situation of certain firms or the conditions of international competition, such aids should be harmonized by the Commission, acting on the basis of Article 92 of the EEC Treaty, and possibly be granted at Community level.

The Commission proposes to ascertain, in conjunction with the interested parties, the pollution control measures required and to study their economic and commercial consequences, particularly in the following industries:

- the steel industry (where research on brown fumes, carried out as part of the ECSC research programme, can be put into operation immediately) and the metal-working industry generally;
- the paper and pulp industry (in close collaboration with the OECD);
- the chemical and petrochemical industry;
- the power generating industry.

The principle according to which any new plant of a certain size should not only meet the emission standards referred to above but also use the most effective processes, techniques and equipment for reducing pollution should be discussed with the interested parties.

The Commission, for its part, will ensure when granting the financing facilities at its disposal, or on which it delivers an opinion (the Social Fund, EIB, the ECSC levy, EAGGF), that greater consideration is given to matters regarding the conservation and improvement of the environment.

2.3 Measures relating to pollution due to substances used in agriculture

Agriculture's contribution to environmental pollution stems chiefly from the use of certain persistent insecticides of the chlorinated organic type, certain herbicides in the phenoxyacetic acid group, and certain fertilizers. Currently several countries are taking, or plan to take, controlling measures aimed at banning or restricting the use of these products. Since 1963 the Council has adopted a number of regulations regarding colorants, preservatives and anti-oxidants in foodstuffs, and additives in animal feedstuffs.

Since 1968, proposed regulations dealing with residual pesticides in fruit and vegetables, as well as undesirable constituents of animal-feedstuffs, have been submitted by the Commission to the Council, where they are currently under discussion. Other proposals, concerning in particular residual pesticides in cereals, regulations governing the use of substances with oestrogenic and thyrostatic action and also the approval and distribution of phytopharmaceutical products are being studied by working parties of the Commission with a view to submission to the Council. As in the case of the industrial products referred to in Section 2.1 above, it would be appropriate to speed up the procedures in order that these regulations can be implemented without delay.

The Commission is currently examining the feasibility of using rapidly degradable pesticides in place of some persistent ones, as well as the feasibility of employing biological control, integrated control (of pests and disease) and husbandry techniques enabling the use of chemical pesticides to be reduced. It proposes to submit to the Council a directive calling for the banning of the use of certain persistent chemical pesticides.

The pollution of water by fertilizers gives rise to intractable problems owing to the virtual impossibility of imposing quantitative restrictions on the use of these substances. The production of fertilizers which expose the environment to the fewest possible hazards, particularly fertilizers with low solubility in water, should therefore be promoted.

It is difficult at present to assess the economic repercussions of the capital investment needed for developing these new methods of controlling pests and raising soil fertility, and of the possible drop in the efficiency of some forms of agricultural production, or even of a rise in food prices owing to the use of more expensive substitute products.

Community action in this field must be allied with a thorough appraisal of ways of offsetting the resultant additional costs for agricultural producers, whose income is underpinned by the public authorities by means of a market and price policy covering the great majority of agricultural products.

3. Enhancement of knowledge and operation of a coordinated research programme

The establishment of criteria and indices, and the introduction of general and regional provisions bearing on public health and the quality of the environment, will require a thorough knowledge of pollutant substances, their spread and their effects on man and his natural environment. Further research work will undoubtedly prove essential to that end. Likewise, both the formulation of these standards and their enforcement will make it necessary to devise and introduce effective methods of measurement, recognized by all parties, and to develop new equipment.

Furthermore, new products to replace pollutants, or new processes, can only be discovered by means of intense research which, in view of its cost and scale, should in most cases be coordinated at international and, first and foremost, Community level. Examples of this are research projects aimed at making profitable use of biological pest control, integrated control and farming methods with which the use of chemical pesticides can be cut down.

In addition to the research projects that it suggests be carried out at the Joint Research Centre as part of its multiannual research and training programme, and the anti-pollution projects that emerge from the work of the COST Working Party, the Commission will shortly put forward a coordinated programme of pollution research for the Community.

4. Development and improvement of open spaces and the natural environment

4.1 Guidance of and participation in projects carried out under regional policy

The dovetailing of environmental problems into regional development and planning policy, which mobilizes the various instruments of economic and social policy in order to restore balance to the Community's activities (cf Annex A, Section 3.2.2), has three facets:

- the conservation, improvement and management of a high-quality environment;
- 'upgrading' the environment by means of development projects which show concern for it;
- settlement of communities in such a way as to prevent or reduce the concentration of population or activities into small areas.

Intervention by the Community is useful, if not essential, on all three counts, for, on a Community even more than a national scale, it is both necessary and possible to promote some adjustment of the current unevenness in the Community's population distribution by redirecting certain activities, particularly to coastal and mountainous regions or areas with a favourable climate, a move which, in turn, is likely to facilitate rehabilitation of the environment in regions hitherto overburdened.

Action by the Community is to take the form of direction and implementation of policy.

- (1) The Standing Regional Development Committee, which the Commission has proposed be set up, is intended to provide, by its Community-wide coordination work on regional development plans and by defining coordinated objectives for regional development, better integration of each country's environmental needs and resources, bringing them into overall balance which will not only conserve the environment, but also improve it in quality and develop its use.

- (2) In examining the regional development plans submitted to it, and in its contributions towards financing them, the Commission will take account of the measures required in order to ensure that in the regions in question the environment is improved and at the same time can become a source of wealth.

One of the first applications will concern the implementation of development plans in regions which have hitherto been primarily agricultural, whether mountainous, coastal or consisting of open country with a limited agricultural potential but of high scenic quality.

- (3) The Commission proposes to conduct, in collaboration with the Member States, forward studies on regions whose nature makes them of particular interest to the Community - coastal areas, conurbations, and developing rural areas.

The problems here are inherent in the existing type of industrial civilization, which arise in a similar form in the various Member States and which it will be especially beneficial to study in common because the solutions to them will often need to be harmonized under common or coordinated policies. The results of the studies undertaken will provide guidelines for action both by the regional and national planning bodies and by the Community.

Priority has already been accorded to the examination of regional development plans of this kind produced by the Member States for the major peripheral regions, frontier regions and declining regions. However, these regions contain many of the areas in which the environment must be either restored (e.g., areas with old industries), or conserved and developed with a view to use by larger numbers (e.g., areas in which the chief activity has hitherto been agriculture with low or medium productivity).

4.2 Development and conservation of rural areas as part of agricultural policy

Farmers already perform a useful function in maintaining the quality of the soil and landscape. The interests of society as a

whole will be served by extending that function, subject to appropriate remuneration. In certain agricultural regions consideration must be given to the creation of new activities linked with tourism and capable of providing additional income for certain farmers or new jobs for those who have left the land.

4.2.1 Development of the natural environment and provision of recreational areas

The need increasingly felt by city-dwellers for places of relaxation and rest in a natural setting makes it necessary to re-examine policies whose effects determine the use of the open countryside, particularly in densely populated regions. Traditional measures in agricultural policy were generally aimed at increasing the area of land used for farming, without taking account of other considerations.

This traditional policy can now be changed, however, in view of the marked rise in output and the precarious balance on agricultural produce markets, and measures taken to increase the use of former farmland for non-agricultural purposes and thus fulfil the new needs.

The Commission's recent proposals in the context of agricultural reorganization can contribute towards this change of emphasis.

Directive B, on incentives for leaving the land and the reallocation of farmland used for the purpose of improving the structure of agricultural holdings, lays down a new rule, namely, that grants for leaving the land are conditional upon the land thus made available being reallocated not only for enlarging the size of other holdings but also for non-agricultural purposes such as afforestation, recreational and leisure areas, national parks, etc. These aids are partly financed from the EAGGF.

As regards afforestation, the Commission intends to submit to the Council a directive calling for contributions from the EAGGF towards the specific incentives, in order that part of the land released may be afforested under regional programmes for developing open spaces, drawn up in such a way as to recognize the needs of city-dwellers.

The Commission has decided to investigate the possibility of the EAGGF being used to finance certain development projects carried out by farmers or ex-farmers.

4.2.2 Conserving the natural environment in regions used for tourism

While the creation of new recreational areas on former agricultural land meets the needs of certain parts of the Community, in others there is a problem in conserving an existing natural heritage which is essential if their tourist potential is to be realized. Cases in point are mountain regions.

The study undertaken recently by the Commission on this subject shows that the remarkable growth of tourism, the social character of which is becoming increasingly pronounced, coincides with the drift away of local populations.

The maintenance of a minimum farming population in certain regions warrants special support measures, unrelated to the usual standards of productivity which most mountain farms cannot meet because of natural conditions.

In addition to the measures already proposed as part of agricultural reorganization (see Annex A) and regional policy (see Section 4.1 above), the following forms of action will be studied and implemented, initially, in mountain regions:

- Incentives for investments made by individual farmers or groups of farmers, with the aim of developing a tourism-based activity as a means of obtaining additional income.
- Grants for creating jobs connected with tourism, reserved for farmers in mountain areas.

Furthermore, the adoption by the Council of the Commission's proposal on aids financed by the EAGGF for creating jobs in all regions which are less favoured from the agricultural angle but possess high-quality landscapes will probably help to arrest the drift of population away from these areas.

4.3 Specific measures to combat water pollution in the Rhine basin, the Mediterranean and the North Sea

Two cases of ecological damage, out of many, are now seen by public opinion throughout the Community to be particularly dangerous and to call for Community action. Pollution in both the Rhine basin and the Mediterranean has reached such a level that protective measures are urgently necessary.

On the pattern of the studies on radioactivity in the Rhine conducted from 1963 to 1968, the Commission proposes to carry out a monographic study of the Rhine hydrological basin, using common methodology and based on common guidelines, after first obtaining the backing of the experts and bodies concerned, notably the International Commission for the Protection of the Rhine against Pollution.

Once the data required to analyse and assess the situation are in its possession, the Commission proposes to hold a conference on the pollution of the Rhine, in collaboration with the above-mentioned International Commission, in order to lay down, on a joint basis:

- (1) the use of the waters of the various portions of the Rhine and its tributaries;
- (2) standards for these uses, based on the results of the procedure referred to in Section 1.2 above;
- (3) the measures required to ensure effectual enforcement of these standards, both as regards the checks to be carried out and any financial measures to be implemented.

Likewise, the Commission will support, and may take the necessary initiatives for, the elimination of pollution from the Mediterranean and the North Sea.

Marine pollution in its different forms, its origins, consequences and the countermeasures called for are being examined and studied by a large number of organizations and institutions in the Member States, non-member countries and international organizations.

The Commission proposes, firstly, to review the present status of the work in hand, study the solutions suggested and the recommendations already formulated (particularly those relating to the pollution of seawater by the release of hydrocarbons, chemical pollution due to pesticides, detergents and heavy metals, pollution caused by urban and domestic waste, and the dumping of industrial waste products).

In the second stage of the exercise, the Commission will contact the most suitable organizations already well acquainted with the specific problems inherent in pollution of the Mediterranean and the North Sea in order, where necessary, to speed up and amplify their investigations into the origins of the pollution of these seas and their shores and the means of fighting it.

The third stage will consist of discussions with the States bordering on these seas concerning specific measures to be taken to contain, forestall, monitor and alleviate the present state of pollution, safeguard marine flora and fauna and develop certain regions on their shores as areas specially designated for tourism and recreation.

5. Specific studies

The measures described in the foregoing section will be a step towards solving the most pressing problems posed at Community level which are already sufficiently well understood for a coherent plan of action to be drawn up for implementation within a comparatively short time.

However, an overall Community policy for environmental problems as formulated in Chapter II requires considerable thought and specific studies aimed at collecting, collating, processing, checking and amplifying the available data.

The following five additional studies are intended to fulfil these requirements and provide guidance for future action by the Community:

- (1) Firstly, a schedule should be drawn up, and continuously up-dated, of all laws, regulations and administrative provisions, both binding and mandatory in character, which are in force at local, regional,

national, Community or international level concerning the environment and the protection of man and his natural environment. At the same time, the implementation of the laws and regulations in force must be critically reviewed. This will be done by the Commission, in close collaboration with national experts. The aspects studied will be the laws relating to the prevention of pollution of water, air and the soil (waste products).

- (2) Another subject for study will be the problem of waste and its disposal. Here a solution can be found only by guiding industries towards easier re-use of consumer products (by making their recovery economically worth while), greater ease of disposal of certain persistent and non-degradable substances, such as plastics, and the recycling of toxic industrial by-products.
- (3) The Commission also proposes to carry out in collaboration with the Member States a forward geographical and economic study on the maritime and mountain regions of interest to several Community countries and, in some cases, non-member countries. The subject will be the future use of the coasts washed by the Western Mediterranean and of the Alps, which, taken together, form a region of great importance to tourism and the economy generally, as well as being part of a common natural heritage.

The rise in the numbers of tourists visiting the coastal regions coincides with a major and haphazard increase in the scale of industrial and commercial activities, which may jeopardize their beauty and natural charm. The need for forward studies of the expected development of these regions over the next 20 years is therefore apparent.

A similar study on the Alpine regions also seems desirable, particularly in view of the problems arising out of the gradual drift away of the farming population and the increasing use of these regions as tourist areas.

- (4) A fourth subject for study is the economic problems inherent in estimating the expenditure on the protection and improvement of the environment and how it is shared between the various economic agents, and quantifying the benefits, at macro- and micro-economic level, of the fight against pollution.

The Commission will take an active part in the work of the OECD study group of economic experts on the environment. It reserves the power to carry out certain studies which are of particular interest to the Community, doing so either as part or by way of extension of the work of the study group in question.

- (5) The fifth study will be aimed at providing, at the Community level, data on the problem of forms of urban development, particularly in view of the changes now in progress in land use, transport techniques and ways of life, in order to derive the maximum benefit from such data as regards improving the environment in the dwelling places of the majority of the Community's population.

In particular, the Commission will be involved in the projects that the PRESF Committee plans to carry out in this field.

6. Community participation in environmental projects carried out by international organizations, and cooperation with non-member countries

A large number of international organizations are currently preoccupied, in various ways, with environmental problems. Annex C contains a list, which is not exhaustive, of such bodies.

This proliferation of bodies has in some cases led to duplication of effort, notably in the case of studies on air pollution and on pollution due to motor vehicles. Furthermore, the work carried out by these bodies is often liable to impinge on the Community's rules concerning the functioning of the common market and the implementation of common policies (freedom of movement, harmonization of laws, agricultural, commercial and transport policy, etc.), or is of interest to the Common Market within the meaning of Article 115. This is true, in particular, of work within the OECD, the work of the NATO Committee

on the Challenges of Modern Society, and the work of the United Nations' Economic Commission for Europe, the World Health Organization, the Council of Europe, etc.

The Commission will continue its endeavours to prevent unnecessary duplication of the work of the Community and other international organizations. As in the past, therefore, it will propose the adoption of such methods and standards as have already been laid down internationally. For the same reasons, it cooperates actively with the OECD on economic studies relating to nuisances and their elimination, and refrains from carrying out studies covering the same ground as those conducted by that body.

Since the European Community's activity differs from the work done by international bodies in that the Community has powers to institute measures which are in the nature of rules, it ought to give maximum practical effect to the findings produced by studies and other projects carried out within other international organizations.

The Commission further considers it necessary that the Member States should consult each other and, where required, take up a common attitude within these organizations, with the aim of safeguarding the specific interests of the Community when it comes to protecting the environment.

As regards provisions of a public-health nature applicable to the composition or use of certain industrial and agricultural products distributed through commercial channels, care should be taken to ensure that they are internationally recognized so as to prevent the creation of obstacles to international trade which could be prejudicial to the interests of the Community. Where appropriate, negotiations on this subject must be held between the Community and certain non-member countries.

The Commission put these principles into practice in applying the procedure for notifying and consulting the OECD about matters concerning the environment. Along similar lines, the Commission will submit proposals regarding work carried out in the same field within international organizations.

Current Community Activity in the Sphere
of the Environment

For a long time now each of the three Communities - ECSC, EURATOM and the EEC - has been engaged in certain activities relating to the protection of the environment within its own respective province.

1. ECSC Activities

The activities stemming from the ECSC Treaty have proceeded in accordance with Article 55 of this Treaty, which states that the ECSC must promote technical and economic research on safety in the industries within its terms of reference, and that it shall arrange to this end any relevant contacts between existing research bodies.

Since 1956 several research programmes and also individual projects have been furthered with ECSC backing, i.e., have been granted funds levied by the High Authority in the mining and steel industries.

These programmes are devoted wholly or in part either to a technical campaign aimed at protecting workers against dangerous emissions of dust (mining and steelmaking) and gas (steelmaking), or to research into and the organization of medical action of a prophylactic or therapeutic nature.

The bulk of the research into anti-pollution techniques was directed towards the following:

- determining the nature and extent of atmospheric pollution both inside and outside factories;
- developing new processes or perfecting plant and products designed to forestall or combat atmospheric pollution in steelworks and mines;
- examining the possibility of improving and standardizing measuring techniques, methods and equipment;
- carrying out research with the object of extending knowledge.

Apart from these latter aims, almost all of the research had practical objectives. Cases in point are the researching, development and finally the industrial implementation of various processes for the elimination of brown fumes and the removal of dust during the discharge and extinguishing of coke.

In the medical sphere, studies on the effects of pollutants on communities of workers have proved indispensable in (a) ensuring effective early medical prevention, and (b) tracing the correlation between pollution, the nature and frequency of respiratory disorders and consequently the connection between the technical campaign, the drop in mortality figures and the improvement in working conditions in the coal and steel industries.

The main lines of research in the medical field are directed towards four objectives:

- Research into chronic respiratory ailments and especially chronic bronchitis;
- Epidemiological surveys;
- Basic research into the filtering-out and retention of particles by respirators and also into means of protecting the body, especially against the pathogenic agents of pneumoconiosis;
- Research into diagnostic, prophylactic and therapeutic methods.

Funds provided by the levy* upon iron and steel-making (82%) and mining (18%) and the collaboration organized between engineers, doctors, economists and statisticians, together with the cooperation of the national administrations, enabled this work to be performed at a Community level.

* Technical research in the social sector: funds allotted 14,091,071 u.a., commitments 10,004,913 u.a. Medical research (first three programmes): credits allotted 15,000,000 u.a., commitments 10,206,000 u.a.

2. Euratom Activities

The Euratom Treaty contains a whole section (Chapter III) dealing with the protection of both population and workers against the health hazards resulting from ionizing radiation.

Basic standards, a term taken to mean maximum permissible doses, maximum permissible values for the contamination of the air and water and the basic principles underlying the medical surveillance of workers are laid down by the Council in accordance with proposals put forward by the Commission after consultations with a scientific working party and the Economic and Social Committee (Articles 30 and 31). These basic standards must then be incorporated in the laws, regulations and administrative provisions of the Member States, the Commission making every recommendation with a view to ensuring the standardization of these provisions (Article 33).

This creation of basic standards is accompanied by a series of regulations designed to ensure that each State will:

- Strengthen health protection measures in the case of particularly dangerous experiments, especially where the effects of these experiments are likely to affect the territory of the other Member States (the official approval of the Commission is required in this latter instance);
- Provide the installations necessary for the continuous monitoring of the level of radioactivity in the atmosphere, the water and the soil and for ensuring that the basic standards are respected. The Commission has the right to enter these monitoring stations, check their operation and efficiency and receive information on these monitoring operations (Articles 35 and 36);
- Pass on general data concerning any planned release of radioactive waste (Article 37) for the attention of the Commission, who are assisted by a group of experts.

In addition, the Commission has the right to address to the Member States any recommendations concerning the level of radioactivity in the atmosphere, water and soil and in an emergency to issue directives which the Member States are bound to observe on pain of proceedings by the Court of Justice.

By 1 June 1970 a total of 67 plans for the discharge of radioactive waste had been submitted to the Commission under Article 37 of the Euratom Treaty. In each instance a working party from the Six and the Commission examine every standard which can facilitate determination of whether implementation of the projects is likely to give rise to radioactive contamination of the water, soil or atmosphere of another Member State. It then sends the Member State concerned a detailed report within six months on the probability of such hazards and also where appropriate, recommendations on their restriction.

The first basic standards were drawn up in February 1959. Since then the directives laying down the basic standards have been amplified and amended on two occasions and a new version is currently being prepared. By 1 June 1970 the Member States had submitted almost 50 draft regulations for examination and approval in application of these directives.

A certain number of secondary standards based on the original standards have been drawn up, notably dealing with maximum permissible concentrations of radionuclides in the atmosphere and water. The organization of means for controlling and monitoring the levels of pollution of the air, water, soil and foodstuffs requires the full coordination, and in certain cases, the standardization of methods of measuring radioactivity in the various environments where this is of interest from a health point of view. A coordinated network of established and pilot-stations for measuring ambient radioactivity is currently in existence in the six Member States. They regularly send details of their readings to the Community so that they can be studied, comparative analyses performed and mean values for the Community established.

This action is rounded off by a programme of research being conducted in three separate fields: coordination, promotion and encouragement of research.

In order to coordinate the research, several liaison and coordinating committees have been formed within specific sectors, such as radioecology, dosimetry, radioactive contamination of the food chain, embryology, hematology and toxicology. The mutual exchange of information and the interaction between the programmes have for several years now led to direct and indirect coordination. The outcome has been a more suitable breakdown of research subjects among the different countries and institutions and savings in the utilization of resources.

Promotion activities consist in the setting-up of research teams of scientists from the Six, acting under the aegis of the Commission, inside national establishments. Under these contracts of association concluded by the Commission, research of an interdisciplinary nature is carried out in an atmosphere of international rivalry and intellectual competition of the university type. This formula has shown itself to be particularly rewarding in the field of biology and health protection.

As part of its work to encourage research, the Commission concludes research and study contracts, thus providing certain institutes and scientists with the additional funds they need to carry through certain specific studies and experiments in the fields of radiobiology and radiation protection.

The protection of man and his environment and the improvement of his conditions of life constitute the basic objectives of any policy relating to the environment. This is why the information received by the European Communities during 12 years of investigations conducted as part of the campaign against radioactive pollution, and the results achieved in this field, militate in favour of a similar approach for any project of a medical nature relating to pollution of the air, the water and foodstuffs. They should also be used to set priorities and to select the paths to be followed by the programmes of action.

A profound scientific appreciation of the ecological consequences of pollution forms the cornerstone of any effective, ordered and coherent action in the fight against pollutants. This is the conclusion reached by a WHO working party (WHO technical report No. 292 - page 2). The economic, industrial or political aspects can be taken into consideration on condition that the basic tenets for assessing the risk of harmful effects upon the environment are laid down. While a concept of this kind is realistic, it relates the problem to a human and social context where the quality of life and the well-being of mankind carry more weight than the pursuit of material comfort.

3. EEC Activities

3.1 Removal of technical barriers to trade and of distortion of conditions of competition

The achievement of the aims of the Treaty of Rome presupposes action aimed at the removal of the economic barriers between the Member States and the establishing of a system to prevent the distortion of conditions of competition within the Common Market.

It is mainly through basing its policies on similar considerations of competition and economic policy that the EEC has become involved in the field of pollution, with regard to the effects which the discrepancies between the laws, regulations and administrative provisions taken by the Member States with a view to reducing or eliminating pollutants can have on trade competition.

As regards the products likely in themselves or in their use to have noxious effects on mankind or his environment, certain measures taken by the national authorities in this connection may be such that either their effects are equivalent to quantitative restrictions as defined in Articles 30 et seq., since they provide for the discriminatory treatment of national and imported products, or they are tantamount to technical barriers to trade, not because of the discriminatory treatment of the products according to their origin, but simply because of their disparity. These disparities stem from the application of Articles 30 et seq. (in the first instance), and in the second from Article 100 in conjunction with the general programme for the elimination of the technical barriers to intra-Community trade adopted by the Council on 28 May 1969.

On 28 May 1969 the Council adopted a general programme for the removal of the technical barriers to trade in industrial products and foodstuffs in accordance with a proposal. This programme specifies certain applications of Article 100 of the Treaty with a view to harmonizing the measures taken by the national authorities concerning these products.

These measures, which are sometimes very dated, are not generally concerned with the problems raised by the environment, as these are more recent and have emerged gradually as industrial development has progressed.

During the course of this harmonization it is, however, logical and necessary to take into consideration the aims pursued by the Member States, as they form the basis for the various bodies of legislation to be dovetailed.

These aims may well vary from one Member State to another, so that it is necessary to examine to what extent they are of value and geared to present-day requirements. It is against this background that the Commission has sometimes directed its attention at certain pollution problems even if they were not directly covered by the legislation to be harmonized.

This is especially the case where pollutants such as dangerous compounds (pesticide solvents), gas pipelines (air pollution), oil pipelines (water pollution) and fertilizers are concerned.

Moreover, recent legislation directly related to the protection of the environment must not be excluded. When such laws are directed towards products included in the general programme (motor vehicles, detergents), as was recently the case, the Commission was informed of their existence while they were still at the draft stage. Since these laws had a bearing on trade between Member States, the Commission prepared a draft directive after requesting the Member State(s) concerned to postpone the adoption of their draft.

This draft directive must be adopted by the Council in accordance with the procedure laid down in Article 100 within a very short period of time in line with the undertaking given by the representatives of the Member States at the meeting of the Council held on 28 May 1969.

Directives relating to the following have already been adopted to date:

- permissible noise level and motor vehicle exhaust systems,
- pollution of the atmosphere by automotive petrol engines,

and several proposals for directives dealing with toxic emissions or pollutants are currently under examination by the Council or are being prepared by the departments of the Commission with a view to their being adopted fairly soon, i.e.:

- dangerous substances (solvents, pesticides, etc),
- household products,
- gas pipelines (atmospheric pollution),
- oil pipelines (water pollution),
- air pollution due to automotive diesel engines,
- fertilizers,
- the composition of the petrol for use in motor vehicles (mainly the lead content),
- the biodegradability of detergents,
- radio-electrical interference.

From the point of view of the damage to human health and the natural environment caused by production processes, the measures taken at the national level can likewise have a direct bearing on the functioning of the common market as a result of their disparity. The conditions of competition can be distorted, as a result of either an unequal apportionment of the cost involved in the fight against pollution, or the setting of standards at different levels for similar geographical and ecological conditions, or by the abuse of favourable geographical conditions.

The efforts were initially concentrated on regulations aimed at combating pollution of the water. The Commission has had comparative studies carried out of the legislation in this field in the Member States and has tried to assess the economic repercussions of its application.

On the basis of the conclusions drawn from these studies it would appear to be feasible to draw up a more concrete work schedule aiming at increasingly closer cooperation between the Member States with regard to their legislation relating to water pollution. A working party on water law has been formed to this end by the departments of the Commission. Basic studies of the same type are being carried out on the laws, regulations and administrative provisions involved in the fight against air pollution.

The comparative study of the national measures dealing with waste is at the preparation stage.

Other subjects will gradually be investigated in greater detail, depending on their real economic importance and the development of the general policy pursued both by the agencies of the Community and by the Member States as regards the environment.

3.2 The Community has likewise become involved with pollution through its common policies.

3.2.1 Common Agricultural Policy

Certain measures taken or proposed under the common policies concern directly or indirectly the conservation or improvement of the environment. Such measures relate especially to agricultural policy. Three basic problems have been taken into consideration: that concerning the quality of foodstuffs, another relating to environmental pollution due to agriculture and, finally, that of the management and conservation of the natural environment.

a) Regulations adopted, or in the process of adoption, on the subject of additives and pesticides in the field of human and animal foodstuffs

Since 1963 several regulations dealing with colorants, preservatives and anti-oxidants in foodstuffs and additives in animal foodstuffs have been adopted by the Council.

Since 1968, proposed regulations dealing with residual pesticides in fruit and vegetables, as well as undesirable constituents of animal foodstuffs, have been submitted by the Commission to the Council, where they are currently under discussion. Other drafts, concerning in particular residual pesticides in cereals, regulations governing the use of substances with an oestrogenic or thyrostatic action and also the approval and distribution of phytopharmaceutical products are being studied by working parties of the Commission with a view to their submission to the Council.

It should be noted that the Commission shortly intends to submit a draft directive to the Council which includes a ban on the use of certain persistent pesticides.

These texts were prepared as part of the work on the integration of legislation with a view not only to removing technical barriers to trade and raising productivity, but also to improving the quality of the agricultural produce marketed in the Community.

To this end fundamental importance is attached to consumer health protection. All of the standards adopted or proposed on the subject of additives, undesirable substances and residual pesticides have been set in accordance with the acceptable daily doses worked out by the FAO and WHO working parties and also the respective diets characterizing the different countries of the Community. In addition, all of the proposals submitted to the Council are passed for perusal to the consumers' associations grouped together within the Community.

It has been noted that the tolerances proposed by the Commission on the subject of residual pesticides are often lower than those currently authorized in North America.

b) Measures aimed at reducing environmental pollution

The part played by agriculture in the pollution of the environment appears to be restricted mainly to the use of certain persistent insecticides of the chlorinated organic type and certain herbicides in the phenoxycetic acid group. Currently several countries are taking, or plan to take, controlling measures aimed at banning or restricting the use of these products.

The departments of the Commission are examining the possibility of replacing persistent pesticides by rapidly degradable pesticides as part of their work of harmonizing the approval and marketing of phytopharmaceutical products.

Additionally, the Commission has already handed down the opinion* that it would be advisable to promote research aimed at taking advantage of the biological and integrated campaigns and farming methods helping to cut down on the use of chemical pesticides. The advisability of drawing up, at Community level, an accelerated research programme devoted to these questions must be studied as quickly as possible.

c) Parcelling-out of the natural environment and creation of facilities for recreation

The proposals dealing with agricultural reform recently submitted by the Commission can help to conserve the environment and to create recreation areas.

Directive B, on incentives for leaving the land and the re-allocation of farmland used for the purpose of improving the structure of agricultural holdings, lays down a new rule, namely, that grants for leaving the land are conditional upon the land thus made available being reallocated not only for enlarging the size of other holdings but also for non-agricultural purposes such as afforestation, recreational and leisure areas, national parks, etc. These aids are partly financed from the EAGGF.

*Reply to written question No. 397/69 from Messrs Boersma and Dröscher

d) Preservation of the natural environment in areas of attraction to tourists

The maintenance of a minimum farming population, notably in mountainous regions, warrants special support measures, unrelated to the usual standards of productivity which most mountain farms cannot meet because of natural conditions.

The new forms of support which can be applied in mountainous regions must be adapted to the circumstances in which the farmers find themselves, especially with regard to age. Certain measures have already been proposed as part of the reformation of agriculture:

- Incentive payments to ageing farmers on cessation of agricultural activity, the holdings of whom could enable younger men (who have been leaving in large numbers up to the present) to remain in agriculture by extending their holdings. It should be noted that the recipients of these bonuses will remain in situ and continue to live in their traditional dwellings as hitherto.
- Investment aids to young men who modernize their holdings. This aid facilitates re-orientation output towards quality products which are typical of the region.
- Aid towards professional retraining (promoting the gaining of qualifications necessary to the practice of professions connected with the tourist industry).

Another measure of a completely new nature is in preparation, namely, outright grants in aid, irrespective of output, to be paid to farmers who are unable to modernize and who have not reached the age entitling them to an early-retirement bonus.

3.2.2 Regional policy

a) The wide diversity of its scenery is a characteristic which Europe is privileged to possess. No other continent harbours such a variety of friendly coasts, welcoming countryside and accessible mountains within so small an area.

Another privilege of the continent is the density, ancient roots and continuity of its peoples: 163 persons per square km over such an area constitutes one of the highest densities in the world. Every region has been inhabited and cultivated over a long period. Evidence of long-term civilisation appears at every turning.

However, certain regions have been depopulated in relative and even in absolute terms since the first Industrial Revolution gave rise to population migrations towards mining codes and their coastal outcrops. Population density therefore varies between more than 1000 persons per square km in the West Netherlands conurbation and the Ruhr, and 33 in the Val d'Aosta and 15 in the Basses Alpes in France.

Further changes of a technical, economic and sociological nature are now taking place which must be prevented from having any destructive effects on the quality of the environment, and which should rather be used to improve and develop it. The scope of these changes over the coming years makes it reasonable to think that the quality of the natural and urban environment that will be enjoyed by Europeans in two or three decades may be greatly affected, for the better or worse, by the policies pursued at the present time - with all the favourable or unfavourable consequences that may arise as regards social equilibrium and civilization.

This is a problem which could be usefully taken up at the Community level because (a) these changes are accelerated and intensified by the existence of the Common Market and (b) improved conservation and better use of resources can be achieved if an attempt is made to satisfy the material needs of the overall population of Europe.

b) Three aspects are united in any contemplation of environmental problems by the regional development policy under which the various economic and social instruments are mobilized to restore the balance of the Community's activities:

- A high-quality natural or man-made environment possesses a value which must be protected, improved and managed whatever the circumstances. The claims of a competitive economy must not lead to the spoiling of a cultural asset, but should rather further its development;

- The endeavour to turn these assets to the best use by developing them judiciously is an important factor in the economic development of numerous regions, especially those regions which are falling behind in their development today because the first wave of industrialization and urbanization passed them by. The environment can be for these regions the essential wealth on which to base an adequate development of the industrial and service sectors.
- The need for a high-quality environment must be taken into account in any decisions relating to the siting of dwellings and activities, and in the new problems raised by the distribution of energy, the growth of the shipping industry and the urbanization of jobs both in the Member States and in the Community as a whole. The excessive concentration of activities and population in limited areas - currently a quarter of the inhabitants of the Community occupy 3% of its area - is an important factor in the pollution and destruction of the physical, aesthetic and even ethical environment.

With regard to these three aspects, Community action is useful or even essential, since it is at this level, rather than on a national scale, that there is the necessity and the possibility of encouraging a certain readjustment of the present demographic imbalance in the Community.

In order to halt the relentless trend towards concentration about existing centres of population, the attractiveness of high-quality beauty spots in hitherto underdeveloped regions is an essential resource at a time when the human factors are assuming increasing importance, alongside physical considerations, in siting decisions.

A policy could draw on this in order to realign the activities of the Community towards the coastal or mountain regions, or towards a suitable climate. This dictates the creation of modern infrastructures in these areas - transport, telecommunications, social and cultural facilities - and the simultaneous setting-up of productive and service industries matched to the environment under consideration.

In this way regional policies at the Community level will contribute in double measure towards improving the average quality of the environment in fact available to the inhabitants of the Community. They will enable them to take greater advantage of a well-protected, high-quality environment, either as permanent or as temporary residents, while at the same time a certain decentralization of both population and activities, or the reorientation of these, should promote the restoration of those areas where the environment has suffered (e.g., in mining areas where the industry is on the decline).

There is no Annex B in the original.

Annexe C

Principal international organizations concerned
concerned with environmental
problems

1. United Nations (UN)

In 1972 the United Nations is holding a conference in Stockholm on the human environment.

The purpose of the conference will be:

- to draw the attention of governments and public opinion to the importance and urgency of environmental problems, in both the industrialized and the developing countries;
- to encourage discussion between governments on ways and means of solving certain environmental problems, with their legal and administrative aspects in mind;
- to determine what environmental problems can be solved in whole or in part by the establishment of a system of regional or international cooperation;
- to develop more efficient working methods on the national, regional and international levels;
- to urge the UN and its organizations, as well as other international organizations, to take a greater part in the fight against pollution and help to harmonize the work.

The preparatory Committee has to date defined three broad themes: population distribution and effect of the environment, use of natural resources and environmental pollution.

1.1 Economic Commission for Europe

The Economic Commission for Europe is one of the four regional commissions engaged on economic and social problems. European countries and the United States are represented on it. Its activities concern:

- air pollution: study of pollution and its monitoring, economic effects, pollution caused by motor vehicles, establishment of standards and regulations for vehicle design;
- water pollution: studies to promote cooperation in the rational use of water resources and in water pollution monitoring, exchange of information and experience on legislation;
- urban expansion;
- harmonization of national policies in the foregoing fields.

An intergovernmental conference on the environment and its influence on society was held by the Economic Commission for Europe at Prague in April 1971.

1.2 Intergovernmental Maritime Consultative Organization (IMCO)

IMCO, established in 1959, fosters the exchange of information on methods of combating the excessive release of combustible oils into the sea. It has also worked out an international system of information on the release of oil into the sea and in 1969 staged an international conference on the legal implications of marine pollution. The suggestions made on the occasion of that conference are being studied by the governments concerned. Committees have been set up to work on marine pollution, marine safety, transport of dangerous materials, design and fitting-out of ships, etc.

1.3 United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO promotes scientific research on spontaneous and induced mutations in the oceans. It also takes part in research programmes on the determination of the effects of materials discharged into the

sea and on the protection of areas of marine fauna whose survival is threatened by human activities. UNESCO is also studying the problem of air pollution.

1.4 World Health Organization (WHO)

The WHO is studying the problem of coastal pollution and gives technical advice on protection of waters. It is currently initiating an international programme on measurements in the monitoring of environmental conditions having a direct impact on health. The WHO has also assisted numerous countries in working out waste-disposal and water-monitoring programmes.

1.5 United Nations Food and Agriculture Organization (FAO)

The activities of the FAO include water quality determination, pesticides and industrial waste, particularly paper-mill waste, and their effects on the fish resource of internal waters. The FAO recently extended its research to the effects of pollution on sea fishing. It is also engaged on ecological studies in the developing countries concerning soil use, with particular reference to the stepping up of productivity and rational utilization of natural resources. It has also launched other programmes on tourist development, the creation of natural parks and the traditional farming and forestry sectors.

1.6 World Meteorological Organization (WMO)

The WMO originated the World Weather Watch, the aim of which is to improve meteorological data collection conditions and to study air pollution agents. Jointly with the International Council of Scientific Unions (ICSU), the WMO launched the Global Atmospheric Research Programme and is coordinating its implementation. It has set up two committees which are studying meteorological factors and their relationship to air pollution.

1.7 International Atomic Energy Agency (IAEA)

The activity of the IAEA is centred mainly on the problem of pollution by radioactive substances. It establishes standards, organizes exchanges of information and participates in research projects in this sector. Jointly with the WHO and UNESCO, the Agency developed an international sampling system for radioactivity measurements in precipitations and is currently working out techniques for measuring the radioactivity of the air and of the environment in general.

2. Other international organizations

2.1 NATO

In December 1969, at the instigation of President Nixon, NATO set up the Committee on the Challenges of Modern Society (CCMS), whose terms of reference were the improvement by every practicable means of the exchange of opinions and experience between the associated countries concerning the creation of a better environment. The work of the CCMS is based on two principles. The first is the principle of the pilot country. A country, perhaps associated with others, offers to sponsor a certain project. The second principle is that NATO's activity in this field is not directed towards research but towards the formulation of government policies and the establishment of legislation for the purpose of solving environmental problems. The studies undertaken concern the following sectors (the participating countries are shown in brackets, the pilot country being the one named first):

- Air pollution (USA, Germany, Turkey)
- Coastal water pollution (Belgium, Canada, France, Portugal, United Kingdom, USA)
- Pollution of internal waters (Canada, Belgium, France, USA)
- Road safety (USA, Germany, Japan, Belgium, Canada, France, Italy, Netherlands)

- Aids in natural disasters (USA, Italy, Turkey)
- The environment in regional development strategy (France, United Kingdom)
- Job fulfilment in a technological age (United Kingdom)
- Scientific knowledge and decision-making (Germany, United Kingdom)

2.2 Organization for Economic Cooperation and Development (OECD)

The OECD's membership consists of the industrialized countries of western Europe and North America, Australia and Japan. The main OECD body responsible for work on environmental matters, which in 1970 was the Committee for Research Cooperation, has now been replaced by an Environment Committee. The initial objective, which was to develop exchanges of experimental data between member states, has gradually evolved towards the confrontation of policies and an integrated conception of the planning of resources. To achieve these objectives, the OECD has set up sector groups, responsible mainly for utilizing the results of scientific research, and study groups to report on certain special problems of pollution. There are currently four sector groups in existence, dealing with:

- management and research in matters concerning the air;
- research on water management;
- the urban environment;
- the undesirable presence of pesticides in the environment;

and four study groups dealing respectively with pollution due to:

- solid waste
- motor vehicles
- pulp and paper industry
- electric power plants

All the work of these groups is coordinated by the Environment Committee, which deals with the following matters:

- cost of pollution control and breakdown of expenses;
- permissible concentration of pollutants in the environment;
- identification of pollutants which may cause irremediable damage on the world scale.

2.3 Council of Europe

The Council of Europe is mainly concerned with legal problems and the regulations in force in the member states. The Committees of Experts on Air Pollution and Water Pollution and the Committee for the Conservation of Nature and Natural Resources have established principles which will provide a foundation for national action.

3. Other international and non-governmental organizations

Besides the bilateral and multilateral agreements made by the various governments, the main aim of which is the exchange of information, there are two scientific organizations concerned with environmental problems. These are:

3.1 International Council of Scientific Unions (ICSU)

In 1967, the Council put in hand a five-year programme on the biological problems of the environment, in which scientists from more than sixty countries are taking part.

3.2 International Union for Conservation of Nature and Natural Resources (IUCN)

This has a membership of 29 countries and several hundred non-political organizations belonging to nearly 80 countries. Its aim is to promote scientific action to safeguard and protect the natural environment, life in its various forms and natural resources. It operates through committees, which are responsible for studying ecology, survival of species, national parks, problems involved in education, and environmental policy and management.

The IUCN is a consultative body of the United Nations.

ANNEX D

FIRST SCHEDULE OF RESEARCH ON POLLUTION IN THE
MEMBER STATES OF THE EUROPEAN COMMUNITY

This first paper relates to the pollution of air and water.

The information it contains has been obtained partly from those responsible for research in the sectors concerned in the various countries, partly from visits to laboratories and institutes, and partly from a study of reports and other publications.

The Departments of the Commission thank all those in the various Member States who have contributed in a true spirit of cooperation to the preparation of this document.

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AIR POLLUTION

BELGIUM

I. Analysis and measurement of air pollutants

Research

Institute or laboratory

Study of air pollutants in various regions. Study of pollution caused by a coking plant. Determination of hydrogen disulphide, fluorine, nitric oxide and nitrogen dioxide in air

Centre Belge d'Etude et de Documentation de l'Air (CEBEDAIR)
Liège

Study of air pollution in an industrial area

Institut National des Mines
Pâturages

Design and construction of air pollution (sulphur, smoke) measurement stations. Study of the normal chemical composition of the atmosphere

Institut d'Hygiène et d'Epidémiologie
Brussels

Development of techniques for analysing combustion products

Institut de Chimie industrielle minérale, University of Liège

Study of air pollution by exhaust gases

Chair of Transport Technology
University of Ghent

Study and development of a semi-automatic sampling instrument for measuring sulphur dioxide and smoke concentrations in the air

Institut Royal de Météorologie
Brussels

II. Transport and conversion of air pollutants

Research

Study on the chemical conversion of air pollutants

Institute or Laboratory

Institut d'Hygiène et
d'Epidémiologie
Brussels

Institut Royal de Météorologie
Brussels

II. Effects of air pollutants on man and the environment

Research

Institute or laboratory

Research on the effects of trace elements on health

Department of Epidemiology Laboratory, University of Louvain

Study of the effects of air pollution on public health (respiratory diseases). Epidemiological studies

Chair of Social Medicine University of Ghent

Institut d'Hygiène et d'Epidémiologie Brussels

Research on enzymatic inductions in the lungs caused by air pollutants

Medical Chemistry, Toxicology and Hygiene Laboratory, University of Liège

Study of the effects of benzopyrene on laryngeal mucous (particularly carcinogenic effects)

Chair of Otorhinolaryngology University of Ghent

Studies of the effects of dust. Measurement of dust content

Institut d'Hygiène des Mines Hasselt

Study of the correlation between Pb concentration in the air and lead poisoning

Chemical Inspection Laboratory, Ministry of Employment and Labour, Brussels

Research on the teratological effects induced by various chemical substances including certain air pollutants

Cytogenetics Laboratory University of Louvain

Toxicological research on industrial pollutants

Chair of Toxicology, University of Ghent

IV. Anti-pollution technology

Research

Methods of reducing nitrous vapours
in fumes

Study of combustion gas purification
systems

Air pollution control methods.
Determination of maximum permissible
concentrations of pollutants in
factories and in workshops

Study of methods of catalytic
elimination of combustion products
in internal combustion engines

Dust control in mines. Ventilation
systems

Institute or laboratory

Institut National des Mines
Pâturages

Institut de Chimie industriel
minérale, University of
Liège

Chemical Inspection Laboratory
Ministry of Employment and
Labour
Brussels

Physical Chemistry and Solid
State Physics Laboratory,
University of
Louvain

Institut d'Hygiène des Mines
Hasselt

WEST GERMANY

I. Analysis and measurement of air pollutants

Research

Institute or laboratory

Development and final adjustment of a system for the automatic measurement of atmospheric carbon monoxide.
Study on aerosols.

Max-Planck-Institut für Chemie
Mainz

Analyses of air pollutants by gas chromatography and mass spectrometry

Max-Planck-Institut für
Kohleforschung
Mülheim-Ruhr

Analytical studies on exhaust gases, hydrocarbons and smog

Institut für Brennstoffchemie
der technischen Universität
Clausthal-Zellerfeld

Meteorological and climatological studies - Aerosols

Nuclear Research Centre
Karlsruhe

Methods of analysing air pollutants

Medizinisches Institut für
Lufthygiene und Silikoseforschung
University of
Düsseldorf

Analysis of pollutants. Measurement network; problem of standards at low concentration

Institut für Wasser-, Boden-
und Lufthygiene (WaBoLu) des
Bundesgesundheitsamtes
Berlin

Development of methods of measuring immissions. Physical and chemical characteristics of immission and emissions. Measurement and control stations

Landesanstalt für Immissions-
und Bodennutzungsschutz (LIB)
des Landes Nordrhein-Westfalen
Essen

Development of chemical instruments and methods for the measuring and analysing of inorganic and organic pollutants and solid particles.
Measurement station

Messtelle für Luftverschmutzung
der deutschen Forschungsgemein-
schaft
Schallstadt-Freiburg

Research

Study on the origin of industrial emissions. Measurement of inorganic and organic pollutants

Analysis of pesticides in atmospheric aerosols

Institute or laboratory

Verein Deutscher Ingenieure (VDI)
Kommission "Reinhaltung der Luft"
Düsseldorf

Institut für Wasserchemie und chemische Balneologie,
University of
Munich

II. Transport and conversion of air pollutants

Research

Study on chemistry of the atmosphere.
Chemical conversion of pollutants

Study of the chemical conversion of
pollutants. Metabolism in mammals,
micro-organisms, insects and plants

Research on the dissemination and
physical and chemical conversion of
pollutants in the atmosphere

Study on the dissemination of gases
and dusts

Institute or laboratory

Max-Planck-Institut für Chemie
Mainz

Institut für Okologische Chemie
der Gesellschaft für Strahlen-
und Umweltforschung
Schloss Birlinghoven

LIB
des Landes N-W
Essen

VDI
Kommission "Reinhaltung der Luft"
Düsseldorf

III. Effects of air pollutants on man and the environment

<u>Research</u>	<u>Institute or laboratory</u>
Epidemiological studies on air pollution	Institut für Socialmedizin und Epidemiologie des Bundesgesundheitsamtes Berlin
Research on the retention of dust in the lungs of man and animals. Behaviour of solid particles in the tissues	Max-Planck-Institut für experimentelle Medizin Göttingen
Pharmacological and toxicological studies. Influence of air pollutants, medicaments and poisons on the metabolism	Pharmakologisches Institut der Universität Erlangen Institut für Toxicologie und Pharmakologie, University of Würzburg
Tests on mutagenic properties of human lymphocytes, yeasts, bacteria, and insects for air pollutants, pesticides, medicaments and food additives	Zentrallaboratorium für Mutagenitätsprüfung der Deutschen Forschungsgemeinschaft (DFG) Freiburg
Studies on mutagenic properties of chemicals	Institut für Anthropologie und Humangenetik Heidelberg
Research on the mutations produced by air pollutants. Studies on prenatal toxicology in laboratory animals	Institut für Biologie der Gesellschaft für Strahlen- und Umweltforschung Neuherberg
Study of the effects of exhaust gases on rats (inhalation chamber) and plants (including iron and cerium)	WaBoLu Berlin
Study of the carcinogenic effect of benzyrene and dust	Physiologisch-chemisches Institut, University of Heidelberg

Research

Study of the toxic effects on animals of organic vapours and other pollutant substances present in air. Air hygiene

Study of the toxic effects of air pollutants on materials and plants. Bio-indicators. Determination of the limiting values of immissions

Study of the toxic effects of air pollutants on plants and animals. Bio-indicators. Effects on property

Study of the effects of air pollution on plant life

Study of the toxic effects of lead and its compounds

Institute or laboratory

Medizinisches Institut für Lufthygiene und Silikoseforschung
University of
Düsseldorf

LIB
des Landes N-W
Essen

VDI
Kommission "Reinhaltung der Luft"
Düsseldorf

Institut für Botanik, University of
Giessen

Nuclear Research Centre
Karlsruhe

IV. Anti-pollution technology

Research

Development of techniques for the reduction of industrial emissions. Desulphurization methods

Methods of desulphurizing combustion gases

Study of methods of reducing nitrous oxides in emissions from engines

Studies on the purification of exhaust gases by means of catalytic and thermal after-burning, adsorption, absorption and condensation

Institute or laboratory

LIB
des Landes N-W
Essen

VDI
Kommission "Reinhaltung der Luft"
Düsseldorf

Institut für chemisches Technologie und Brennstofftechnik
University of
Clausthal

Institut für Kohlenmaschinen
Technical University of
Braunschweig

VDI
Kommission "Reinhaltung der Luft"
Düsseldorf

V. Models and systems analyses

Research

Dispersion models of pollutants
(SO₂ and others) in the atmosphere

Institute or laboratory

Institut für theoretische
Meteorologie, Free
University of
Berlin

Institut für Meteorologie und
Geophysik, University of
Frankfurt

Nuclear Research Centre
Karlsruhe

LIB
des Landes N-W
Essen

FRANCE

I. Analysis and measurement of air pollutants

Research

Institute or laboratory

Study of analytical methods for measurement in slightly polluted air. Construction of a prototype base station for the study of background pollution

Institut de recherche chimique appliquée (IRCHA)
Centre de recherche de Vert-le-Petit

Studies of aerosol physics. Study and design of atmosphere with controlled dust content

IRCHA
Centre de recherche de Vert-le-Petit

Development of equipment and methods for measuring gaseous pollutants

Electricité de France (EDF)
Laboratoire de prévention des pollutions
St. Denis

Study of the dissemination of industrial pollutants and organization of a system for the control and prevention of air pollution around thermal power plants

EDF
Division "Echanges Atmosphériques"
Centre de recherche du Chatou

Measurement of atmospheric aerosols. Study of gas/gas and gas/particle reactions

Commissariat à l'Energie Atomique (CEA) - Services techniques et études de protection (STEP)
Laboratoire "Contamination de l'Atmosphère"
Fontenay-aux-Roses

Study of the polycyclic hydrocarbons bound in atmospheric dust. Development of an extraction and identification method

CEA
Centre d'Etudes Nucléaires
Section d'études et analyses physico-chimiques
Grenoble

Analysis of air pollutants: sulphur derivatives, carbon monoxide, nitrogen oxides, etc.

Institut National de la Santé et de la Recherche Médicale - Centre de recherche sur la pollution atmosphérique (INSERM - CRPA)
Laboratoire de chimie
Le Vesinet

Research

Institute or laboratory

Study of physical and chemical interactions between solid particles and sulphur and nitrogen oxides in fumes from heating installations

Centre d'Etudes et Recherches des Charbonnages de France (CERCHAR)
Paris

Analysis of pollutants emitted by the main types of urban waste incinerators in service; quantity and nature of pollutants. Seasonal variation in emission

CERCHAR
Paris

Study of fall-outs from domestic and industrial furnaces and exhaust gases

Laboratoire municipal de la Préfecture de
Paris

Study of new techniques for the measurement of sulphur dioxide in air. Problem of building corrosion due to rain acidification

Laboratoire d'Hygiène de la Ville de
Paris

Study of emissions from vehicles. Influence of engine parameters on pollutants emitted

Union technique de l'Automobile et du Cycle (UTAC)
Paris

Microbiological research on air pollution

INSERM - CRPA
Le Vesinet

Study of emissions from thermal installations and vehicles

Comité d'action technique contre la pollution atmosphérique (CATPA)
Paris

Comité national d'action pour l'assainissement de l'atmosphère (CAPA)
Paris

II. Transport and conversion of air pollutants

Research

Institute or laboratory

Study of conversion of sulphur dioxide into sulphur trioxide in conjunction with climatological data in an industrialized urban conglomeration

IRCHA
Centre de recherche de
Vert-le-Petit

Study of the physical and chemical evolution of traces of sulphur dioxide, either in the gaseous state, in the aqueous phase, or in droplet form in atmospheric air of known composition

Préfecture des Basses-Pyrénées
Laboratoire de recherches de
Lagor

Synthesis of organo-metallic compounds used as tracer elements for studies of dissemination in air

CEA
Centre d'Etudes Nucléaires
Laboratoire de chimie organique
physique
Grenoble

III. Effects of air pollutants on man and the environment

<u>Research</u>	<u>Institute or laboratory</u>
Epidemiological enquiries among student groups	Laboratoire d'hygiène de la Ville de Paris
Epidemiological enquiries on bronchial cancer in regions differing in degree of air pollution	INSERM CRPA Le Vesinet
Danger threshold for sulphur dioxide, alone and in the presence of nitrous vapours	Préfecture des Basses-Pyrénées Laboratoire de recherches de Lagor
Study of toxicology of industrial products	CEA - Centre d'Etudes Nucléaires Laboratoire d'analyses biologiques Grenoble Pharmacy Faculty - Toxicology Laboratory, University of Paris
Effects of air pollutants on the tissues and central nervous system of animals exposed to controlled experimental pollution	INSERM CRPA Le Vesinet
Cytotoxicity tests. Cell cultures (HeLa) as biological indicators of air pollution	INSERM CRPA Le Vesinet
Study of the effects of air pollutants on plants	INSERM CRPA Le Vesinet
Damage caused to resinous substances by the association of sulphurated or fluorinated pollutants	CERAFER Grenoble
Effects of sulphur dioxide on vegetation	Institut national de recherches agronomiques (INRA) Laboratoire de phytopharmacie Versailles
Influence of air pollution on vegetables. Neutron activation analysis of pollutants in plants	CEA - Centre d'Etudes Nucléaires Laboratoire de Biologie végétale Grenoble

IV. Anti-pollution technology

Research

Study of systems for reducing carbon monoxide and nitrogen oxides from exhaust gases. Catalytic postoxidation

Development of purification techniques and installations. Filter tests

Tests on electrostatic precipitators for aerosols

Study of the dispersion of emissions from thermal installations

Institute or laboratory

CEA - STEP
Laboratoire "Contamination de l'Atmosphère"
Fontenay-aux-Roses

IRCHA
Centre de recherche de
Vert-le-Petit

CEA
Centre d'Etudes Nucléaires de
Grenoble

Centre interprofessionnel technique d'études de la pollution atmosphérique (CITEPA)
Paris

V. Models, systems analyses

Research

Study of the reactions of the natural environment to industrial structures. Problem of experimental or numerical simulation

Institute or laboratory

EDF - Division "Echanges Atmosphériques"
Centre de recherche du Chatou

ITALY

I. Analysis and measurement of air pollutants

Research

Institute or laboratory

Simple methods of microdetermination of toxic industrial products (strong acids, aromatic amines, esters, phenols, pyridine, CCl_4 , etc.) dispersed in air

Laboratorio di Igiene industriale della Società Montecatini presso Clinica del Lavoro "Luigi Devoto" Milano

Analyses of certain industrial pollutants H_2S , CS_2 , CH_3SH (methylmercaptans) (rayon plants) HCl , CS_2 , CH_3COOH , HCOOH (activated carbon plants) - dust from concrete works

Istituto di Igiene, University of Padua

Determination of organic lead (PTE, PTM) in presence of inorganic lead among petrol distributors

Istituto di Igiene, University of Padua

Determination of air pollutants in certain urban centres: sulphur dioxide, nitrogen trihydride (study of its interference in SO_2 analyses), arsenic and lead in deposited and suspended dusts

Istituti di Igiene, Universities of: Bologna
Ferrara
Milan
Modena
Perugia
Rome

Study of "photochemical smog"; synthesis and determination of peroxyacetyl nitrates and higher homologues in the laboratory and in free air

Istituto di Igiene, University of Genoa

Analysis of gaseous effluents from refineries

Istituto di Ingegneria sanitaria, University of Milan

Research

Methods of sampling and ponderal determination of solid products not burned in fumes. Study of the emission of sulphur dioxide and other air pollutants from industrial and domestic thermal installations

Quantitative determination of the polycyclic aromatic hydrocarbons (in particular 3-4 benzopyrene) with carcinogenic effect (radioactive tracer technique)

Chemical and static study of exhaust-gas pollution in vehicles (CO, NO₂, formaldehyde, Pb)

Institute or laboratory

Stazione Sperimentale per i Combustibili
Ente Nazionale Idrocarburi
(SSC - ENI)
San Donato Milanese (MI)

Istituto di Igiene, University of Perugia

Istituto di Igiene, University of Padua

II. Transport and conversion of air pollutants

Research

Institute or laboratory

Study on the dissemination of air pollutants

Ente Nazionale Energia Elettrica (ENEL)
Centro Studi di Piacenza

Study on the dispersion, conversion and adsorption on surfaces of air pollutants

Consiglio Nazionale delle Ricerche (CNR)
Laboratorio "Inquinamento Atmosferico", Istituto di chimica, University of Rome

III. Effects of air pollutants on man and the environment

Research

Institute or laboratory

Clinical and experimental enquiries on damage caused by emanations from an aluminium-producing plant (pollution by fluorine)

Istituto di Igiene, University of Modena

Epidemiological enquiries (incidence of respiratory and other diseases) among student groups

Istituti di Igiene, Universities of: Florence
Genoa
Pavia

Epidemiological enquiry among the inhabitants of a mining area (Piombino)

Istituto di Igiene, University of Pavia

Toxic effects of atmospheric pollutants (silicosis)
Clinical effects of exposure to DDVP vapours (Vapona insecticide)

Clinica del Lavoro "Luigi Devoto"
Milano

Experimental studies of the conditions of exposure to carcinogenic air pollutants causing cancer of the lungs

Istituto di Anatomia, University of Milan

IV. Anti-pollution technology

Research

Methods of dispersing pollutants from thermal installations via metallic stacks

Evaluation of the efficiency of a fume purifier

Methods of reducing toxic products emitted by motor cars

Studies on the catalytic after-burning exhaust gases

Study of various anti-smog measures

Study and evaluation of means and procedures for reducing of environmental pollution

Study of a mechanism for dispersing fumes from thermoelectric power plants

Institute or laboratory

SSC - ENI
S. Donato Milanese (MI)

SSC - ENI
S. Donato Milanese (MI)

ENI- ALFA ROMEO - Assoc. Termotecnica Ital. (ATI) - SSC
S. Donato Milanese (MI)

Istituto di Ingegneria sanitaria,
University of
Milan

Laboratori del Centro Informazioni
Studi e Esperienze (CISE)
Segrate (MI)

Laboratorio provinciale di Igiene,
Milan

Laboratorio di Igiene,
Milan

CNR - Laboratorio "Inquinamento
Atmosferico", Istituto di Chimica,
University of
Rome

ENEL - Laboratori delle Centrali
di Trino Vercellese e Garigliano

V. Models and systems analyses

Research

Institute or laboratory

Development of mathematical and physical models for establishing the degree of air contamination and forecasting its effects

CNR - Laboratorio "Inquinamento Atmosferico", Istituto di Chimica, University of Rome

NETHERLANDS

I. Analysis and measurement of air pollutants

Research

Institute or laboratory

Methods of determining sulphur dioxide, nitrogen dioxide, hydrocarbons and components of deposited and suspended dusts.

Commissie Bodem, Water, Lucht, Gemeentelijke Geneeskundige en Gezondheidsdienst (G.G. - G.D.)
Amsterdam
Rotterdam

Air pollution control

Openbaar Lichaam Rijnmond
Luchtverontreiniging Centrum
Schiedam

Measurement and control of air pollutants released by thermal installations and vehicles

Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek (TNO)
Centraal Technisch Instituut
Delft

Instituut voor Wegtransportmiddelen (RAI - TNO)
Delft

Koninklijke Shell Laboratorium
Amsterdam

N.V. tot Keuring Electrotechnische Materialen (KEMA)
Arnhem

G.G. - G.D.
Rotterdam

CONCAWE
(Groupe international d'étude de Compagnies pétrolières)
The Hague

Determination of the degree of air pollution. Automatic analyses of pollution components. Measurement network

Rijksinstituut voor de Volksgezondheid (RIV)
Utrecht, Bilthoven

Research

Study of the physical and chemical properties of noxious substances.
Development of methods for determining air pollutants. Aerosols

Analysis of gases by gas chromatography and mass and infrared spectrometry

Development of instruments for measuring sulphur dioxide, nitrogen oxides, ozone and peroxyacetyl nitrates (PAN)

Institute or laboratory

Centraal Laboratorium TNO
Delft

Rijksverdedigingsorganisatie TNO
(RVO - TNO)
Chemisch Laboratorium
Rijswijk

Centraal Laboratorium TNO
Delft

Instituut voor Gezondheids-
techniek TNO
(I.G. - TNO)
Delft

II. Transport and conversion of air pollutants

Research

Institute or laboratory

Installation of stations for measuring
and for studying dissemination of the
air pollutants

TNO (I.G.)
Delft

Study of chemistry of the atmosphere.
Oxidizing pollution formation
mechanism. Correlation between
trioxide and carbon monoxide

Centraal Laboratorium TNO
Delft

Study of sulphur dioxide oxidation

KEMA
Arnhem

III. Effects of air pollutants on man and the environment

<u>Research</u>	<u>Institute or laboratory</u>
Enquiries on the frequency of chronic affections of the respiratory channels. Noxious effects of sulphur dioxide and carbon monoxide	I.G. - TNO Delft
Study of the toxic effects of disinfectants, aerosols, and cigarette smoke. Development of chronic inhalation systems. Epidemiological studies	Laboratorium van Werkgroep Epidemiologie van CARA - TNO Groningen
Public health problems inherent in pollution of the food chain due to packaging materials, pesticide residues and trace elements (Cu, Pb, Hg, As, etc.)	Centraal Instituut voor Voedingsonderzoek TNO (CIVO - TNO) Zeist
Research on man's reactions to his environment. Effects of air pollution	Nederlands Instituut voor Preventieve Geneeskunde Leiden
Study of the toxic effects of air pollutants (including pesticides) on animals	Instituut voor Veterinaire Farmacologie en Toxicologie Utrecht
Study of the effects of various air pollutants (e.g., SO ₂ , NO ₂ and HF) on vegetation. Evaluation of the air pollution due to sulphur dioxide and hydrogen fluoride by means of indicator plants	Instituut voor Plantenziektenkundi Onderzoek (IPO) Wageningen Rijksinstituut voor Natuurbeheer Arnhem

IV. Anti-pollution technology

Research

Methods of improving exhaust gas combustion (e.g., catalysts added to petrol)

Research on new materials for gas filtering (SO₂, NO₂ and CO)

Pollution control methods. Measures for limiting air pollution so as to avoid damage to agriculture and risks to public health

Study on the selective adsorption of cigarette smoke components.
Development of new types of filter

Institute or laboratory

RAI - TNO
Delft

Rijksverdedigingsorganisatie TNO
(RVO - TNO)
Technologisch Laboratorium
Rijswijk

RIV
Utrecht

I.G. - TNO
Delft

G.G. - G.D.
Amsterdam, Rotterdam

Instituut voor Toepassing van
Atoomenergie in de Landbouw (ITAL)
Wageningen

Centraal Laboratorium TNO
Delft

V. Models and systems analyses

Research

Institute or laboratory

Multi-source pollution models
(correction factor for rain)

Openbaar Lichaam Rijnmond
Luchtverontreiniging Centrum
Schiedam

Development of mathematical models for
forecasting cases of air pollution

Koninklijk Meteorologisch
Instituut (KNMI)
De Bilt

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29 bis

WATER POLLUTION

BELGIUM

I. Analysis and measurement of water pollutants

Research

Institute or laboratory

Chemical and biological studies of watercourses. Pollution by hydrocarbons, oils and greases - sampling methods

Centre Belge d'Etude et de Documentation de l'Eau (CEBEDEAU)
Liège

Ecology Laboratory
University of
Ghent

Institut de recherches chimiques du Ministère de l'Agriculture
Tervueren

Improvement of analytical methods for determining any elements present in drinking water

Société intercommunale des eaux d'Anvers
Station d'épuration
Walem

Analytical development of determinations of organic substances and phosphorus. Analyses of toxic products in effluents from coking plants and mine waters (lead, etc.)

CEBEDEAU
Liège

Method of identifying degradation products of detergents. Comparative study of results of various biodegradability processes

CEBEDEAU
Liège
Chemistry Biological Laboratory
University of
Louvain

Development of detergent analysis techniques

Institut de chimie industrielle minérale, University of
Liège

Hydrobiological research on watercourse pollution

Institut d'Hygiène
d'Epidémiologie
Brussels

Research

Development of methods for determining pesticide residues

Analysis of traces of elements (heavy metals) from pesticides and other pollutants in sea water

Institute or laboratory

Station de phytopharmacie et Centre d'étude des pesticides du Ministère de l'Agriculture Gembloux

Institut Royal des Sciences Naturelles Section Océanographie Brussels

II. Transport of water pollutants

Research

Fresh water ecology. Cycle of the elements, organic matter degradation

Study on the oligo-elements in different water masses in correlation with the fauna and flora

Study of the contamination of feed chain components by water pollutants

Institute or laboratory

Laboratoire de botanique systématique et d'écologie
University of
Brussels

Institut Royal des Sciences Naturelles
Section Océanographie
Brussels

Food Hygiene Laboratory
University of
Louvain

Food Element Laboratory
University of
Liège

III. Effects of water pollutants on man and the environment

Research

Institute or laboratory

Toxicological research on water pollutants (particularly industrial) in relation to poisoning in man

Chair of toxicological Chemistry
University of
Ghent

Biological study of polluted waters. Studies of the toxic effects of pollutants on fish

Station de recherche des eaux
et forêts du Ministère de
l'Agriculture
Section de Biologie piscicole
Hoeilaart

Influence of watercourse pollution on the phytoplankton and zooplankton. Experimental study on the evolution of the biological system of polluted waters under the influence of various ecological factors

Ecology Laboratory
University of
Ghent

Research on the teratological effects induced by chemical substances present in water

Cytogenetics Laboratory
University of
Louvain

Research on the action of pollution elements on the pelagic ecosystem. Effects on the physiology of benthic marine invertebrates

Institut d'Anatomie comparée
University of
Brussels

IV. Anti-pollution technology

Research

Institute or laboratory

Development of systems for recycling water in industry. Cooling circuit water treatment. Study of the flocculation of steel industry water

CEBEDEAU
Liège

Study of methods of purifying new water sources

Station d'épuration
Walem

Methods of purifying river water

Laboratoire de la Compagnie intercommunale bruxelloise des Eaux
Brussels

System of purifying cannery waste water

Institut National pour l'Amélioration de Conserves de Légumes (INACOL)
Wezembeek-Oppem

Systems of purifying brewery waste water

Chair of Organic and Technological Chemistry, University of Ghent

Development of chromatological methods for separating humic materials

Service de traitement d'épuration des eaux
Liège

Improvement of industrial and urban effluent purifying stations

Centre d'Etudes Nucléaires (CEN - SCK)
Mol

V. Models and systems analyses

Research

Institute or laboratory

Study and selection of available mathematical models. Development of models for application to marine pollution problems

Institut de mathématique
University of
Liège

Development of mathematical models of watercourses and of freshwater pollution

CEBEDEAU
Liège
Institut de mathématique
University of
Liège

WEST GERMANY

I. Analysis and measurement of water pollutants

<u>Research</u>	<u>Institute or laboratory</u>
Analysis of pollutants (including pesticides and PCB) in surface water, sediments and rain	Institut für Wasser-, Boden- und Lufthygiene (WaBoLu) des Bundesgesundheitsamtes Berlin
Study of water pollution of agricultural origin due to pesticides and chemical fertilizers. Biological and biochemical analyses of polluted water	Bundesanstalt für Gewässerkunde Koblenz
Study of water pollution due to pesticides, nitrates, phenols, heavy metals and carcinogenic substances	Hygiene-Institut, University of Mainz
Chemical and biological analyses of waste water. Limnological studies	Bayerische Biologische Versuchsanstalt Munich
Chemical analyses of inorganic and organic pollutants for the purpose of controlling the Ruhr and its effluents	Ruhrverband und Ruhrtalsperren- verein, Chemisches und Biologisches Laboratorium Essen
Study of water pollution of agricultural, industrial and domestic origin	Limnologische Station Niederrhein in der max-Planck Gesellschaft Krefeld
Study of marine pollution. Development of analytical methods	Institut für Meeresforschung Bremerhaven Institut für Meereskunde University of Kiel Institut für Hydrobiologie und Fischereiwissenschaft Hamburg

Research

Analysis of organic substances in the Rhine

Methods of sampling and analysing pesticides in water. Trace element control

Institute or laboratory

Institut für Wasserchemie
University of
Karlsruhe

Kernforschungszentrum
Karlsruhe

Institut für Wasserchemie und
chemisches Balneologie
University of
Munich

I. Transport of water pollutants

Research

Studies of water-soil and soil-water transfer of pollutants and consequences thereof

Study of the water/aquatic-organism transfer of pollutants. Ecology of indicator organisms. Role of the various organisms in the water self-purification process

Study of food chain contamination due to water pollution

Study of the chemistry of halogenated organic substances (pesticides, PCB, etc.). Absorption and metabolism in aquatic organisms

Study of the dispersion of oils in the soil and in groundwater

Study of the behaviour of oil floating on the sea and on inland waters

Study of the assimilation and elimination of higher plant life wastes and their influence on pathogenic organisms in polluted water

Institute or laboratory

WaBoLu
des Bundesgesundheitsamtes
Berlin

Limnologisches Institut
University of
Freiburg

Institut für Lebensmittelchemie
Hamburg

Institut für ökologische Chemie
der Gesellschaft für Strahlen-
und Umweltforschung
Schloss Birlinghoven

Technische Hochschule
Hanover

Bundesanstalt für Gewässerkunde
Koblenz

Limnologische Station Niederrhein
in der Max-Planck Gesellschaft
Krefeld

III. Effects of water pollutants on man and the environment

<u>Research</u>	<u>Institute or laboratory</u>
Epidemiological studies on water pollution	Institut für Sozialmedizin und Epidemiologie des Bundesgesundheitsamtes Berlin
Tests on mutagenic properties of human lymphocytes, yeasts and bacteria for water pollutants	Zentrallaboratorium für Mutagenitätsprüfung der Deutschen Forschungsgemeinschaft (DFG) Freiburg
Toxicological studies on water pollutants	Hygiene-Institut, University of Mainz Institut für Toxicologie und Pharmakologie, University of Würzburg Biologische Anstalt Helgoland
Studies of mutagenic properties of chemicals	Institut für Biologie der Gesellschaft für Strahlen- und Umweltforschung Neuherberg Institut für Anthropologie und Humangenetik Heidelberg
Study of the toxic effects of phenols, nitrogen trihydride, copper, heavy metals and other water pollutants on fish - Bio-indicators	Bayerische Biologische Versuchsanstalt Munich
Study of the effect of pesticides on plankton and fish. In-aquarium and in-pool tests. Study on eutrophication	WaBoLu des Bundesgesundheitsamtes Berlin
Study of the toxic effects of water pollutants on algae and other aquatic organisms	Limnologisches Institut University of Freiburg

Research

Study of the influence on water of
influxes of hot water.
Bio-chemical effects

Toxicological studies on fish

Development of a toxicity test for
biocides in water

Institute or laboratory

Bundesanstalt für Gewässerkunde
Coblenz

Landesanstalt für Gewässerkunde
und Gewässerschutz
Duisburg - Ruhrort

Institut für Hydrobiologie und
Fischereiwissenschaft
Hamburg

Institut für Wasserchemie und
chemisches Balneologie
University of
Munich

IV. Anti-pollution technology

<u>Research</u>	<u>Institute or laboratory</u>
Methods of controlling water pollution caused by oil and other pollutants	Bundesanstalt für Gewässerkunde Coblenz
Methods of treating sewage sludge	Bundesanstalt für Gewässerkunde Coblenz
Methods of treating drinking water. Elimination of pollutants in drinking water installations	WaBoLu des Bundesgesundheitsamtes Berlin
Practical problems inherent in the treatment of effluents (pollution due to oil, detergents, etc.). Effects of thermal pollution on self-purification. Pilot water-treatment plant	Bayerische Biologische Versuchsanstalt Munich
Projects for the construction of dams, sewers and hydraulic power stations. Commissioning and inspection of such installations	Ruhrverband und Ruhrtalsperren- verein Essen
Methods of purifying industrial effluents. Study of the functioning of purification plants. Treatment of sewage sludge	Bayerische Landesamt für Wasserversorgung und Gewässerschutz Munich
Means of combating watercourse pollution. Waste-water treatment plant inspection	Hygiene-Institut der Freien und Hansestadt Hamburg

V. Models and systems analyses

Research

Development of mathematical models
relating to the aqueous environment and
cases of pollution

Physical models for studying cases of
water pollution

Institute or laboratory

Bundesanstalt für Gewässerkunde
Coblenz

Bayerische Biologische
Versuchsanstalt
Munich

FRANCE

I. Analysis and measurement of water pollutants

<u>Research</u>	<u>Institute or laboratory</u>
Analysis of industrial waste water samples. Determination of cyanides, sulphides, halogenous solvents, etc. Waste water control	Laboratoire Municipal de la Préfecture de Paris
Analyses of water pollutants. Measurement of pollution from industrial plants	IRCHA - Centre de recherche de Vert-le-Petit
Analysis of drinking water and waste water	Laboratoire d'Hygiène de la Ville de Paris
Study of new chemical analysis techniques applied to water	Pharmacy Faculty - Hydrology Laboratory, University of Paris
Precision analyses of organic micropollutants of water	CEA - Centre d'Etudes Nucléaires Service de Chimie analytique Grenoble
Development of methods for analysing domestic and industrial waste water	Institut de recherches hydrologiques (I.R.H.) Nancy
Pollution tests on surface waters and their interpretation for the purposes of using drinking water for human consumption. Pollution of seawater	Institut Pasteur Lille
Improvement of techniques for bacteriological analysis of water	Institut Pasteur Lille

Research

Institute or laboratory

Study of the water pollution by hydrocarbons, oils, greases and toxic products in general. Research on synthetic detergents

Faculty of Medicine and Pharmacy
Hydrology Laboratory
Bordeaux

Analyses and bacteriological measurements for the study of riparian hygiene

Centre d'Etude et de Recherches de Biologie et d'Océanographie médical (CERBOM)
Nice

II. Transport of water pollutants

Research

Institute or laboratory

Study of surface water pollution by waste water. Methods for dispersing and flocculating matter in suspension in water

Institut Pasteur
Lille

Checking of the salubrity of foodstuffs liable to contamination by toxic substances (atmospheric, aqueous or other pollutants)

Laboratoire Municipal de la
Préfecture de
Paris

Experimental research on chemical pollution (hydrocarbons, pesticides and detergents) with reference to the biological chain

CERBOM
Nice

Study of the planktonic transference of certain elements

CERBOM
Nice

III. Effects of water pollutants on man and the environment

Research

Institute or laboratory

Systematic study of the cytotoxicity of domestic water supplies. Physiological action of substances present in water

Laboratoire d'Hygiène de la Ville de Paris

Study on toxic products present in lake water; biological indicators

Station d'hydrobiologie appliquée
Station de recherches lacustres
Thonon

Study of the biological effect of the heating of receiving media

Station d'hydrobiologie appliquée
Station de recherches lacustres
Thonon

Study of the effects of thermal discharges from electric power plants. Tests in the aquarium with various species of fish

EDF - Laboratoire d'hydrobiologie
Centrale de
Montereau

Study on the toxicity of micropollutants

Pharmacy Faculty, University of Paris

IV. Anti-pollution technology

Research

Institute or laboratory

Development of purification techniques and plants. Basic studies on physico-chemical and biological purification

IRCHA - Centre de recherche de Vert-le-Petit

Polluted water treatment: solvent extraction and biodegradation

CEA - Centre d'Etudes Nucléaires
Service de transferts thermiques de Grenoble

Study of systems for dehydrating primary and secondary sludge from sewage purification

Société DEGREMONT
Laboratoire de Reuil

Study of the thermal conditioning of sludge from urban plants

Centre de recherches de Pont-à-Mousson

Development of methods for filtering, centrifuging and flocculating primary sludge

Société PROGIL - Laboratoire central de recherches Decines

Study of the hydration of residual sludges in relation to their structure. Nature of the watersolids bonding forces. Application to existing processing techniques

I.R.H.
Nancy

Study of secondary sludge precipitation and dehydration conditions

IRCHA - Centre de recherche de Vert-le-Petit

Study of the methods for the adsorption and desorption of organic substances in water on different synthetic macromolecular adsorbents

Institut National des Sciences appliquées (INSA)
Laboratoire de chimie industrielle
Toulouse

Study of processes for separating mineral substances in suspension in waste water

I.R.H.
Nancy

V. Models and systems analyses

Research

Institute or laboratory

Development of mathematical models of pollution, and integration of these models in a computer program affording description of the water quality (salinity, dissolved oxygen) as a function of the characteristics of the watercourse, its environment and the pollution received

Centre de recherches de Pont-à-Mousson

Criticism of basic mathematical models. Classification of problems according to the influence of the various factors

University of Toulouse

Improvement of methods of analysing hydrometeorological series; applications to processed data available at regional level

EDF - Centre de recherches
Laboratoire de la Division
Hydrologie
Chatou

Development of efficiency tests on river pollution control media, and research into optimum policies

EDF - Centre de recherches
Laboratoire de la Division
Hydrologie
Chatou

Development of mathematical models for studying the aqueous environment

Science Faculty
Bordeaux

Compagnie générale des Eaux
(C.G.E.)
Paris

Theoretical reflections on the evolution of waste water discharges into the sea and of pollutant bacterial agents

CERBOM
Nice

ITALY

I. Analysis and measurement of water pollutants

<u>Research</u>	<u>Institute or laboratory</u>
Study of the chemical, physical and biological pollution of lake basins, watercourses and the sea. Development of automatic systems for detecting and processing physical, chemical and biological data	Istituto di Ricerca sulle Acque (IRSA) del Consiglio Nazionale delle ricerche (CNR) Rome
Development of standardized analytical methods for chemical, physical, biological and toxicological analysis of various pollutants present in water	CNR - IRSA Istituto di chimica analitica University of Rome
Study of pollution by copper, nitrogen trihydride and other toxic products of certain lakes in Northern Italy. Comparative limnological studies on certain lakes in Central Italy	Istituto italiano di Idrobiologia Pallanza (NO)
Determination of water pollutants of industrial origin (heavy metals)	Istituto di Ricerche "G. Donegani" Società Montecatini Novara
Study of the distribution of the biosphere of toxic elements of industrial origin. Assimilative capacity of a river environment	Laboratorio di Ingegneria sanitaria, Centro Studi Nucleari del Comitato Nazionale per l'Energia Nucleare (CNEN) Casaccia, Rome
Study of water and soil pollution by oil products	Istituto di Igiene, University of Padua
Determination of boron and phosphates from detergents in surface water polluted by domestic sewage	Istituto di Igiene, University of Pisa

Research

Institute or laboratory

Study of water pollution of agricultural origin due to the use of detergents, chemical fertilizers and pesticides

Istituto di Idrobiologia
University of
Perugia

Istituti di Igiene, Universities
of Naples
Pisa

Study on synthetic detergents in surface and ground water. Study of the biodegradability of detergents

Istituto di Igiene, University of
Padua

Istituto di Igiene, University of
Rome

Study of organic and inorganic pollution of watercourses

Istituto di Igiene, University of
Ferrara

Study of surface water pollution due to pesticides

CNR - IRSA

Istituto di Igiene, University of
Rome

Transport of water pollutants

Research

Study of the transfer to the 3-4
benzopyrene carcinogenic hydrocarbon
in sediments and certain marine
organisms

Study of the transfer of certain
pollutants via the components of a
fluvial food chain

Study of chemical pollutant
water-sediment transfer

Institute or laboratory

Laboratorio di Biologia marina
e Pesca
Fano (PS)

Laboratorio di Ricerche Ambientale
dell'Ente Nazionale Energia
Elettrica (ENEL)
Trino, Vercellese

Istituto di Zoologia, University of
Milan

Istituti di Igiene, Universities of
Genoa
Siena

III. Effects of water pollutants on man and the environment

<u>Research</u>	<u>Institute or laboratory</u>
Hygienic and sanitary problems inherent in the discharge of domestic and industrial sewage. Hygienic problems of seaside bathing resorts. Evaluation of hygienic conditions in respect of watercourses	Istituti di Igiene, Universities of Camerino Genoa Padua Rome
Public health problems inherent in water pollution by synthetic detergents and pesticides	Istituti di Igiene, Universities of Ferrara Padua
Study of chemical contamination of seawater as a cause of lethal effects on conifers on Italian coasts	Istituto di Igiene et Facoltà di Medicina, University of Pisa
Study of the effects of industrial waste water and sewage on agriculture and aquatic organisms	Istituto di Zoologia, University of Milan
Toxicological studies on fish, aquatic invertebrates and algae. Toxicity bio-indicators	CNR - IRSA Istituto di Zoologia, University of Milan
Study of the survival of pathogenic bacteria and viruses in sewage and their behaviour in the presence of some disinfection methods	Istituto di Igiene, University of Milan
Effects of detergents on wastewater microorganisms	Istituto di Igiene, University of Naples
Study of modifications in microbenthonic fauna. Limnological aspects of lake-water pollution	Istituto Italiano di Idrobiologia Pallanza (NO)

IV. Anti-pollution technology

Research

Study of methods for treating waste water before discharge into the sea.
Recycling of urban waste water for industrial purposes

Research on the self-purification capacity of surface water.
Development of techniques for the elimination of water pollutants including eutrophicating substances

Study of the effect of dams on watercourse oxygenation

Study of methods of treating sludge (drying, digestion and incineration) resulting from waste-water purification

Institute or laboratory

Istituto di Idraulica
University of
Naples

CNR - IRSA
Rome
(assisted by University
Institutes)

Istituto di Igiene, University of
Padua

Istituto di Idraulica,
University of
Naples

V. Models and systems analyses

Research

Development of mathematical and
physical models for the description
and prevention of cases of pollution

Institute or laboratory

CNR - IRSA
Rome
(assisted by University
Institutes)

NETHERLANDS

I. Analysis and measurement of water pollutants

<u>Research</u>	<u>Institute or laboratory</u>
Study of the physical and chemical properties of noxious substances (e.g., pesticides). Development of methods for determine pollutants in aquatic environment	Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek (TNO), Centraal Laboratorium, Delft Rijksverdedigingsorganisatie TNO (RVO - TNO), Chemisch Laboratorium, Rijswijk
Determination of copper, magnesium and zinc in coastal waters and water courses. Chromatographic analyses of organochlorated substances in water, sediment and fish	Rijksinstitute voor Visserijonderzoek, Ijmuiden
Determination of copper, mercury, phosphorus, NH_4^+ and nitrogen dioxide in water. Automated measurement systems	Centraal Laboratorium TNO, Delft
Development of methods for chemical analysis of natural and polluted water of domestic and industrial origin	Rijksinstituut voor Visserijonderzoek, Ijmuiden
Study of pollution of agricultural origin consequent upon the use of pesticides and chemical fertilizers	Laboratorium van Hoogheemraadschap van Rijnland, Leiden
Research on the nitrate and phosphate contents of surface water and their influence on hydrobiological equilibrium	Instituut voor Gezondheidstechniek TNO (I.G. - TNO), Delft
Analytic methods of determining the total chromium, Cr^{3+} and Cr^{6+} in waste water	Metaal instituut TNO, Delft

Research

Study of water pollution by detergents. Mineralization of synthetic detergents in water

Sewage analyses. Determination of the dioxide content

Study of thermal and hydrocarbon pollution of the sea

Institute or laboratory

Laboratorium van Hoogheemraadschap van Rijnland,
Leiden

Laboratorium van de Afvalwater zuiveringsinstallatie van de Dienst van Gemeentewerken,
Amsterdam

Rijksverdedigingsorganisatie
TNO (RVO - TNO),
Fysisch Laboratorium,
The Hague

II. Transport of water pollutants

Research

Institute or laboratory

Research on the concentration and transport mechanism of toxic materials in the marine food chain

Centraal Laboratorium TNO,
Delft

Experimental studies on the transport of hydrocarbons to groundwater

Koninklijke Shell Laboratorium,
Amsterdam

Research on the penetration of salt water and polluted water into surface water. Pollution of the Amsterdam canals

Gemeentelijke Geneeskundige en
Gezondheidsdienst (G.G. - G.D.),
Amsterdam

Study of the dissemination and decomposition of hydrocarbons in the soil for groundwater protection purposes

CONCAWE
The Hague

III. Effects of water pollutants on man and the environment

<u>Research</u>	<u>Institute or laboratory</u>
Research on the biological and toxicological effects of marine pollution. Noxious effects of heavy metals (e.g., Cu), hydrocarbons and pesticides on marine organisms entering the food chain. Interaction of toxic substances with enzymes	Centraal Laboratorium TNO, Delft
Toxicity of trace elements (As, Cu, Hg and Pb) and disinfectants; any antibiotics present in sea food	Centraal Instituut voor Voedings- onderzoek TNO (CIVO - TNO), Zeist
Epidemiological studies	Laboratorium van Werkgroep Epidemiologie van CARA - TNO, Groningen
Study of mutagenic properties of water pollutants	RVO - TNO Medisch Biologisch Laboratorium, Rijswijk
Study of surface water pollution and of the eutrophication effects. Effects on phytoplankton, zooplankton and macrofauna	Rijkszuivel Agrarische Afval- waterdienst (RAAD), Arnhem
Study of the effects of fluorinated water on flowers	Instituut voor Plantenziekte- kundig Onderzoek (IPO), Wageningen
Toxic effects of pesticide residues	Rijksinstituut voor de Volks- gezondheid (RIV) Utrecht, Bilthoven Laboratorium voor Insecticiden- onderzoek (LIO), Wageningen Instituut voor Veterinaire Farmacologie en Toxicologie, Utrecht
Effects of thermal pollution	KEMA, Arnhem

IV. Anti-pollution technology

Research

Institute or laboratory

Study of waste-water purification methods. Recycling of industrial water

RAAD,
Arnhem

Improvement of waste-water systems treatment and discharge. Separation of phosphates from waste-water purification plant effluents. Pilot biological treatment installation

I.G. - TNO,
Delft

Checking of the surface-water quality. Study of systems for making water drinkable. Pilot sludge activation and digestion plant

Rijksinstituut voor Zuivering van Afvalwater (RIZA),
Voorburg

Research on the effects of waste-water treatment installations

Hoogheemraadschap van Rijnland,
Leiden

Determination of the BOD in waste water after treatment. Waste-water purification systems

Laboratorium van de Afvalwater-zuiveringsinstallaties van de Dienst van Gemeentewerken,
Amsterdam

Effects of sludge reactivation on water purification results. Sludge treatment (drying, digestion, filtration and mineralization). Study of aeration and activation systems. Digested sludge discharge

Laboratorium van de Afvalwater-zuiveringsinstallaties van de Dienst van Gemeentewerken,
Amsterdam

V. Models and systems analyses

Research

Institute or laboratory

Development of mathematical models
for the study of thermal pollution

TNO,
Delft

KEMA,
Arnhem

Studies of water-soil interactions
using mathematical models

Instituut voor Toepassing van
Atoomenergie in de Landbouw,
(ITAL),
Wageningen

COMMISSION
OF THE
EUROPEAN COMMUNITIES

The institutions and principal laws of the Member
States relating to environmental matters

Introduction

A schematic description, in the form of analysis sheets prepared by the Member States is given below of the political and administrative institutions dealing with environmental matters in the Member States and the principal laws being drawn up in this field.

These sheets have been prepared with the aid of various bibliographical data collected by the Commission's departments in too short a time to allow systematic checking. They may therefore contain slight inaccuracies*. Moreover, since the organizations and laws dealing with the environment evolve very rapidly, some information may be wanting. Since this document was written, for instance, Germany has enacted a law restricting the lead content in petrol and the Netherlands Government now includes a Minister of Public Health and the Environment.

An analysis of the sheets below shows the following broad outlines:

(1) They indicate the diversity of subjects and aspects affected by the environment. The term 'environment' means the medium, surroundings and conditions of life and the complex interactions between these factors.

The laws and regulations on the environment which have recently come into force concern matters as varied as urban and rural development (construction, roads, land consolidation, etc.), conservation of nature and natural resources, prevention of pollution (water, air, soil), transport etc.

* This information will be checked with the Member States as soon as possible.

Similarly, the new institutional bodies set up group together or coordinate the administrative departments responsible for such varied fields as public health, economics, housing, urban and rural development, and agriculture.

While the emphasis in some countries is placed on the particular problems inherent in their geographic or economic structure (water engineering in the Netherlands, industrial conurbations in Germany, changes in agriculture and the explosive growth of the capital in France, flooding and soil erosion in Italy, etc.), environmental problems as a whole are tackled in all the Community countries.

(2) These various problems were until recently dealt with as a rule on an isolated basis in specialized ministerial departments. There is now an awareness of the close links between these problems and between the steps taken to solve them. This awareness is gradually prompting governments to try to define broader policies and better coordinated management and planning strategies.

This is shown in the legislative action and institutional organization. In all the countries, for instance, the laws on water and air protection are being brought up to date and reclassified. In a number of Member States bodies have been set up to coordinate the government and administrative machinery at the higher decision-making and executive levels.

Thus, in France, after the adoption in June 1970 of a general programme known as the "hundred measures", there have been set up in succession a Committee on the Environment, a Ministry for the Protection of Nature and the Environment and an Interministerial Action Committee for Nature and the Environment under the Prime Minister.

In Germany, an Interministerial Committee on Urban and Rural Development has been set up under the chairmanship of the Federal Chancellor, while the Ministry of the Interior centralizes responsibility for matters relating to water, air, noise and waste.

In Belgium, interministerial coordination is the responsibility of the Ministerial Committee on Scientific Planning, which comes under the Prime Minister.

In the Netherlands, a Ministry of Public Health and the Environment has recently been created, and a National Committee of Urban and Rural Development consisting of eleven ministers has been in existence since 1965.

In Italy, the Interministerial Committee for Economic Planning proposed in its preliminary national economic report a general programme for the protection and improvement of the environment and urged the need to coordinate official action on the matter.

This tendency to create high-level coordinating bodies is also reflected in many other countries.

In the United Kingdom coordination machinery has long existed in the form of the department responsible for land control in the Ministry of Housing and Local Government. In October 1970 an office of Secretary of State for the Environment was set up which included three former ministries (housing, transport and public works). A Royal Commission was set up in February 1970 to work out recommendations concerning environmental pollution. This Commission submitted its first report in February 1970.

Denmark has set up a Pollution Control Council.

In Sweden the Ministry of Agriculture is responsible for inter-ministerial coordination.

In the United States a Council on Environmental Quality, under the direct control of the President, has been in existence since February 1970, and in July 1970 an Environmental Protection Agency was set up with general responsibility for the implementation of anti-pollution programmes.

(3) The coordination thus evident in almost all the Member States takes various institutional forms and is under various auspices depending on the country - a ministry connected with public health in the Netherlands, a ministry under the Prime Minister in France, the Ministry of the Interior in Germany, the ministry responsible for scientific planning in Belgium. Each of these ministries thus has both executive and supervisory functions.

(4) Owing to lack of time it has not been possible to study in detail the institutional executive and supervisory machinery. Each specialized ministry ensures vertical coordination with the regional and local levels in its sphere of responsibility (public health, agriculture, housing, etc.).

The federal structure in Germany also raises certain special problems; the Land governments have heavy responsibilities, particularly for administrative organization (public works, public health, etc.).

To sum up, the governments and the general public of the Member States are aware of the importance of the quality of the environment, the gravity of the deprecations already perpetrated and the need to protect and improve the health and well-being of mankind by means of an active environment policy.

The complex relations between the various components of the environment have in general been realized. The diversity of these components has necessitated coordination between the various officials responsible at decision-making and executive levels. This coordination nevertheless tends to be organized in all the Member States differently in different countries. It meets with difficulties arising from the scale of the problems posed, the rivalry existing in traditional political and administrative structures and the fact that in general the framing and implementing of general environmental policies are still in the preparation or project stages.

A. The various national initiatives relating to the environment

- Germany
- Belgium
- France
- Italy
- Luxembourg
- The Netherlands

B. Summary list of national laws against water pollution

BELGIUM

- I. Introduction
- II. Ministerial departments responsible for environmental problems
- III. Principal activities and resources
 - A. Air pollution
 - (a) General measures
 - (b) Measures concerning dangerous, noxious, noisy, etc. establishments
 - (c) Measures applicable to motor vehicles
 - B. Water pollution
 - (a) Surface-waters
 - (b) Groundwater
 - C. Soil pollution
 - D. Nature conservation
 - E. Protection of natural amenities
 - F. Reconversion of industrial sites
 - G. The protection of the cultural and architectural heritage

BELGIUMI. Introduction

The Belgian government has not considered it worthwhile to set up a ministry of the environment and has preferred to organize and institutionalize interministerial cooperation in this field. It considers that, in view of the size of the country, the scale of the problems does not warrant the creation of a permanent department at ministerial level and that the division of responsibilities between the various ministries lends itself to coordination without too much difficulty.

II. Ministerial departments responsible for environmental problems

In September 1970, coordination in environmental matters was placed in the hands of two ministries, the Ministry for Foreign Affairs and a department under the Prime Minister, the Ministerial Committee on Scientific Planning (CMPS).

The Ministry of Foreign Affairs is responsible for contacts with other countries and with international institutions and organizations such as the UN, NATO, OECD and the Council of Europe.

The CMPS, through one of its committees, the Interministerial Committee for Scientific Planning (CIPS), ensures coordination between the various ministries concerned. This coordination operates in the definition of objectives, programmes and studies to be carried out by the various ministries with responsibility for the environment. The CIPS has the same right as the ministries to submit proposals to the government. The various ministries remain empowered to ensure the implementation of government decisions by means of administrative action, regulations and other legal measures.

III. Principal activities and resources

The development plans prepared in accordance with the organic law of 29 March 1962 relating to urban and rural development aim to determine the use to be made of the entire territory as a function of human needs and activities, the physical properties of the soil, the profitability of investments and considerations concerning respect for and restoration of the quality of the environment. This law is the first evidence of an overall approach taking into account a certain number of problems relating to the environment.

In this connection mention should also be made of the Belgian national programme of research and development on the physical and biological environment (1970-73) approved by the government on 23 October 1970. This programme is confined to the problems of water pollution (see Section B below).

The following provisions also exist for controlling specific problems.

A. Air pollution

The laws against air pollution can be divided into three groups:

(a) General measures

The framework law of 28 December 1964 defines air pollution and empowers the executive to adopt appropriate measures.

The Royal Decrees of 13 December 1966 and 27 May 1968 designated the laboratories responsible in particular for analyses relating to air pollution.

The implementing orders have not yet been issued.

(b) Measures concerning dangerous, noxious, noisy, etc. establishments

- General regulations governing industrial health and safety
- make the operation of dangerous, noxious and noisy establishment subject to prior authorization;
 - list such establishments;
 - specify the special rules applicable to certain industries or machinery;
 - specify the special arrangements applicable to underground and surface mines and underground quarries (Royal Decree of 5 May 1919).

(c) Measures applicable to motor vehicles

These concern:

- smoke discharge (Royal Decree of 14 March 1968);
- fume discharge from diesel engines (Royal Decree of 15 March 1968);
- standardization of opacimeters (Royal Decree of 2 July 1964).

Finally, mention should be made of the urban and rural development plan prepared in accordance with the law of 29 March 1962 already mentioned which limits or forbids the establishment of polluting industries in certain areas and lays down special areas for their location.

B. Water pollution

(a) Surface-waters

The law of 11 March 1950 and its implementing orders of 29 December 1953 and 6 December 1963 provide for:

- measures to prevent the pollution of inland waters and sea water, in particular the prior authorization and conditions for the discharge of waste water (not from public sewers) into inland waters and sea water;
- measures to detect infringements;
- penalties for infringements.

A new draft law is under discussion in Parliament. This aims to modify the procedure for granting authorizations and lays down the conditions governing the establishment of three water purification companies which share the national territory.

(b) Groundwater

The quantitative protection of the underground water resources is at present only fragmentary:

- Laws dating from 1907 and 1913 give water supply companies the right to prevent pollution round catchment areas by means of expropriation.
- A Ministerial Decree of 3 May 1948 allows the Advisory Council to concern itself with all matters relating to the country's drinking water supply.
- A Royal Decree of 24 April 1942 defines the quality of drinking water and the obligations of supply companies concerning quality control of the water and its distribution.

A new draft law is under discussion in Parliament. It is intended to bring up to date and reinforce certain provisions. It provides in particular for the issue of Royal Decrees to strengthen the protection of catchment areas; it also provides for supervision and monitoring measures and penalties.

Mention should also be made of the urban and rural development plan pursuant to the law of 29 March 1962. The restrictions and bans on the establishment of polluting industries apply both to air and to surface water pollution. This plan also protects certain catchment areas.

Finally, the first national R&D programme on the environment, drawn up by government decision on 23 October 1970, should not be forgotten. This programme relates to the study of the problems posed by the pollution of coastal water, fresh water and drinking water. It incorporates the work done by Belgium under NATO auspices. Belgium is the "pilot" country for the coastal water pollution problem and "co-pilot" country with Canada for the study of the pollution of inland waters.

The Belgian programme can be divided into five subjects:

- (1) Establishment of a mathematical model of North Sea pollution (oil pollution is dealt with separately);
- (2) Establishment of a mathematical model of pollution of a river (the Sambre);
- (3) Technological research;
- (4) Economic evaluation;
- (5) Coordination of education on the environment in its various aspects.

C. Soil pollution

The Royal Decrees of 31 May 1958 and 11 July 1959 govern:

- the sale, storage, manufacture, delivery and transport of pesticides for agricultural use, which are subject to a system of prior authorization; in addition, special protection measures have to be taken by users employing workers;

- the use, during a certain period of the year, of products toxic to certain animals;
- the export of pesticides for agricultural use.

A Royal Decree to replace those of 31 May 1958 and 11 July 1959 is in preparation. It will give the authorities power to ban certain types of pesticide and to control their application by aircraft.

D. Nature conservation

A draft law on nature conservation is currently in preparation. It concerns:

- the protection of wild flora and fauna, in particular rare animals and plants threatened with extinction or living in the wild state;
- the protection of biotopes and natural environments, in particular by the creation of reserves and nature parks;
- the creation of an advisory body under the King and the authorities, the "Higher Council for Nature Conservation", (Conseil Supérieur de la Conservation de la Nature).

This draft law will form part of a new set of legislation. It should be in line with a general plan for the environment.

E. Protection of natural amenities

In order to safeguard the beauty of natural amenities, a law of 24 August 1919 empowers the government to ban billsticking in certain places.

Apart from this isolated measure, the protection of natural amenities depends on indirect action, without the benefit of legal backing, on the part of the urban and rural development administration, notably the National Survey Department.

The departments of the "Green Plan" set up in 1958 are also controlled by the urban and rural development administration. This Plan's objectives are:

- to establish projects for parks and the planting of trees and to supervise their execution by the Ministry of Public Works;
- to put forward proposals concerning upkeep and protection in the areas administered by the Ministry of Public Works;
- to manage parks, squares and nurseries;
- to experiment with plantations for aesthetic or health purposes;
- to advise local authorities in implementing the Plan.

F. Reconversion of industrial sites

A problem specific to Belgium is the reconversion of disused industrial sites, particularly those resulting from the closure of coal mines.

- The law of 1911 on the conservation and beauty of the countryside empowers the authorities to oblige mine operators to restore the appearance of the land by means of reafforestation and plantation.
- The organic law of 29 March 1962 on urban and rural development provides the powers necessary for giving a new purpose to coal-mining areas, by means of expropriation if necessary.
- The Royal Decrees of 20 April and 11 November 1967 stipulate priority sites for restoration and define the conditions governing action by the public authorities.

Two bodies have been set up to assist these operations: the Department for the Restoration of Mining Sites and the Standing Advisory Committee on Mining Sites.

G. The protection of the cultural and architectural heritage

The law of 7 August 1937 is confined to protecting, but not conserving, buildings and sites of interest.

Conservation and restoration are dependent on the funds available for the purpose from the budgets of the Ministries of Cultural Policy and Public Works.

A draft law to replace the law of 7 August 1931 is in preparation. Its provisions are:

- the creation of a cultural heritage fund to combine the appropriations of the above-mentioned Ministries;
- the creation of a Council for the Cultural Heritage to direct the allocation of funds;
- rights of initiative granted to the State, the provinces and the local authorities.

Finally, an inventory of the cultural heritage is being drawn up with a view to ensuring its protection and to make it known to the public.

GERMANY

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GERMANYI. Introduction

The size of the country and the economic, climatic and demographic differences between the regions of Germany cause environmental problems to manifest themselves in a different light in Schleswig-Holstein, North-Rhine Westphalia or Bavaria.

Moreover, the German Federal Constitution, in particular with regard to the independence it gives the Länder, does not facilitate the coordination of the measures undertaken by the various authorities.

Thus, the various measures concerning the environment adopted in Germany show the importance attached to a regional approach to these problems and, more recently, a concern to find a better framework for vertical coordination, i.e., between the various rungs on the federal ladder, and horizontal coordination, i.e., between the various ministries.

II. Public departments responsible for environmental problemsA. Organization of powers

Under the Federal Constitution, the right to legislate belongs to the Länder, with the exception of fields explicitly reserved for the Federal authority (Arts. 72-75 of the Constitution) and "associated" fields. For the latter fields, the Federal authority defines the outline rules or principles to be observed by the Länder when enacting laws on these subjects.

The standard examples of this type of outline law (mentioned in the Constitution in Art. 75) are those relating to:

- Urban and rural development (Raumordnung)
- Nature conservation (Naturschutz)
- Protection of natural amenities (Landschaftsschutz)
- Water management (Wasserhaushalt).

Thus it is mainly by legislation that the Federal government influences most of the fields directly or indirectly affecting the environment. The establishment of other laws and the implementation of measures in matters of administrative organization, planning, public works, factory inspection and supervision of works, and specific tasks connected with public health are to a great extent a matter for the Länder and the local authorities.

In most of the Länder there are "Regierungspräsidien" acting as higher administrative authorities which are directly subordinate to the Land governments and are competent for local affairs (the pilot plans of the local authorities are, for instance, subject to the approval of these higher administrative authorities). The "Regierungsbezirke", or administrative districts, are usually the same as the regions formed over the centuries, the boundaries of which do not often coincide, however, with those of the zones of socioeconomic interpenetration which have developed mainly since the Second World War.

In view of the present local authority structure, it is very difficult to work out a future formula for the environment policy. Many local authorities (of which there are 25,000 in West Germany) do not satisfy these conditions because of their size, shape or administrative and financial setup.

B. Principal ministries concerned

The principal ministry concerned with environmental matters at federal level is the Federal Ministry of the Interior. Other federal ministries are involved in connection with special aspects falling under their jurisdiction, namely:

- the Ministry of Agriculture for nature conservation and protection of natural amenities;
- the Ministry of Education and Science for protection against radioactivity hazards and the promotion of technological, ecological and oceanographic research;

- the Ministry of Transport for air pollution caused by motor vehicles, noise standards, protection of water against pollution caused by the transport of dangerous materials by road, and all matters relating to air traffic;
- the Ministry of Public Health for protection against toxic products and pesticides.

More recently, an Interministerial Committee on Urban and Rural Development, under the chairmanship of Chancellor Brandt, has been set up to ensure interministerial cooperation on environmental problems.

Under this Committee, and more particularly with regard to environmental protection, ten groups of projects have been launched; the committees concerned are made up of government, Länder and private experts.

III. Main activities and resources

A. The laws

The following laws and regulations are of particular importance in Germany for regional organization in fields connected with the environment:

- The law on urban and regional development

The "Raumordnungsgesetz" of 8 April 1965 should ensure a balanced development of the regions and the country as a whole, while safeguarding the natural heritage. The principles of the law apply directly to the Federal government and to the regional planning for which the Länder are responsible. There are laws in force on regional planning in the various Länder.

- The federal law on construction

The "Bundesbaugesetz" adapts the pilot plans determining and controlling land utilization to the objectives of urban and rural development and regional planning. Such plans must be drawn up by all the local authorities under their own responsibility.

- Regulations on the use of building land

The "Baunutzungsverordnung" mainly contains provisions on the permissible use of building land appearing in the urbanization plans of towns and municipalities.

- The law on land consolidation

The "Flurbereinigungsgesetz" promotes the agricultural economy and production by consolidating farms which are fragmented or uneconomically organized.

- The federal law on major roads

- The Länder law on roads

- The law on air traffic

The "Luftverkehrsgesetz" contains provisions for drawing up plans prior to the building of airports.

- The law on the conservation of nature

The "Reichs-Naturschutzgesetz", in force in the form of Länder law, permits the designation of nature reserves and parks, with the possibility of building restrictions in these zones.

The following laws and regulations deal in particular with the technical developments influencing the environment in the fields of water, air and noise:

- The law on water management

The "Wasserhaushaltsgesetz" of 27 July 1957 was amended on 15 August 1967. By agreement with the Bundesrat, the Federal government lays down directives on the basis of which the Länder must establish outline plans concerning water. There are laws on water in all the Länder, which differ slightly from one another.

- The law on detergents and the regulation on detergents

These date from 5 September 1967 and 1 December 1962 respectively and fix the degree of biodegradability of detergents at a minimum of 80%.

- The law on measures for the disposal of oil waste

The "Altölgesetz" of 23 December 1968 controls the protection of water and the soil against oil waste and of the air against the burning of used oil, as well as inoffensive storage and disposal.

- The law on the amendment of the industrial regulations

The "Gesetz zur Änderung der Gewerbeordnung" of 22 December 1959 safeguards the general public from immissions. Under the law on industrial and commercial occupations, the Federal government laid down the technical instructions for the prevention of air pollution on 8 September 1964 and against noise on 16 July 1968. By means of this law, it is possible to take action against nuisances caused by existing industrial companies, by imposing additional conditions so that these can be met by the most up-to-date technical means and are justified economically for installations of the type concerned.

- The law on measures for the prevention of air pollution

The "Gesetz über Vorsorgemassnahmen zur Luftreinhaltung" of 17 May 1965 enables surveys of air pollution to be carried out on a large scale (concentration zones).

- The law on road transport - Highway code - Road traffic licensing regulations

The first law empowers the Federal Minister of Transport to draw up regulations against nuisance caused by motor traffic and restricts traffic on Sundays and public holidays; the licensing regulations permit the requirements for the composition of exhaust gases to be increased and standards to be established for permissible noise levels.

- The law on air traffic - Air traffic code - Rules of standardization for air navigation

These include various stipulations against air traffic noise.

B. Draft laws relating to the environment

The existing laws, some of which were passed a decade ago, cannot always provide a satisfactory solution to the environmental problems which are increasingly emerging as a result of the rapid growth of urbanization, industrialization and road and air traffic. Certain amendments to the laws cited above have been before the Bundestag (the federal parliament) for several years and have not yet been approved by the Bundesrat (where the Länder are represented) for various reasons, notably legislative powers.

- Draft law on the revision of the Constitution
(Before the Bundestag). This law will give the Federal government the power of current legislation concerning:
 - water management
 - air pollution
 - noise
 - nature conservation and landscape development
 - land distribution and urban and rural development
- Draft federal law on the prevention of immissions
The "Bundes-Immissionsschutz" is aimed at the hazards caused by emissions and immissions into the air and the effects of noise (to be tabled in mid-1971).
- Draft amendment to the law on water management
(To be tabled in mid-1971)
- Draft law on waste removal
(To be tabled in 1971).
- Draft law on noise caused by air traffic

The Federal government intends to establish a federal programme on urban and rural development; within this context certain draft laws have been prepared, namely:

- A draft law on urbanization and local authority area development
- A draft law on the promotion of urban development
(Städtebauförderungsgesetz).

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created on 7 January 1971a) Organization of the departmentsb) Responsibility of the ministry (decree dated 2 February 1971)B. Other ministerial departments dealing with environmental
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3 annexes: I. "Concerted Action" by the DGRST

II. Instruments enacted in pursuance of the French law
on water dated 16 December 1964III. Campaign against water pollution: organization at
the river basin authority level. (Framework law:
16 December 1964 implementing instruments:
14 September 1966).

FRANCEI. Introduction

French policy on the subject of the environment features a three-stage development resulting in the creation of a Ministry for the Protection of Nature and the Environment (Ministère pour la protection de la Nature et de l'Environnement):

(a) This policy was initially applied to certain particular fields: this is the case with the law of 1917 concerning dangerous, unhealthy, or noxious establishments, or the important initiatives taken during the last ten years in the fight against atmospheric pollution (Law of 1961), or the water policy embodied in the law of 1964.

(b) The second stage can be considered to have commenced in October 1969, when the French government decided to extend its range of activities and had an initial overall programme prepared by fourteen ministries under the sponsorship of the minister responsible for regional planning and conservation. This programme, entitled "The Hundred Measures for the Environment", was adopted on 10 June 1970. In order to carry out this programme, which is broken down into four major fields of action (R&D, information and education, concrete action on the regions, and legislative and statutory acts), the various ministries all created "environmental cells" of varying degrees of compactness. Interministerial groups have acted to prepare the decisions to be submitted to interministerial committees or Councils of Ministers under the direction of the environmental department of DATAR, which was responsible for overall coordination. One of the hundred measures gave rise (decree dated 30 July 1970) to the creation of the Senior Committee for the Environment (Haut Comité de l'Environnement), consisting of nine permanent secretaries and nine qualified persons. This is a sponsoring and coordinating body responsible for following up the implementation of the programme and facilitating interministerial consultations (first meeting held on 12 May 1971).

(c) The third stage began when it proved desirable to entrust the protection of nature and environment to a single ministerial authority which would promote more effective coordination and the formulation of new medium and long-term policies.

II. Competent Ministerial Departments

Owing to the division of responsibilities and terms of reference between the new Ministry of the Environment and its predecessors, it is worth-while first of all to describe the organization and duties of the Ministry for the Protection of Nature and the Environment (A), and then the other ministerial authorities responsible for problems relating to the environment (B).

A. Ministry for the Protection of Nature and the Environment created on 7 January 1971

a) Organization of the departments

It is made up of four departments (decree of 3 April 1971):

1. The General Secretariat of the Interministerial Commission for the Environment, the object of which is to prepare the meetings of the Senior Committee for the Environment, to prepare the resolutions of the CIANE* and to implement the decisions taken.
2. The Directorate-General for the Protection of Nature and the Environment, the objects of which are to carry out the terms of reference of the ministry, to exercise supervision over the work of the senior committees and, jointly with the Ministry of Cultural Affairs, to provide the Secretariat for the Commission for Beauty Spots, Views and Scenery.
3. The permanent secretariat for the study of problems relating to the water, the object of which is to ensure interministerial coordination on matters concerning water and to initiate the technical and legal studies necessary for the preparation of legislative and regulatory texts in this field.

* CIANE - Interministerial Action Committee on Nature and the Environment (decree of 2 February 1971), coming under the Prime Minister. Composed of all those responsible for environmental problems in the ministries.

4. The department of information and public relations, the aim of which is to foster relations with the associations for the protection of nature and the environment and also contacts with private individuals.

b) Responsibility of the ministry (decree dated 2 February 1971)

Its principal function will consist of ensuring coordination between the numerous administrations responsible for the environment. It carries out certain duties which were formerly within the responsibility of five ministries:

- (a) The Ministry of Industrial and Scientific Development hands over the responsibility for dangerous, unhealthy and noxious establishments to it.
- (b) The Ministry of Agriculture hands over to it some of the duties connected with the conservation of natural resources (hunting, fishing, regional and national nature reserves).
- (c) The Ministry of Transport relinquishes sea-fishing.
- (d) The Ministry for Cultural Affairs hands over responsibility for the protection of natural beauty spots.
- (e) Regional planning and conservation gives up interministerial coordination in matters relating to water. The departments responsible for water within the different ministries will be transferred to the new ministry, which will also be consulted on the regulatory measures taken by the water boards, which came under the Ministry of Agriculture in the case of surface water and under the Ministry of Industrial and Scientific Development in that of underground water.

This new ministry has at its disposal a Ways and Means Fund for Nature and the Environment (FIANE) which should facilitate the launching of urgent operations, enable unscheduled operations to be carried out and provide backing for certain complex operations requiring several sources of finance.

When the budget is in preparation, the Minister of the Environment will be consulted on the funds allotted to the different ministries for the protection of the environment.

It will be presided over by the Senior Committee for the Environment and a certain number of commissions (National Parks, Regional Parks, National Commission for Beauty Spots, in conjunction with the Ministry of Cultural Affairs).

B. Other ministerial departments dealing with environmental problems

- Ministry of Regional Planning and Conservation

This is presided over by an "Environment" Intergroup, a temporary body which collates the conclusions reached by sectoral groups devoted to the environment with a view to preparation of the Sixth Plan.

It participates in tourist planning for the interministerial commissions covering the Languedoc-Roussillon coastline (18 June 1963), Corsica (12 October 1966) and the coast of Aquitaine (20 October 1967).

DATAR (Delegation for Regional Planning and Action) is responsible for the central town planning group and the central committee for rural renewal.

- Ministry of Foreign Affairs

It is responsible for all contact with non-member countries, the European Economic Communities and the various international organizations in the field of the environment.

- Ministry of Industrial and Scientific Development

DGRST (General Delegation on Scientific and Technical Research), which comes under this ministry, participates in research in the field of the environment and integrates this research in the progress made by science and technology. (Annex: "Concerted Action"). It has set up various committees, such as the Scientific Committee on the Pollution of the Atmosphere, of the Water, the Quality of Urban Life, etc.

- Ministry of Health and Social Security

Undertakes the coordination of the campaign against air pollution (28 July 1960) within the "Interministerial Commission for the Coordination of Pollution Control Measures.

- Ministry of the Interior

Plays an active part in the field of town planning: gives its opinion on town planning schemes from the point of view of safety and health, backs the local authorities in cases involving priority for town planning purposes, assists in the financing of cleansing equipment (UDCs) and of public buildings.

It organizes aid in the event of a disaster (ORSEC plan).

- Ministry of Cultural Affairs

Three departments are responsible for questions relating to the Environment:

The Directorate for Architecture, assisted by the National Council for the Conservation of Natural Resources (27 November 1946);

The department for historical monuments and national palaces;

The department for "creative architecture and public structures".

- Ministry of Agriculture

The Directorate-General for the Protection of Nature, which was set up on 4 March 1970, retains its responsibility for all matters relating to the National Studs and Forests ("Haras et Forêt").

- Ministry of Housing and Supply

This Ministry acts in questions concerning the Environment through various departments:

The Directorate for Land Improvement and Town Planning, the town-planning department and the urban renewal offices ("bureaux de la rénovation urbains"). It is responsible for the "study and planning groups" dealing, under the instructions of the town planning departments, with the drafting of documents relating to town planning. It is jointly responsible with DATAR for the regional study groups for the metropolitan areas (CREAM). In addition, it is responsible for the Interministerial Commissions set up by the decrees dated 30 June 1966 for Tourism Planning:

In the mountain areas (Chambéry), the coastal regions (Toulon) and the rural areas (Grenoble).

- Ministry of Economics and Finance

It acts mainly in the capacity of ministry to which the deposit and consignment office and its subsidiaries are accountable.

III. Principal Initiatives and Funds

In order to avoid any confusion it would appear advisable to distinguish what has been undertaken within the scope of the different policies in each field (A) from initiatives and projects drawn up as part of the programme of the "hundred measures for the environment" (B), the implementation of which has commenced, and then to consider very briefly what seem to be the lines which will in future be followed according to the options selected in this field as regards the preparation of the 6th Plan.

A. Principal legal texts

Two general texts are aimed at all pollution caused by economic development and urban expansion:

1. The law dated 19 December 1917 and the decree dated 1 April 1964 covering premises classified as dangerous, unhealthy or unsuitable.
2. The regulation concerning hygiene on a "département" level, which constitutes a "Charter of Environmental Hygiene" (standard regulation dated 29 May 1963).

- Air pollution:

Framework law dated 2 August 1961 dealing with air pollution and odour control. It lays down principles which do not come within the province of the legislature and empowers the executive to extend the period of such independence of action.

Various instruments have been enacted in pursuance of this law: texts concerning the prevention and curbing of pollution due to heat-generators and heating installations: orders of the Prefect of the Seine district dated 13 October 1961 and 23 July 1962, decree of 13 September 1963 (thermal equipment and devices in general), decrees dated 19 August 1964, 22 June 1967 and 10 June 1969 (heating installations).

Texts concerning public order in the specially-protected areas created in Paris (orders of 11 August 1964), the banning of certain fuels, and smoke: interministerial decrees (dated 11 September 1963), limits set upon the level of unburnt hydrocarbons in the exhaust-gas emissions from petrol engines (decrees of 28 July 1964), limitation of the level of hydrocarbons and carbon monoxide in the exhaust emissions from automotive power units under idling, lightly-laden and stop-start town-running conditions (decrees dated 31 March 1969).

- Water pollution:

Framework law of 16 December 1964; consists of two parts:

- I. "Water pollution control and water regeneration".
- II. Solution to the problem of quantity.

Some twelve decrees and circulars have already been enacted pursuant to this law.

It reorganizes the administrative infrastructure in particular by creating an organization at the River Authority level (cf Annex 3).

The rural code, the public health code, the public waterways code and the town-planning code likewise incorporate articles organizing the fight against water pollution.

- Noise control:

This falls within the statutory province of the municipalities and of the authority of the prefects. A circular dated 17 November 1966 introduced the curbing of noise into the health regulations at a "département" level and supported the recommendations made to the prefects.

The regulations concerned are aimed at various sources of noise:

- Road vehicles (25 October 1962)
- Boats or water-borne devices (20 May 1968)
- Site equipment (18 April 1969)
- aircraft

The sound proofing of dwellings forms the subject of technical recommendations from the Institute of Scientific and Technical Building and of clauses contained in the order dated 14 June 1969 laying down general rules governing construction.

- Conservation of the environment:

Various instruments have been enacted in this sphere. They relate especially to:

Historical monuments (Law of 31 December 1913)

Beauty spots (Law dated 2 May 1930, supplemented on 26 June 1959)

Sectors subject to preservation orders (Law dated 4 August 1962)

The natural parks: National parks (Law of 22 July 1960) created by decision of the central authority (four in existence, two at study stage).

Regional parks (decree dated 1 March 1967) left to the initiative of the local authorities (16 in existence or at the study stage).

- Town planning:

The principal texts deal with town-planning and building, the protection of afforested areas, the seashore, and virgin countryside.

- The town-planning code (Law of 15 June 1943) has been supplemented by several texts, the most recent being the land policy law of 30 December 1967: it draws a distinction between the guideline conservation and town-planning schemes (planning framework) and the laws relating to the occupation of ground (legal framework).

- Building is subject to a building licence (defined in the town-planning code) and to the national regulations governing town-planning (decree of 13 September 1961); or to a prior declaration containing an undertaking to observe the regulations (Law of 3 January 1969) where these are closely defined in approved plans and building is supervised by a qualified person. (A building licence is, however, required in the areas considered "sensitive").

- Certain tracts of land not subject to the forestry regulations (under the authority of the State) can be classified (decrees of 31 December 1958 and 7 September 1959) for the purposes of conserving them where they are wooded or creating them where they are not. They are referred to in town-planning documents. The seashore is likewise protected by the law dated 28 November 1963 and by the decree of 1 July 1966.

- A decree dated 13 April 1962 regulates "precarious installations" (fixed or temporary shelters). There are texts in preparation on the subject of camping and caravanning.

- The law of 12 April 1943 restricts bill-posting rights.

- Controlled discharges, composting plant, or incinerators for household refuse are considered as deemed to be "Class Two" premises in accordance with the law of 1917. They are regulated by a circular dated 14 April 1962.

B. Some of the measures taken under the programme of the "hundred measures for the environment".

- The National and Regional Parks.

- The New Towns.

Creation of eight new towns, notable Fos and Le Vaudreuil.

Fos, (Aix-Marseille region) facilitates the study of the ecology and of pollution as part of the new large-scale planning.

Le Vaudreuil (near Rouen) emphasises the experimental character implicit in the eight towns projected.

The DGRST had funded extensive research programmes in various sectors relating to pollutants under the 5th Plan: air, water, noise, etc., pollution.

In 1968 it was considered to be of potential interest to attempt to apply these results synthetically to a new town. The DATAR recommended the choice of Vaudreuil.

Aims:

- To give an overall idea of all questions relating to urban pollution,
- Guinea pig: full-scale studies and experiments on the various concrete or technical measures or regulations which could subsequently be applied generally.

Under the policy on water

- 1) Record of degree of surface water pollution. Plan for reserves of water for supply purposes. Two out of six river basin authorities have already submitted their "white papers", aimed at assessing the water problems in the area covered by each authority, bringing into relief the specific aspects of the conservation of the region from the point of view of water and proposing a policy for resolving the problems raised, especially on the subject of water pollution and water availabilities. The six river basin authorities' white papers should be ready by the end of 1971.
- 2) Pilot operation: attempt to "reclaim" a river currently suffering from pollution: the Vire; construction of a waste water treatment plant.

C. Under the 6th Plan

The report on the options in the 6th Plan as discussed and adopted by Parliament incorporates environmental questions.

In order to integrate the differing viewpoints of the commissions involved (towns, rural areas, tourism, industry, energy, etc.) a liaison group for "safeguarding the natural and human environment" has been set up. It has studied two sets of measures:

- "defensive measures" dealing with different types of pollution (water, air, waste, noise);
- "positive measures" concerning the development of the natural environment in urban and rural areas, the development of the urban heritage in the protected areas, the protection of the environment and industry, tourism, and information and education problems.

The following must be borne in mind in relation to each point:

- The objectives and principles of a long-term policy;
- The short-term programmes and the urgent measures to be recommended;
- The methods and the means of applying them, particularly the nature of the resources.

An initial report has been submitted to the government on the overall pattern of the "defensive measures" affecting the various forms of pollution:

a) Campaign against air pollution, part of which is devoted to research, the cost of which would be about 600 million francs for the 6th Plan and another part to the monitoring of private dwellings and tightening of the controls on industrial firms (in particular, the obligation to comply with standards to be defined in conjunction with the occupational sectors affected).

b) Pollution of the continental waters:

Drawing-up of a 15-year plan in order to secure general application of the treatment and purification of water, the banning of certain refuse, the tightening of controls and the choice of location of industry.

The total cost envisaged for the period covered by the 6th Plan lies between 1600 and 2900 million francs. The financial terms would be provided by State contribution, fiscal incentives and loan facilities for industrial firms, and review of scales of charges.

c) Campaign against pollution of the oceans:

Three objectives have been singled out: limitation of the discharge of polluted effluents, ban the dumping of hydrocarbons outside "reserved areas" (national and international regulations), quick action in the event of accidents (fitting-out of three ports with emergency equipment and the building-up of stocks of anti-pollutants, the proposed cost for this item being 30.9 million francs).

d) The elimination of waste: Provision is being made for the preparation of schemes at "département" level for the collection and treatment of household refuse, the raising of fines for offences and the launching of a national cleanliness campaign.

Proposed cost: 1500 million francs, to be paid by the State, the introduction of a household refuse collection tax and special taxes.

e) Disposal of derelict motor cars:

An experiment in the Lyons area lasting one year is envisaged, whereby the recoverer and the organization collecting abandoned vehicles pay a sum of money to the owners; the estimated cost for one year is 1.5 million francs.

Annex 1 (France)"CONCERTED ACTION" BY THE DGRST

The concerted action involved is under the sponsorship of the DGRST and is aimed at furthering knowledge of the various pollutants affecting the Environment and determining the best methods of defence therapy. It centralizes the specialized work being carried out in numerous research centres and laboratories. About one half of this work is financed through the Scientific and Technical Research Fund.

The budgetary outlay entailed was of the order of 111,000,000 francs for the period covered by the 5th Plan, the cost being at least as much, within their own funding resources, for the several hundred research centres and public laboratories, professional or private, participating in the overall programme of work.

A 25% escalation in budgetary disbursements is envisaged for the 6th Plan; this would be accompanied by an increase of equal magnitude in private funding.

The following are some of the measures taken under the head of "concerted action" by the DGRST:

- Measures relating to physical research: acoustic nuisances.
- " " " chemical research: air pollution.
- " " " the field of earth science: research into the atmosphere and water (resources, economic pollution).
- Measures relative to biological and medical research: biological control of pollution.
- Measures relating to agricultural research: new techniques for the production, conservation and treatment of foodstuffs.
- Measures in the field of town planning: town-planning, living conditions, transport and traffic.
- Measures relating to research in the field of the human sciences: *modus vivendi*, the socio-economic aspects of development.

Annex 2 (France)Instruments enacted in pursuance of the French law
on water dated 16 December 1964

- Decree of 5 April 1968 relating to interministerial coordination in the sphere of water.
- Circular dated 8 May 1968 relative to coordination in the sphere of water at the programme-region level.
- Circular dated 23 May 1968 relating to the protection of water resources against pollution.
- Circular dated 10 December 1968 concerning the protection areas encompassing the points at which water is drawn for human consumption.
- Decree dated 10 January 1969 concerning the procedure for maintaining the record of the degree of surface water pollution.
- Decree dated 10 January 1969 laying down the conditions governing changes in category of State water-courses or lakes navigable or otherwise, of water courses passable or otherwise, and of canals forming part of the public property of the State.
- Decree dated 10 January 1969 laying down the conditions governing the deletion of waterways from the classified list of navigable or passable waterways.
- Circular dated 10 January 1969 concerning the technical instructions for determining bacteriological pollution of surface water. (This text specifies the methods of surface-water bacteriological analysis to be employed in compiling the record of degrees of pollution).
- Decree dated 15 March 1969 amending the decree dated 3 September 1965 setting up the national water committee.
- Interministerial order ("Journal officiel" dated 28 September 1969) fixing the procedures governing the record of degrees of pollution in rivers and canals.
- Decree ("Journal officiel" dated 31 September 1970) restricting the use of non-biodegradable detergents (to be applied from October 1971).

Annex 3 (France)

Campaign against water pollution: organization at the river basin
authority level. (Framework law: 16 December 1964
implementing instruments: 14 September 1966)

France is divided into six groups of drainage areas bounded by the watersheds between the catchment areas of the major rivers: Artois-Picardy, Seine-Normandy, Rhine-Meuse, Loire-Brittany, Adour-Garonne, Rhône-Mediterranean.

Each of these authorities incorporated the following:

1. A river basin authority committee

This consists of three categories of members elected or appointed for six years. These are made up in equal numbers, of representatives of the State, the various categories of user, and the local authorities.

It acts in a general consultative capacity in implementation of the law dated 16 December 1964.

It is consulted by the Prime Minister within the general scheme of the conservation of the river basin, and by the Ministers and prefects on the advisability of the work and development envisaged in the river basin or on any disputes which may arise between the various authorities supervising the work in the sphere of water conservancy.

It gives its confirmatory opinion on the schedules of dues compiled by the river basin authority's financial agency.

2. A financial agency for the river basin authority

This is organized in the form of a State public institution of an administrative nature.

The boards of the river authority financial agencies are divided equally between representatives of the State and representatives of the local authorities and users, the latter being elected by the river basin authority committee.

Annex 3 (France)

These agencies fulfil a complementary function, their aim being to assist in the implementation of the instructions contained in the river basin development plan by expediting the most urgent or the most important projects.

They have drawn up and obtained approval for a programme of action for the period 1968-1972, in which they have adopted the main body of the operations incorporated in the plan in order to speed up their execution. This programme involves 765 million francs.

The river basin authority financial agencies possess their own resources, since a programme of charges was laid down at the same time as the programme of action.

Several systems of charges have been devised, or are still under examination, the charges in question being due from those contributing to the reduction in the quality of the water, those drawing upon the water resources, and those changing the water economy.

- a) Charges for "tapping the resources" were instituted in two river basins in 1968 in order to finance a study programme.
- b) The "pollution" charges were provided for as far back as 1969: after attempting to set taxable pollution levels, the agencies proposed flat rates to be applied to the parties concerned and drew up:
 - a schedule of flat rates applicable to the various industrial activities, setting forth the unit charge based upon the distinguishing characteristics of the activity in which the person liable is engaged;
 - a schedule of flat rates applicable to the local authorities: the yardstick of pollution is the pollution normally produced by an inhabitant of a medium-size municipality in one day: the "inhabitant equivalent", to which a reducing or increasing factor is applied, depending on the size of the conurbation;
 - "cleansing bonuses", depending on the effectiveness of the equipment already placed in service by the parties subject to the charges, which are deducted from the amount of the charge.

Annex 3 (France)

c) "Net consumption" charges have also been instituted. These are aimed at persons taking water from the natural environment without restoring it immediately and are earmarked for the financing of facilities for water storage or for large-scale transfers from one river basin to another.

3. Coordinating officials

The setting-up of the river basin agencies has given rise to the creation of an appropriate grade within the administrative bodies affected by the water problem. There is a coordinating official in each river basin authority and for each of the principal government departments concerned.

4. Mission from the river basin authority (decree dated 5 April 1968)

This brings together the officials on the agency board and the "coordinating" officials from the river basin authority.

Its object is to coordinate the activities of the government departments and those of the agency in the river basin and to prepare the ground for the work of the coordinating bodies set up at a national level.

It is further responsible for drawing up the pollution record and the river basin development plans: it prepares the files, which will then be submitted to the river basin authority committee before being laid before the Government.

In May 1970, the government asked each of the six river basin authorities to prepare a white paper summarizing the water problems within each river basin, setting forth the special features of regional conservation with regard to water and proposing a policy for solving the problems arising. All the white papers must be submitted before the end of 1971.

ITALY

- I. Introduction

- II. Organization of Responsibility
 - A. Governmental level
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- III. Principal Activities and Funds
 - A. Nature conservancy
 - B. Anti-erosion measures
 - C. Air pollution
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ITALYI. Introduction

The situation in Italy as regards the environment can be outlined as follows:

- In view of the importance of erosion due to geographical as well as human factors, Italy very quickly tackled the problems involved in safeguarding the environment via nature conservation and anti-erosion measures. A set of legal provisions has been drawn up in this sphere which has in general been found to be effective. However, the Italian authorities consider that some of these laws are to cope with the current situation and plans are in hand to bring them more in line with present-day requirements.
- In the other fields ad hoc legislation has demonstrated its usefulness over the last ten years. Up to that time there had only been a form of indirect regulation through certain rules of common law (Civil Code) or more general laws such as the comprehensive health laws (1931).
- Currently Italy considers it necessary to take an overall view of all questions relating to the environment and to extend to other fields the "framework law" formula adopted for atmospheric pollution (1966) and the draft law against water pollution.

In the "Preliminary Report on the National Economic Programme for 1971-75", on the other hand, the accent is placed upon the importance of the coordinating machinery, at the level of both the making and the implementation of decisions.

II. Organization of Responsibility

The administrative and executive bodies concerned with the environment are numerous and exist both at governmental and regional levels and in parliament.

A. Governmental level

About ten ministries are involved:

- The Ministry of Public Works: The "Interministerial Commission for

the Protection of Underground and Surface Waters Against Pollution" is responsible for examining and confirming instances of water pollution brought to its notice and for pointing out appropriate corrective measures.

- The Ministry of Agriculture and Forestry: Nature conservancy agency.
- The Ministry of the Mercantile Marine: "Permanent Interministerial Commission on the Pollution of the Seas by Hydrocarbons".
- The Ministry of Health, to which the Higher Institute of Health is attached.
- The Ministry of Scientific Research:
 - Committee coordinating studies of pollution carried out within the context of the European Economic Community and the PREST and COST groups.
 - It also supervises two subsidiary Institutes of the National Research Centre (CNR):
 - The Air Pollution Research Laboratory,
 - The Water Research Institute.
- The Ministry of Foreign Affairs: Bearing in mind the importance attached to international relations in this field, it is responsible for all contacts with other countries and international organizations. An International Environmental Protection Committee is attached to it. This Committee is divided up into four sub-committees:
 - The committee dealing with problems relating to the 1972 Stockholm conference;
 - The committee for the protection of historic areas;
 - The committee for emergency action in the case of floods or earthquakes;
 - The "Pollution" committee.

The Ministries of the Interior, Finance, Public Education and Industry also exercise responsibilities in this field.

B. Regional level

The number of national administrations and independent administrative departments at provincial and local authority level often makes coordination difficult.

C. Within Parliament

- A commission for the environment was set up within the Chamber of Deputies in November 1969 on the initiative of Mr Pertini. It consists of 19 members of parliament from the various parties, and considers, in particular, questions concerning water pollution. It has organized a symposium to be held in Rome on 25-27 September 1971 on "The Features of European Legislation Governing Anti-Pollution Measures Relating to Water", which members of parliament from the six Community member countries, and probably MPs from Britain, and representatives of the EEC, the Council of Europe and the OECD are invited to attend.
- A steering committee for ecological matters formed within the Senate and chaired by Mr Fanfani met for the first time on 6 March 1971. It consists of 10 senators and six experts who have undertaken to urge legislation in this field and to examine the problems from a global and international point of view. It suggests the setting-up of a permanent special committee within the Senate.

III. Principal Activities and Funds

Since the public authorities first action was directed at nature conservation and anti-erosion measures, it may be worthwhile to adopt the same approach and then to examine the measures taken in relation to air and water pollution and the foreseeable trends in Italian policy as regards the environment.

A. Nature conservancy

- Creation of national parks, managed by independent bodies, or a State institution in the case of the national forests.

Four large existing parks: the "Grande Paradiso" National Park
(1922: 6200 hectares)
the Abruzzi National Park
(1923: 29160 hectares)
the Circeo National Park
(1934: 7445 hectares)
the Mount Stelvio National Park
(1935: 95361 hectares)

A fifth is being laid in Calabria.

The laws governing these matters are now considered to be inadequate, owing to the changes taking place in the social structure. The Italian government is veering towards the drafting of framework laws laying down rules of a general nature for the national parks and nature reserves and is also tending to redefine their boundaries. A distinction would be made inside each park between an "area of complete nature conservation" (integral nature reserve), an "area of limited human access" and a "free access area" set aside for "human recreation and sport".

- Integral nature reserves: The last decade has witnessed the creation of five completely protected and conserved forestry reserves (covering 45-1,000 hectares). These have been created, managed and developed by highly qualified personnel attached to:
 - the Forestry Commission,
 - the State Foresters,
 - the State Forest Administration
(possesses funds for the purchase of interesting tracts of land).
- A law dating from 1939 governs the protection of areas of natural and scenic beauty and delegates the relevant authority to Provincial Commissions, headed by the superintendents of monuments in each province. Circumstances have been such that its implementation has never

really been feasible. The public authorities nowadays consider it to be inadequate and plans are in hand to revise it. A draft law has been prepared by the Minister of Health and is currently under examination by the various ministries concerned.

B. Anti-erosion measures

Great efforts have been made in this field.

- It has been calculated as part of the campaign against the destructive effects of erosion that waste land now covers an area equal to that of arable land and that more than 1,000 centres of population in existence in hilly or mountainous country are threatened or afflicted by landslides.

The forestry law of 1932 (general text) and laws passed in 1933, 1952 and 1962 govern the management of forestry and watercourses and the campaign against soil erosion.

The forestry law is implemented by a special company of state foresters carrying out administrative and policing functions.

Extraordinary work in the public interest, as provided for in the laws of 1950 and 1955, is carried out in the South on the responsibility of the "Mezzogiorno Fund". It is coordinated in Central and Northern Italy by the regional public works departments.

A plan dealing with the systematic regulation of natural watercourses has been undertaken in accordance with the law of 1962 (a law of a general nature). A five-year programme has been carried through in agreement with the Ministry of Public Works and the Ministry of Agriculture (development of water resources, both in general terms and in connection with forestry and agriculture).

- Anti-flooding measures: This is the second expedient employed by the Italian authorities as part of their anti-erosion policy, in view of the importance already so frequently attached to them.

A programme providing for the spending of up to one billion (10^{12}) lire has been drawn up. Of this sum, 200,000 million has been made available to the Ministry of Public Works to cover

the most urgently needed work (law of 1967). A special inter-ministerial commission, made up of experts in the fields of hydraulics; hydrology, geology, agriculture, silviculture and economics will lay down the technical principles governing the use of the remainder of the sum.

C. Air pollution

This aspect is covered entirely by the law adopted by parliament on 13 July 1966 (draft law tabled by the Ministry of Health). This divides the nation up into primary and secondary zones subject to different restrictions according to the degree and seriousness of the danger to each individually. It recognizes three causes of pollution: Heating installation, industrial plant and motor vehicles. The Ministries of Health, the Interior, Industry, Labour and Transport are responsible for ensuring the observance of the law.

Inspection of heating installations is carried out by the Ministry of the Interior (fire service). Questions of a technical nature are dealt with by the Ministry of Health, which operates via its technical department, the Higher Institute of Health, and is assisted by the Fuel Research Station and the Provincial Hygiene and Preventive Medicine Laboratories.

The only enforcement orders made to date concern heating installations (decree dated 24 October 1967). These lay down:

- (a) The maximum level of noxious substances which can be discharged into the atmosphere;
- (b) The technical data required by establishments and construction criteria;
- (c) Procedures for monitoring the fuels used and their emissions.

Implementation orders concerning industrial effluents are in preparation.

A draft law aimed at combating pollution of the atmosphere by petrol vehicle exhaust gases has been submitted to parliament for approval.

A draft law dealing with diesel-powered vehicles is currently under examination by the Ministry of Health.

A representative of the Senate has also tabled a motion which would ban smoking in places of public entertainment.

D. Water pollution

1. The instruments currently in force are spread over various laws of a more general scope, notably:
 - The comprehensive legal text concerning fishing (1931). This obliges industrial concerns to obtain permission before discharging waste into public waters. Permission is granted according to the individual case by the president of the Provincial Council or the port authorities.
 - The comprehensive text concerning water and electrical installations (1933). This subjects the granting of rights of user of the waters to the acceptance of a regulation governing such use (responsibility of the public works department).
 - The comprehensive text of laws concerning health (1934). This prohibits emissions of any type likely to have a detrimental effect on public health.
2. In view of the fragmentary form and ineffectiveness of these instruments, the government has decided to formulate uniform legislation eliminating the risks arising from the vast amount of discretionary power wielded by the local organizations and authorities. A draft has been tabled before the Senate by the Ministry of Public Works in agreement with the Ministries of Health, Industry, the Mercantile Marine, Agriculture and Forestry, the Exchequer and Justice. The legislation envisaged is based upon the "hydrographic basin" concept and provides for the creation of collective management bodies, by means of which all of the requirements can be taken into account and decisions arrived at in a uniform manner.

- On 21 January 1971 the Ministry of Public Works passed on to the Office of the President of the Council of Ministers a draft law concerning the protection of Venice.
- The Ministry of the Mercantile Marine is in the process of producing a draft law dealing with the penal sanctions to be applied to all acts of pollution of the territorial waters.
- A draft law pertaining to the biodegradability of detergents (at least 80%) is about to be adopted by the parliament and should have the force of law by the end of 1971.
- Additionally two draft laws relating to the definition of standards for the protection of water against pollution are under discussion before the seventh commission of the Senate.

E. Future trends as embodied in Italian national economic planning

The "Preliminary Report on the 1971-75 National Economic Programme" provides a general outline of a long-term policy in this field. At the organizational and legislative level it underlines the need to coordinate and unify public action by avoiding, in particular, the fragmentation of responsibility.

It proposes the adoption of a certain number of measures, i.e.:

- Nature conservation and anti-erosion action, the accent being placed upon the need to extend and improve the conservation of afforested areas and to increase the authority of the Forestry Commission.

The programme also envisages the following:

- The drawing-up of a list of the scenery worthy of protection;
- The approval of the framework law dealing with the national parks;
- The preparation of a draft law of a general nature for the conservation of nature.

The creation of an "Anti-erosion Agency" has been suggested.

This would be responsible for formulating and executing a general plan of action within the framework of the decisions taken as regards the conservation of the countryside and would also coordinate the activities of the various public and private organizations within this sector.

Another suggestion is to extend to other hydrographic basins the solution adopted for the Po basin, i.e., the setting up of "Water Executives" responsible for implementing all of the measures put into practice in a river basin on the basis of "hydrographic basin management schemes".

- Air pollution

The supplementing of current legislation (regulations governing industrial companies, provision for strict control of fuels, etc.).

- Water pollution

Draw up a schedule of needs and funds available; obtain approval for the laws governing water in general terms.

- Historical and artistic heritage

Revision of the laws in force; extension of the powers and funds granted to the governors of each province in order to halt the current rate of damage; mapping-out of concrete operations in urgent cases (Venice).

GRAND DUCHY OF LUXEMBOURG

The file on the Grand Duchy of Luxembourg will be prepared at a later date on the basis of information to be supplied by the competent authorities.

THE NETHERLANDS

- I. Introduction
- II. Organisation, Powers and Planning
- III. Chief Activities and Means of Action
 1. Water management
 2. Town planning and housing
 3. Rural planning
 4. Air
 5. Noxious substances
 6. Research

THE NETHERLANDSI. Introduction

The country's high population density, notably in the south-west region known as "Randstad"¹ and the perpetual threat of floods have made the Netherlands a country with a long tradition of environmental protection. This situation has produced a large number of bodies and organizations, under public and private control, dealing with various aspects of the environment. Hence, the public is very sensitive to environmental problems and is easily roused to action when it feels that its interests are insufficiently protected by the public authorities.

Since the Second World War and more especially since 1965, when the Land Conservation Law came into force, protection and improvement of the environment has been carried out in the overall context of land conservation, facilitating coordination of activities in this field. This approach also allows a longer term general view and quicker adjustment to the problems that crop up.

For instance, the government is engaged in reforming the administrative and legal structures, involving among other things the abolition of small municipalities (mainly in the urban districts) and the creation of new regional administrative bodies (e.g., Rijnmond). The implementation of most of the actual schemes, however, is still in the hands of the authorities and bodies who dealt with them previously.

The practical task of protecting the environment is primarily the concern of the municipalities. Under the Land Conservation Law (Wet op de Ruimtelijke Ordening) the government is responsible for the central coordination of activities in this field and for the execution of work which concerns wider interests than those of the municipality or province. The provinces also play an important part as regards land conservation and protection of the environment, but they have no say in housing matters.

¹The "Randstad" is the area comprising the Amsterdam, The Hague, Rotterdam and Utrecht conurbations.

II. Organisation, Powers and Planning

Land conservation is carried on at three public authority levels, i.e., government, province and municipality. Fig. 1 gives a plan of the organization at the three levels in question.

At government level, the Rijks Planologische Dienst (RPD), a department of the Ministry of Housing and Land Conservation, prepares the national policy for conservation and supervises its implementation. This department, set up under the Land Conservation Law, examines and discusses the activities of eleven ministries which affect the environment and at the same time sees to their vertical coordination with the public authorities at the province and municipality level. Coordination at government level is carried out by two bodies - interdepartmentally, by the Land Planning Commission (Rijks Planologische Commissie), and interministerially, by the Land Planning Council (Raad voor de Ruimtelijke Ordening), presided over by the Prime Minister. The interests of the various levels of society (employers, trade unions, transport organizations, environmental protection agencies, etc.) are represented at the national level by the Advisory Council on Land Conservation (Raad van advies voor de Ruimtelijke Ordening).

The Rijks Planologische Dienst published two notes on land conservation (in 1960 and 1966 respectively), the second of which is still extremely pertinent. It also publishes an exhaustive annual report on environmental problems which arise in the Netherlands. The second government memorandum mentioned above contains an account of national policy in this field, and an outline of the plans for land utilization in the Netherlands in the year 2000 which the government intends to aim at. This memorandum is thus the main official consolidated document on the environment.

The ministries involved in environment problems are:

- the Ministry of General Affairs (Prime Minister)
- the Ministry of Housing and Land Planning
- the Ministry of the Interior
- the Ministry of Transport, Water Management and Public Works
- the Ministry of Economic Affairs
- the Ministry of Finance
- the Ministry of National Defence

- the Ministry of Agriculture and Fisheries
- the Ministry of Health and Social Affairs
- the Ministry of Cultural Affairs, Leisure and Social Services
- the Ministry of Education and Science

A new government is now being formed, which will almost certainly include a Ministry of Environment, and it is possible that this will bring about changes in the tasks allocated to the various ministries.

At the provincial level, the Provinciale Planologische Dienst (PPD) has the task of coordinating the activities in each of the eleven provinces.

At the municipality level, finally, the large towns all have their own Town Planning Departments; the smaller communes use private firms.

The Law on Land Conservation compels municipalities to draw up a plan (bestemmingsplan) on the intended uses to which their land outside the built-up areas is to be put. These plans must be keyed into the regional plans (streekplannen) set up by the provinces for the whole or part of their territory. An outline of the national policy, drawn up by the government, serves as a guide for the plans of the municipalities and provinces. There is no official national plan.

The draft plans drawn up by the municipalities have to be submitted to a public enquiry and must be approved by the provincial States, who forward them to the government. The government's approval is not required. The government departments discuss the regional and municipal drafts with the public authorities concerned, and may propose changes. There is also the structure plan (structuurplan) at the municipality level, which may cover part of the territory of one municipality and also of adjacent ones.

The municipal zoning plans are the only ones of a binding nature, the structure plans and regional plans being intended for guidance purposes. Any work carried out within the framework of a municipal zoning plan must have received approval.

All construction projects must be approved by the local authority, which grants a building permit when the project fits in appropriately with the zoning plan, and after approval from the local Committee for Aesthetic Planning (Schoonheidscommissie). Authorization must also be given for the construction and utilization of dangerous, inconvenient or unhealthy installations in accordance with the law on nuisances (Hinderwet).

III. Chief Activities and Means of Action

Owing to the long tradition of environmental protection, the corresponding legal provisions are found scattered among a large number of laws, regulations, decrees, etc., drawn up at the three levels of public authority.

The law on land conservation and more recently the laws on surface water pollution* and air pollution group together the main points of these provisions, setting them out in an overall context. They do not, however, detract from the importance of older and more specific laws.

A new principle is embodied in the two new laws mentioned above, namely, that the onus of anti-pollution measures should be borne by the polluter.

1. Water management

Water management in an environmental context is one of the most important tasks in the hands of the Dutch public authorities, and horizontal and vertical coordination has existed in this field for a very long time.

The problems presented by water come under two different aspects:

- (a) that of controlling the accidental and natural entry of seawater inland, and to redistribute and remove superfluous freshwater;
- (b) and more recently, that of ensuring the purity of freshwater intended for various types of consumption.

*Law of 13 November 1969 and regulations of 5 November 1970 (cf doc. XIV/169/71 f below)

Generally speaking, the "Rijkswaterstaat" is responsible for all matters involving interests wider than those of the provinces. These last have a "Provinciale Waterstaat" for matters within their scope. Lastly there are the bodies governed by public law entrusted with the management of the polder waters ("Waterschappen" and Hoogheemraadschappen").

A warning system has been in existence for a long time, enabling rapid defensive and safety measures to be taken in case of flooding. A warning system which monitors the quality of the water, mainly in the major rivers, is now being set up.

The Dutch constitution comprises a chapter entirely devoted to the "Waterstaat", which has given rise to a number of laws, regulations, etc. The most recent of these concern pollution of seawater by hydrocarbons (1950 and 1966), pollution of surface water (1969) and land clearance (1965). A law relating to underground water is in the process of being drawn up.

Mention should also be made here of the Convention concluded in 1969 between the countries on the coast of the North Sea on pollution of the water by hydrocarbons.

2. Town planning and housing

Town planning in the Netherlands is characterized by a very high concentration of population in the large towns and the medium-sized and small towns in the "Randstad". These last have the highest growth rate, whereas the Amsterdam and the Hague conurbations have become practically stagnant since 1970. The government is trying to halt excessive urban development and to attain a demographic distribution in "diversified conurbations" spread evenly over the country (gebundelde deconcentratie).

Apart from the exceptional cases of the "Ijsselmeerpolders", the Netherlands do not intend to build new independent towns, as in Britain and France. Urban renewal and the control of traffic in towns are regarded as the main problems in this field.

In several areas of the country, and only in recent years, the housing shortage has started to be overcome and is gradually being replaced by concern for quality and the environment as one of the main factors involved in town planning. The "Randstad" is without doubt the area where environment problems are most acute, where rapidly growing industrialization has created chronic town planning and pollution problems, but there are other regions in Limburg, Groningen and Zeeland which also have quite serious problems.

The Law on Land Conservation (which came into force in 1965) is the most important as regards town planning, permitting direct or indirect action to be taken at all levels of land utilization.

Dutch housing legislation goes back to 1901; it has been changed and added to at various times to deal with changing circumstances. One of the additions was the Law on Reconstruction passed to deal with the exceptional conditions after the Second World War, while another was the Law on Land Conservation passed in 1965, defining the general rules and guidelines for housing and more particularly the requirements for:

- the construction, alteration and demolition of dwellings;
- the conditions governing financial backing from the public authorities;
- the improvement of housing conditions (particularly infrastructure work).

Under the Law on Historic Buildings (Monumentenwet) it is possible to save buildings and entire districts which are of cultural or historical value.

The Law on Compulsory Purchase (Ontheffingswet) provides the public authorities with a means of carrying out its plans by compulsion. Mention should also be made of the local Aesthetic Planning Committees, whose approval is necessary for each building project.

3. Rural planning

The main activities in this field concern redistribution.

The Law on Land Consolidation (Ruilverkavelingswet) dates from 1954; its main object is to improve the economic situation in agriculture and forestry, but is being used more and more for land conservation and reclamation.

The "Centrale Cultuurtechnische Commissie", aided by the "Cultuurtechnische Dienst", is responsible for the management of these activities. Its work includes the setting-up of a "Ruilverkavelingsplan", comprising a "Landschapsplan".

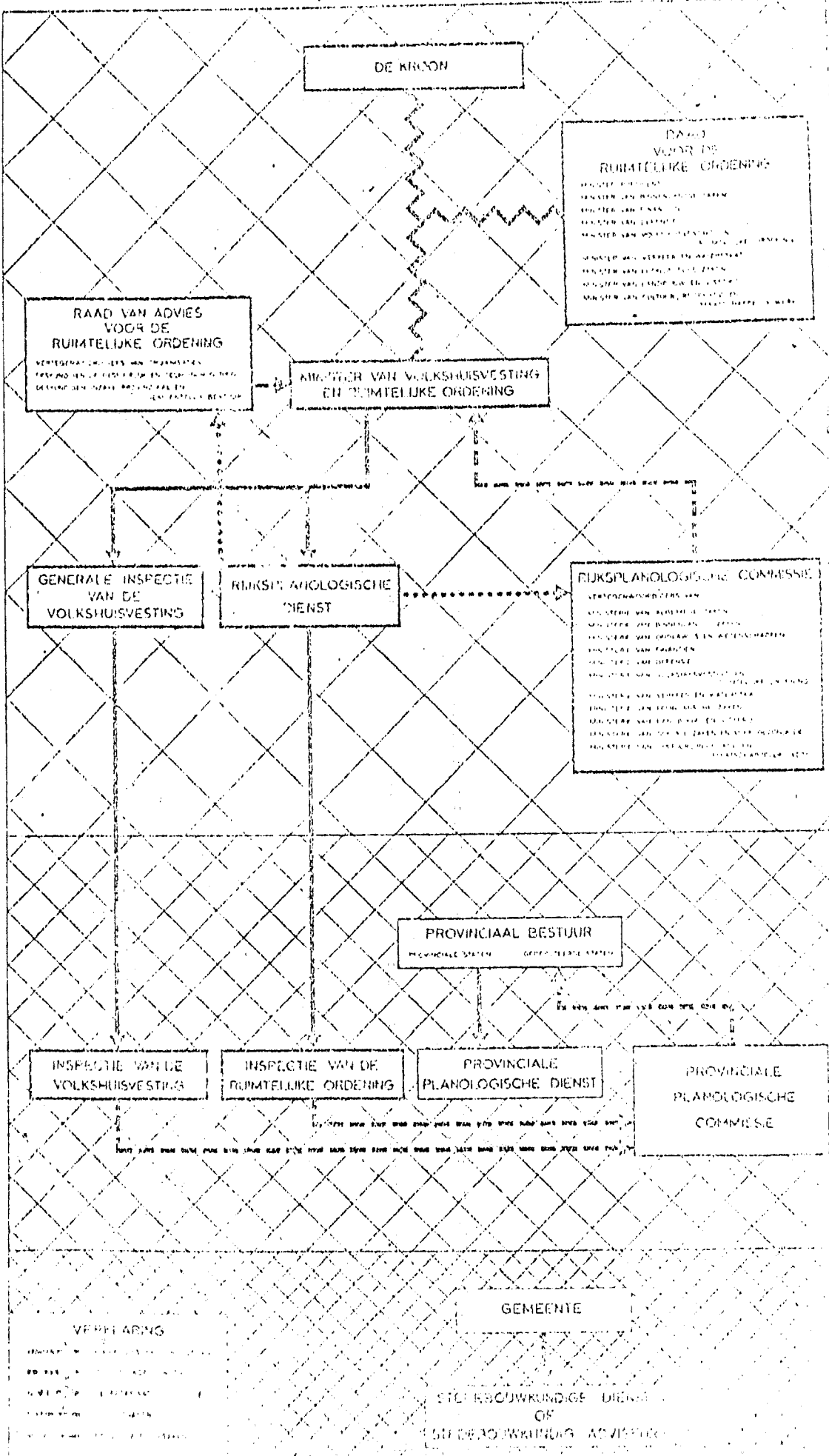
The following should also be mentioned here:

- the Law on Forests (Boswet), under which prior notification of the intention to fell trees or woods is compulsory, and which also requires that replanting be carried out within the maximum period of three years;
- the Law on Nature Protection (Natuurbeschermingswet) of 1960, for safeguarding land, flora and fauna;
- the Law on Natural Beauty (Natuurschoonwet) of 1928, which affords tax relief to landowners;
- the Law on Birds (Vogelwet) of 1936;
- the Law on Hunting (Jachtwet).

4. Air

Environment problems connected with the air are far more recent than those concerning water management (Waterstaat) and the land (rural and town planning), but they are swiftly attaining considerable proportions in various regions of the country. Environment problems relating to the air come into two categories: pollution and noise. They occur chiefly in the "Europoort" area, which is the industrial and port area around Rotterdam. A central office has recently been set up in this area for monitoring air pollution and taking the requisite remedial action. Noise problems, particularly those created by air and road traffic, have become quite serious, especially in the area around Amsterdam. A special Committee has recently been set up for the study of nuisances created by noise near airports.

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XIV/169/71 E

DIGEST OF NATIONAL LEGISLATION IN THE FIGHT AGAINST
WATER POLLUTION

BELGIUM

Belgian legislation distinguishes between underground and surface water. Under various regulations implementing the law of 18 December 1946, and in accordance with Article 78 of the commune law, various uses of underground water are subject to official authorization.

Under the law of 26 March 1971 and certain regulations drawn up in implementation of the previous legislation (notably the law of 11 March 1950), the introduction of solid noxious substances into surface water is forbidden, and the discharge of waste water is subject to approval.

Furthermore, Belgian legislation is based on a system of water classification (law of 28 December 1967). For each of the three categories (category 1: used for drinking water; category 2: used for fishing and for watering stock; category 3: used for industrial purposes) there are fixed ceiling values and regulations concerning the waters into which these categories are discharged (temperature, oxygen content, concentration of toxic or other chemical substances, content of matter in suspension, etc).

The decision concerning the granting or refusal of the permit, and the conditions and obligations relating to this permit depend on the classification of the water (the responsibility of the Ministry of Public Health) into which the waste water or substances are to be discharged. In issuing the permit for the discharge of waste water, the competent authority bases its decision on the fixed ceiling values; in taking its decision, it applies the regulations which ensure that on each occasion the state of the water complies with the quality standards laid down for the corresponding category.

It is also possible that further obligations be imposed on the user in this context.

Belgian legislation lays down the authorization procedure in detail and embodies penalty clauses to ensure that the regulations in force are complied with.

GERMANY

West Germany is the only federal state in the European Community. Under constitutional law, each Land has its own system of water laws which stems jointly from federal and Land laws.

In accordance with the law on the utilization and the protection of water (Wasserhaushaltsgesetz) of 27 July 1957 (in the version of the third amendment of 15 August 1967 (BGBl. I 909), itself complemented by Land legislation, the field of applications subject to approval is very considerable. Nearly all the operations which have or can have an effect on the quantity or quality of the water (surface or underground) must have a permit (in particular, the introduction or discharge of substances).

Moreover, the construction and use of pipelines for transporting substances dangerous to water are subject to a special permit.

The authorization ("Genehmigung" - there is a legal distinction between "Erlaubnis" and "Bewilligung") can not be granted if the proposed utilization endangers public health and, in particular, constitutes a danger to the public water supply, and if certain obligations are not sufficient to prevent this danger.

In practice, the administrative authorities tend, in applying the legislation in force, to demand that persons or firms who discharge waste water take all possible safety measures available as a result of technological progress in the field of water treatment, the "standard" requirements being based on empirical values.

There may be a certain number of further compulsory requirements, laying down additional conditions regarding the nature of the substances discharged or introduced, together with certain water-saving measures, but these must be justified from the economic standpoint.

German water legislation also includes detailed procedural requirements. Failure to comply with the various water regulations is subject to penalty.

FRANCE

Water legislation in France is relatively up-to-date and is constantly being elaborated. As regards surface water, this legislation still distinguishes between State-owned and other rivers.

The basic law is that of 16 December 1964 (Journal officiel, 18 December 1964 page 11, 258).

Under this law, any consumption and any discharge is subject to authorization.

The decision concerning the granting or the refusal of a permit, and the conditions and obligations relating to this permit, depends on the requirements imposed with regard to the physical, chemical, biological or bacteriological state in accordance with the inventory listing of the surface water or a part of it (in this case no distinction is made between State and other waters). The procedure relating to the establishing of the inventory is subject to detailed regulations. All the conditions applicable to persons or firms who discharge waste water are laid down by the Council of State in relevant decrees.

French water legislation has also provided for Committees on Water Basins (Comités de bassin) and Basin-financing Agencies (Agences financières de bassin), who cooperate in measures of general interest and the financing thereof (see decrees of 14 September 1966, Journal officiel of 23 September 1966 page 8380).

French territory is divided into six basins (Artois-Picardy, Rhine-Meuse, Seine-Normandy, Rhône-Corsica, Adour-Garonne and Loire-Brittany).

French legislation in force at present also requires industrial firms to obtain a special permit under industrial law (law of 19 December 1917, amended by the decree of 1 April 1964). Under these provisions, firms are divided into three categories. The first two have to specify clearly in their applications for permits the nature, treatment and method of discharge of the waste water, its sedimentation and any other factor relevant to the water law and stemming from the nature of the company. Firms in the third category are obliged to give due notification. Here the industrial law helps to protect water.

French law also includes specific regulations governing procedures, both for drawing up the water inventory and for obtaining a permit. Failure to comply with the essential provisions is punishable under the law.

ITALY

The legislation in force is relatively fragmented. A new body of regulations on water protection is being planned.

Under the present regulations, a distinction is made between underground and surface water, State-owned and non-State water. The chief basis for deciding whether waters belong to the Domanio is their suitability for use in the public interest.

As regards State-owned waters of major importance for water distribution, various permits have to be obtained with respect to installations and to the consumption and discharging of water.

The legal situation regarding discharge is very complicated. The chief measure which helps to keep the waters clean consists in a system of compulsory licensing forming part of the fishing laws (Law on Fishing, Article 9), under which the discharge of waste into public waters must be approved by the provincial authorities.

There are also other permit requirements including various permits under the health regulations, which should be particularly important as regards the water policy.

In Italy, procedural law and penal law in regard to keeping waterways clean are, like the material law, piecemeal and confused

LUXEMBOURG

Unfortunately it has been impossible to find any information on Luxembourg's water laws in the literature available. It appears that a new body of regulations - in connection with land conservation - is to be prepared.

NETHERLANDS

The subject is dealt with by very recent legislation (law of 13 November 1969 concerning surface water; Staatsblad 1969/536; implementation regulations of 5 November 1970, Staatsblad 1970/536).

Under this law, any person introducing or discharging polluting matter into surface water by means of installations intended for this purpose has to obtain a permit.

Nevertheless, no permit is required for the introduction of toxic substances by installations connected to old installations for which a permit has already been obtained. Furthermore, no permit is needed for the discharge of polluted water by a natural or artificial route into other polluted water (there is a special legal procedure, the "Verklaring van Ongenoegzaamheid", to deal with these cases). Lastly, the activities of bodies governed by public law are not subject to authorization.

The law does no more than allude to the criteria applicable in the issue of a permit. Specific directives which will have to be complied with by the authorities responsible for issuing the permit have to be established by a regulation of the Ministry of Transport and Water (Waterstraat) (for national waters) or by the provincial states or the local authorities (for other waters) in a general and abstract manner. As a general rule the aim is that the surface waters must be able to be used for the preparation of drinking water without involving excessively high processing costs. In the same way, the water must be usable, if possible without being processed, for various industrial and agricultural purposes.

The law also provides for a tax on waste water, to be calculated yearly on the basis of established criteria. The regional authorities, water departments, etc., can also charge rates on the use of the waters under their responsibility. As regards the national waters, the details of this tax have been specified in regulations governing its application.

The Dutch law includes numerous procedures which require, amongst other things, the collaboration of all the parties concerned in the drawing up of the various regulations. There is provision for penalties in case of failure to comply with the regulations in force.