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## REPORT FROM THE COMMISSION OF THE EUROPEAN COMMUNITIES

TO THE UNITED NATIONS CONFERENCE  
ON THE ENVIRONMENT AND DEVELOPMENT

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Summary of the Report presented to UNCED

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## SUMMARY

The Community has 12 Member States (Belgium, Germany, Denmark, Greece, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Portugal and the United Kingdom), and approximately 340 million people.

The Single European Act which in 1987 modified the founding Treaty of Rome of 1957 sets the binding objective of completing the internal market by the end of 1992 as a means of progress towards European unity. Amongst the policy areas in which the Community plays a significant role, therefore, are those directly related to the establishment of the single market and those which support it.

The European Community recognises that environmental concerns are not only a priority but are also inseparable from most other policy areas. The Community has therefore come to adopt a broad approach to environmental policy formulation and has responsibilities for action in virtually all its sectors. It recognises also that the consequences of many types of action go beyond their immediate confines and that their cumulative effects can be no less than global, and therefore policy formulation is now complemented by reflection and action on global issues.

The impetus for the creation of the present arsenal of environmental legislation was given by the Heads of EC States meeting in Paris in 1972, just after the Stockholm Conference. They recognised that economic expansion was not an end in itself but that it should 'result in an improvement of the quality of life as well as in standards of living and that particular attention should be given to intangible values and to protecting the environment'.

The first EC environment programme was consequently adopted in 1973, and its main principles were incorporated into the 1987 amendments of the Treaty where art 130r para 2 of the Single European Act (cf Annex I) reads as follows: 'Action by the Community relating to the environment shall be based on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source, and that the polluter should pay. Environmental protection requirements shall be a component of the Community's other policies'.

The Treaty objective as modified by the Single European Act of establishing the internal market is itself conditioned by the requirement to take as a base a high level of environmental protection when drawing up measures for its implementation. In addition the Treaty requires that the Community pursues environmental objectives as an end in themselves in order to:

- preserve, protect and improve the quality of the environment,
- contribute towards protecting human health,
- ensure a prudent and rational utilisation of natural resources.

The new Treaty on European Union, signed by the twelve member states on 7 February 1992, extends the Community's environmental policy objectives to include the goals of sustainable growth and the resolution of global environmental problems.

The Treaty, as modified by the Single European Act, also incorporates the principle of subsidiarity. This principle means that the Community will act in environmental matters only where the objectives mentioned above can be better attained through joint action at the Community level rather than through the individual efforts of the Member States.

The new Treaty on European Union also attaches special value to the subsidiarity principle, and states that decisions should be taken as closely as possible to the citizens.

The Community now has an extensive legislative and regulatory framework in the field, and participates in many international Conventions and Agreements. But the traditional 'command and control' approach, (described in Part I below), has shown its limits and the

challenge of today is to ensure that the discipline required to achieve sustainable development is accepted or imposed across all areas of environmentally significant activity (Part II). Part III is devoted to action by the Community concerning global environmental issues.

## Part I: The Environmental Policy of the Community by sectors

### 1) The environmentally sound management of chemicals in industry.

Since 1967, the Community has developed a labelling and classification scheme for dangerous substances so that the public and the industry can learn the identity of a chemical and assess its risks. The system is completed by the manufacturers and importers' obligation to notify in advance the characteristics of any new chemical substances.

Major steps have already been taken to control exports and imports of some chemicals, mostly pesticides which are banned or severely restricted by Community law. The Community is now reforming its legislation to bring it into line with the UNEP's guidelines and the FAO's code of conduct on the Prior Informed Consent Procedure.

The EC has also established since 1982 a procedure for the control and assessment of major industrial risks involving industrial entities, public authorities and also the general public.

### 2. The sound management of biotechnology

EC policy is based on ~~three~~ parallel approaches:

- the development of harmonised legislation to manage the risks to human health and to the environment associated with the use and release of genetically modified organisms.
- research and training programmes on possible risks involved in the use of such organisms as well as on the development of environmentally safe applications in domains such as agriculture and nutrition.
- the creation of a competitive environment for the industrial activities based on biotechnology.

### 3. Nuclear Safety

Community action in the nuclear field is based on the 1957 Euratom Treaty whose objectives were, among others, to establish uniform safety standards throughout the EC and to promote research. This issue is particularly important as there are about 140 nuclear power stations in the Community, accounting for about 34% of the total supply of electricity. Community legislation provides for basic safety standards for the protection of nuclear industry workers as well as the public, for maximum permitted levels of radionuclides in some basic foodstuffs as well as for informing the public on health protection measures to be taken and procedures to be applied in case of a radiological emergency.

The Community has furthermore developed a programme on radioactive waste management since the 70's which aims to contribute to the demonstration of a complete system ensuring the safety of the population and the protection of the environment during all the management phases and in particular during the final, disposal phase.

The Community attaches great importance to research activities and international cooperation in the field. It works closely with other countries and relevant international organisations.

#### 4. Waste

Two thousand million tonnes of waste are produced every year in the Community, of which some 100 million are household waste and 30 million classified as dangerous.

Community policy has evolved from action aiming to control disposal towards action encouraging waste minimisation, with considerable emphasis now being placed on the identification of appropriate instruments to encourage new clean technologies and products, and to place the burden of disposal on the producer.

The Community has recently adopted a comprehensive strategy based on 4 principles:

- the direct reduction of waste streams,
- the optimisation of environmentally sound treatment and disposal,
- the reduction of movements and
- the liability of the producer.

A directive adopted in 1984 set up rules concerning transboundary movements of hazardous waste. A new proposal is being considered to bring Community legislation in line with the provisions of the Basle Convention which the Community has signed. In addition, exports of hazardous and radioactive wastes to ACP countries are banned, in conformity with the Lomé IV agreement.

#### 5. Water

Community legislation relating to the prevention of water pollution may be divided into 3 categories: legislation laying down quality objectives or other requirements for water intended for specific uses, legislation relating to specific industries or sectors, legislation dealing with the discharge of dangerous substances. Since the end of the 70's the Community has also developed a system for dealing with accidental marine pollution, which is open to third countries.

Future Community water policy will concentrate on defining and protecting the ecological quality of all waters; on the control of diffuse sources of pollution and more generally on the management of water resources.

The international dimension of EC water policy is becoming increasingly important. The Community participates in international Conventions and regional agreements concerning the protection of the marine environment and transboundary rivers.

#### 6. Air

The pollution control measures adopted at Community level involve the definition of air quality standards (uniform Community norms exist for SO<sub>2</sub>, particulates, NO<sub>2</sub> and lead) and product and emission standards (for fuels and mobile and stationary sources). Air quality standards set are monitored with the help of networks backed by an information exchange system.

The issue of acid rain is causing serious damage in many European forests and has given rise to control measures for emissions of SO<sub>2</sub> and NO<sub>2</sub>. The EC signed the 1979 Geneva Convention on Long Distance Transfrontier Atmospheric Pollution which gave the political impetus to continue developing a comprehensive air pollution strategy.

#### 7. Means of action

All those sectoral policies are backed up by measures, instruments and activities aiming to help with their implementation.

- CORINE (Coordinated Information on the Environment) aims to obtain permanent, comparable and coherent information systems on the environment. CORINE's activities will be taken over by the European Environment Agency which will consist of a central body, the Agency proper, and a European information and observation network, both of which will use CORINE experience.

It will aim to provide EC Member States and third countries sharing the same concerns with reliable and comparable information at European level, and the necessary technical and scientific support in order to enable them to take and assess the requisite environmental measures and to ensure that the public is properly informed about the state of the environment.

- It is one of the Community's concerns that the public at large should be given comprehensive information on the status of the environment and on potential risks. Since 1990, a directive provides for the availability of the information held by public authorities to the public, also in a cross-border context.

- Funding is also provided by the Community for measures acting as inducements to environmental protection (ACE, MEDSPA) and for research and technology development in the environmental field. Some environment measures are also co-financed by the EC to support other policy objectives, in particular those related to structural adjustment.

Furthermore, the Commission has made a proposal to create a stronger single financial instrument (LIFE). The Community will also increase the use of economic and fiscal measures in the environmental field. (proposed CO<sub>2</sub>/Energy Tax)

#### Part II: Integration of environmental requirements into other policy areas

Integration is a crucial objective in Community environment policy, not just because it is the embodiment of a Treaty obligation, or a tool for environmental protection per se, but also because it is the lynch-pin in the process of establishing sustainable social and economic development patterns. Environmental considerations are therefore becoming an integral part of many and eventually all, Community policy areas.

## 1. Towards a physical development strategy.

a) Community environmental policy concerning land and its use is less developed than in other areas. Community legislation aiming to protect land from the consequences of untoward development is limited to two directives:

- the directive on environmental impact assessment ensures that the potential effects of development proposals are taken into account in the decision making process.

- the directive on the protection of wild birds and their biotopes recognises that site protection is a prerequisite for the maintenance of biological diversity and provides for strict protection of natural areas important for conservation.

However, specific types of area and issues relating to land are increasingly being dealt with at the Community level because the problems they face are common to all or several Member States: regional strategies, coasts, mountains, urban areas, soil conservation and agricultural management.

The Community is also concerned to ensure that its neighbouring countries do not suffer the physical consequences of its development. Consequently it has signed the Convention on Environmental Impact Assessment in a Transboundary Context and participates in the UN Economic Commission for Europe task force for the application of EIA to policies, plans and programmes with the view of drafting a Convention.

b) Agricultural policy has long had a preeminent place in Community affairs. But there has been a shift of emphasis from the 1958 concerns for food security and farm prices to the 1991 concerns for a policy able to guarantee rural living standards, respect for the environment and the management of the huge contrasts between the Community's regions.

The shift in emphasis began, so far as the environment is concerned in the mid-80s when assistance started being provided to farmers willing to manage their land in an environmentally friendly way in sensitive areas. Nevertheless the full integration of environmental considerations into agricultural reform policies is yet to come and involves the modification of some fundamental mechanisms of the Common Agricultural Policy. The proposal for a fundamental reform which is currently being discussed emphasizes the importance of environmentally friendly farming.

Fisheries is another activity where massive technological developments have occurred. At present, a substantial reduction of fishing effort is envisaged including a reduction of capacity of the Community fishing fleet, in order to guarantee the balance of the binomial resources/fishing effort. Technical measures to protect marine resources have recently been agreed (eg. reduction of the length of drift nets). The Community is also participating in a series of international agreements and conventions regulating the management and conservation of fish stocks.

## 2. Structural policy

The Community's structural policy aims to promote the harmonious development of the Community as a whole and narrow the gap between better endowed and less favoured regions in order to create the conditions for the Single Market. Funds are provided to Member States for the co-financing of development projects. This assistance

accounts for 25% of the EC's budget annually. The new structural fund system put into place with the 1987 Treaty amendments requires strict environmental considerations to be taken into account. In parallel, there has been a very significant growth in expenditure on environmental infrastructure.

The European Investment Bank also plays an important role in support of structural fund activities and the environmental impact assessment procedure is an essential component of all projects for which finance is being sought.

### 3. Integration into sectoral policies

#### a) Transport

The economic significance of the transport sector in the Community is considerable. The Community is currently reviewing its approach towards transport policy with a view to providing a framework which will allow for 'sustainable mobility'. Such a framework will require a combination of measures which seek to reduce operational pollution of the modes of transport, limit the land use implications, reduce traffic and the risks inherent in the transport of dangerous goods.

#### b) Energy policy

The Community houses 340 million people who are responsible for some 14% of the total world energy consumption. Emissions from such energy use contribute significantly to the concentration of greenhouse gases. The Community has followed an active policy aiming at improving energy efficiency since the first oil crisis in 1973. A combination of fiscal and economic incentives is envisaged for the future, in particular a combined CO<sub>2</sub>/energy tax. The Community's 1995 objectives include the development of renewable energy sources, but estimates of their future potential do not exceed 8% of total output by 2010. The introduction of innovative clean and more efficient technologies can contribute to a more rational use of energy to meet environmental concerns, and market-orientated support of these technologies is a major element of Community policy. These are the objectives of the new THERMIE programme.

The International energy cooperation programme of the Community aims to help to improve the long-term energy situation by encouraging developing countries to make effective decisions in the field. It encourages technology transfer, supports research topics, training, study tours, feasibility studies and seminars.

#### c) Research and technological development

Environmental concerns have to be integrated into research and development programmes so that environmental policies progress in parallel with technological developments.

A specific Programme for Research in the field of Environment was adopted in 1991 under the Community Research and Development Framework Programme. It covers four major areas: global climate change, technologies and engineering for the Environment, economic and social aspects of environmental issues, technological and natural risks. Environment was also made a major parameter throughout the Framework Programme and its 15 specific programmes, in particular Agriculture, and AgroIndustry, Energy, Biotechnology, Industrial and Materials technologies.

The Community also has a long history of scientific and technological cooperation with third countries. One programme is of particular importance in the context of UNCED: the Science and Technology for Development programme which provides for scientific cooperation with all developing countries and covers two main areas, Agriculture (including forestry and fisheries) and medicine, health and nutrition.

#### 4. External policies

##### a) Environment and cooperation

The Community has now established agreements with a substantial number of the world's independent nations. These agreements set out the financial arrangements and priority sectors for development cooperation. The Community and its Member States have together long been the largest source of official development assistance. In 1988, they provided 47% of the total of such assistance, representing 0.45% of GNP.

- The Community has set up a comprehensive relationship with developing countries in Africa, the Caribbean and the Pacific. Environmental protection is at the very core of the Lomé IV Convention which was signed in December 1989. The principles and priorities for ACP/EC environmental cooperation are listed in a specific title of the Convention, which also includes provisions concerning the ban of exports of hazardous and radioactive wastes to ACP countries and the provision of information on toxic chemicals and pesticides. The first title also contains rules concerning the environmental assessment of development aid projects.

- The growing emphasis put on environmental concerns in Lomé Conventions has its parallel in the evolution of the policy orientations governing the bilateral cooperation between the Community and Asian and Latin American (ALA), as well as Mediterranean States. 10% of the total amount available for technical cooperation with ALA countries in the period 1991-1995 must be allocated to environmental projects. Similarly, environmental protection is a priority for the allocation of funds under regional and bilateral cooperation with Mediterranean countries.

- The opening up of Eastern and Central European (PECO) countries since 1989 revealed the extent of environmental and economic crisis prevailing throughout the region. The need to integrate environmental management and investment with the economic reforms in progress was immediately recognised by the new governments. The urgent need for international support motivated the Community to set up a specific cooperation programme (PHARE), which has an important environmental component. In 1990, the allocation of funds in this area was made on the basis of projects put forward by the PECO for 100 MECU. A more strategic approach has been set up in 1991, including regional projects.

- The Community also funds programmes targeted at specific issues in addition to its cooperation agreements. These actions include tropical forestry initiatives, desertification control, grass-root assistance to NGO's and other organizations.

## b) Environment and Trade

The Community is a major trading partner in the world and has a fundamental interest in maintaining an open world market. The Community supports the further liberalisation of world trade within the framework of GATT.

At the same time the Community participates in several Conventions which restrict or prohibit certain forms of trade for environmental purposes. But, the need to clarify the relationship between the GATT provisions and some environmental trade-related measures is increasingly felt.

The Community gives broad trade opportunities to developing countries and tries, through its technical and financial assistance, to minimise the negative phenomena resulting from the dilemma these countries are confronted with when having to balance their needs for foreign currency with the damage to environmental resources which support their growth.

## Part III: The Global Challenges

The European Council stressed in the Declaration on the Environmental Imperative adopted in June 1990 that the Community and its Member States have a special responsibility to encourage and participate in international action to combat global environmental problems and to advance international efforts to promote sustainable development and respect for the global commons.

### 1. Climate Change

Community action is based on two principle policy orientations:

- a global response should be made without further delay, irrespective of remaining uncertainties on some scientific aspects of the greenhouse effect, and, to this end, the Community should make an important contribution to the preparation of an international agreement on climate change;
- the Community should take proper account in future policy decisions of the problem of potential climate change linked to the greenhouse effect and undertake urgent action to, inter alia, increase energy saving, improve energy efficiency, and promote the development and use of non-fossil energy sources.

The Community has committed itself to stabilizing CO<sub>2</sub> emissions by the year 2000 at 1990 levels.

### 2. Ozone Layer Depletion

The depletion of the ozone layer has been a major cause of concern for the Community since the early '80s. The Community and its Member States have played an active part in the negotiations which led to the adoption of the Vienna Convention and the Montreal Protocol.

According to a regulation adopted in March 1991, CFC's will be phased out in June 1997, three years before the deadline set up in the Montreal Protocol expires. In addition, the Community has concluded three agreements with industrial sectors which rely heavily on CFC's, to reduce their use.

### 3. Forest Protection

Action to protect Community forests is integrated in the overall context of the different Community policies, including agricultural, regional and environmental policies.

Forest protection and sustainable forest management issues are also becoming an integral part of the Community's development aid policies as required by the Lomé Convention as well as in other cooperation agreements.

Furthermore, the Council adopted in 1990 a resolution on tropical forests which emphasized their importance and the need to conserve them. It also acknowledged that, to this end, more funds should be provided.

The Community is also playing a major part in actions carried out under the Tropical Forestry Action Plan and the ITTO. Similarly, it is directly involved in the preparation of a pilot programme to protect the Amazonian rain forest in Brazil, in accordance with a mandate given by the European Council and the G7 summit.

### 4. Biodiversity

Community action has concentrated on setting up control systems protecting species and their habitats. In addition to its protection activities on its own territory, the Community helps to protect endangered species at a global level through its active role in the work of the Washington Convention on International Trade in Endangered Species (CITES).

The Community and its Member States also participate actively in the preparation of the Convention on biological diversity under the auspices of UNEP. The Community considers that such a Convention will only be effective if it includes both a general obligation to conserve nature, and the financial mechanisms to help developing countries to implement its provisions.

### CONCLUSION

This summary gives an overview of the evolution of the Community thinking and action concerning the protection of the environment. It describes the first steps taken to progress towards sustainable development. There is undoubtedly still a long way to go.

The Community Fifth Environmental Programme will aim for sustainability stressing the integrative approach, and will set up a wider range of measures to achieve sustainability, including extended use of economic and fiscal instruments.

However the notions of growth and development which support our economic systems are changing. The challenge for all of us is the search for appropriate policies which, within a multi-disciplinary and global approach can guarantee quality of life for present and future generations.

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The Community is aware that in view of the growing inter-dependence of all regions and nations in the world, a sharing of effort is needed in pursuit of sustainable development, from the North and the South, the East and the West.

But it will require great ingenuity and creativity to promote the socio-economic developments which should serve both developing and developed nations for generations to come. This might imply radical changes in consumption patterns and lifestyles.

The Community will continue to pursue the objectives of sustainable development by making optimal use of all tools available at multilateral and bilateral levels, and will seek at the global and regional level, to achieve inter-generational and intra-generational equity.

## Introduction

This document is the statement of activity of the Commission of the European Communities in the environmental field. It neither duplicates nor supersedes national reports presented by its individual Member States, but complements them. It deals with those areas of activity where the Member States have agreed in the Community's Council that there is a need for common action, and consequently where common policies, common legislation, common funding opportunities and common research programmes exist and are developing. It has been prepared for the Rio de Janeiro United Nations Conference on Environment and Development of 1992 and illustrates the Community's response to the call for action made at UNCED's predecessor, the 1972 Stockholm Conference.

The four parts of the document describe first, the Community and its work, then the principal areas of Community policy relating to the environment and the way in which it impinges upon development - with "development" used here in its broad sense of social and economic advance - in order to describe one Region's response to the problems faced.

### 1. What is the Community?

The European Community is an entity, without a close parallel in the world, whose constituent nations aspire to work closely together to promote inter alia economic and social progress which is balanced and sustainable and democracy on the basis of fundamental human rights. It has created a number of institutions and developed a set of common policies to help achieve these goals.

The first two chapters of the document set out the role and competence of these institutions both internally and internationally, and summarise the policies which have been developed by them where these have a bearing on the environment.

### 2. What Environmental Issues does it Face?

The European Community (shortened to "the Community" throughout the document) recognises that environmental concerns are not only a priority, but are also inseparable from most - or indeed all - other areas of policy. Just as there is no action without reaction, so there is no policy implementation without environmental consequence. The Community has therefore come to adopt a broad approach to environmental policy formulation and has responsibilities for action in virtually all its sectors. It recognises in addition that the consequences of many types of action go beyond their immediate confines and that their cumulative effects can be no less than global. As a result, its approach to European policy formulation is now complemented by reflection and by action on global issues.

The issues discussed in this document have been broken down into three main areas which reflect this evolution:

**PART I**

**THE LEGAL AND INSTITUTIONAL  
FRAMEWORK FOR ACTION**

a. "Command and Control" - the Legislative Groundwork

The first needs of the Community were to halt a decline in environmental conditions which was beginning to threaten the chances of success of creating the new Europe. Systematic legislation began to be introduced in the early 1970s to set common standards in the main problem areas: water and air pollution, chemicals, waste, nature conservation and nuclear safety, which is now treated as an environmental policy component though it has a history which goes back to the founding of the Community.

b. Towards Sustainability - the Integration Approach

From the early 1980s, after ten years of sectoral legislation and with the first signs of a halt in the decline of air and water pollution in particular, it became evident that to improve the situation, it was necessary to broaden the scope of environmental policy and the range of instruments used. In the first place, a proper response to environmental problems caused by action in other policy areas could only come through the integration of environmental considerations into those policy areas, which has meant adopting instruments of a different nature to those controlling emissions, for example. In the second place, the Brundtland Report led the world to thinking that the better management of our common heritage was a key to continued development, so that "integration" is now becoming a means of moving towards sustainable development as well as one of ensuring improvement in environmental conditions per se.

c. Global Issues - a Shared Responsibility between North and South

A further turning point was reached very soon after the publication of the Brundtland Report, when it came to be understood that the cumulative consequences of economic decisions created risks for mankind as a whole, and for the well-being of the planet, which required an unparalleled level of concertation - of which UNCED is but one manifestation - and to which the Community is responding.

# Chapter 1    The Scope and Nature of Community Activities

## 1. Facts and Figures

The Community consists of twelve Member States who work together in the belief that they can achieve more through such action than they can individually, and who have "*as their objective to contribute together to make progress towards European unity*", to take the words of the initial Article of the 1987 Single European Act, amending and updating the constitutive Treaties of the Community, signed in the 1950s.

The Member States are Belgium, Germany, Denmark, Greece, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and the United Kingdom, in the order in which they take the chair of the European Council.

Together, they house some 340 million people, since the reunification of Germany in 1990. It is nearly static, though is expected to decline slightly over the coming decades. About 80% of the territory is in agricultural production (including forestry) and some 15% is urbanised. The average population density of 139 persons per square kilometre (USA, 26/sq. km.) hides very wide variations, from less than 20/sq. km to over 700. The proportion of urban to rural population shows similar differences; for example, 97% of the Belgian population is urban, but only 32% of the Portuguese.

The economic structure of the Community shows equally important variations: in the United Kingdom, 2.4% of the active population is employed in agriculture compared to 26.6% in Greece, whilst 67.1% of Denmark's working population is employed in industry compared to 44% in Portugal.

The variation in GDP per person in each country, from 0.54 of Community average in Portugal to 1.22 in Luxembourg, hides significant regional differences, with the 10 weakest regions having one third of the income per head of the 10 richest - this is about twice the range in the United States.

## 2. The Community's Scope of Work

### a. *The Fundamentals*

The Community has two basic methods of action in order to take the agreed steps towards unity: the introduction of common policies, and the coordination of national policies. In the first case, there is a transfer of responsibilities to the Community; in the second, responsibility remains with the Member States. In all cases, the crucial point to bear in mind is that Community action is the expression of the common political will of the peoples of the Member States, found in the Community's constitution and operated through the working arrangements of its institutions.

First, all action is taken on the basis of joint decisions of all twelve and equal countries, by majority vote or in certain circumstances unanimously.

Second, all legislative action taken applies equally in all Member States.

Third, action is always taken at a Community level when the Member States agree that there is added value in working at that rather than at the individual country level.

This means that Community action frequently complements national action; thus the environment policy described here is not the policy of each and every Member State, it is that part of Member States' environment policy which they have agreed is better defined and implemented at Community level.

Finally, legislation in the areas of Community competence is proposed by the Commission and agreed by the Council with the advice or cooperation of the Parliament. The institutions and the way in which they work is described in chapter 2. The areas of competence are mostly in expansion as common interests continue to grow, in line with the Treaty objective quoted at the beginning, and it is important to remember that Community Policy is in constant evolution.

#### b. Principal Policy Areas

The Single European Act sets the binding objective of completing the internal market by the end of 1992, as a means of progress towards European unity "to lay the foundations of an ever-closer union among the peoples of Europe", in the words of the Treaty's Preamble. The Community's first aim is to build up a coherent, integrated economic framework. This has a social as well as an economic dimension: to improve living and working conditions and to strengthen social cohesion.

The Community is active in a wide range of policy areas. These include inter alia competition, agriculture, transport, energy, trade, development cooperation, social, regional, research and environment policies, as well as the completion of the internal market, and the strengthening of the European Monetary System.

The focal point of economic union is the internal market, in which the Member States have combined to create a unified economic territory which rests on four fundamental freedoms: movement of goods, of persons, of capital, and the provision of services. Measures which have as their object the establishment and functioning of the internal market are conditioned by the requirement of the Single European Act, that: "The Commission, in its proposals envisaged (on such measures) concerning health, safety, environmental protection and consumer protection, will take as a base a high level of protection" (Article 100A). This is the principal basis for Community policies in these areas.

On the monetary side, the Ecu (European Currency Unit and the name of a gold coin in medieval Europe) is a central feature of the EMS; it is at the same time a reference unit for exchange rates in the Community, a unit of account for Community intervention and credit mechanisms, and an exchange medium between national monetary authorities. All prices in this document are given in Ecu, or more frequently in millions of Ecu, written as Mecu.

The next stages of the process of economic and monetary union involve the adoption of further Treaty amendments gradually transferring fiscal, monetary and exchange-rate policies from national to Community institutions, followed by the establishment of an independent central bank system. This central aspect of Community action is not given particular consideration in this document since its effects on the environment remain very indirect, though it should be remembered that it is conditioned by the Treaty Article 100A mentioned above.

Competition policy is a second area with indirect effects which is not reviewed in this document. It aims to create the conditions for the smooth operation of the Internal market by ensuring the application of the rules of fair trade set out in the constitutive Treaties of the Community. The Community is one of the three largest trading blocks in the world and participates actively in all the major trade fora as well as in a number of International conventions which regulate trade and which have an environmental effect as a result.

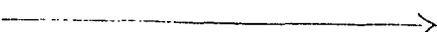
Agriculture is one of the foundations of the Community, its importance stems from the post-war concern to ensure security and self-sufficiency in food production whilst ensuring adequate incomes for its producers. It is a critical policy area for the environment in that it conditions upwards of 80% of the land area of the Community.

Under the Treaty of Rome, transport, like agriculture, was intended to be a common policy area. Progress has been slow, however, in view of the complexity of the sector and the strength of the national strategies which govern it. It is nevertheless a crucial element of the single market, which could not operate without the freedom of movement which an efficient and integrated system of transport provides. It is increasingly important in environmental terms as well, both for the physical impacts of its infrastructure and in the context of the debate on global change and the need to reduce CO<sub>2</sub> levels - for 25% of which the transport sector is responsible.

Energy policy is a central factor in the continued and sustainable growth and development of the Community economy. Its importance is not only that of providing security of supply at stable costs, but also of providing it in the most environmentally-responsible way, since it too is a major contributor to world CO<sub>2</sub> increase.

The aims of the Community's trade policy are inter alia to strengthen the links with its commercial partners both in the developed and developing world and to promote the liberalisation of world trade within the framework of the General Agreement on Tariffs and Trade (GATT). It is also concerned to ensure that trade and environment policies are mutually supportive.

Since the beginning of the 1970s, the Community's development cooperation policy has grown in terms of its scope, number of partners and the provision of financial resources. Environmental criteria are now integrated into all the Community's aid programmes.

The social and regional policies address the needs of the Community's population in the sense of providing the basis for action to guarantee equality of opportunity. Its principal instruments are funding mechanisms which aim to help create the appropriate conditions by selective action in the less-favoured 

regions or where structural employment problems occur. They involve considerable expenditure and thus have extensive direct impacts on the environment.

Research and technological development policy aims to create the conditions to improve and reinforce the competitiveness of the Community's principal areas of activity. In addition it acts in support of other policy areas by providing the necessary scientific and technical basis for action. It plays an important part in providing the necessary assistance to environmental policy formulation through a wide range of programmes.

Finally, environment policy is the subject of this document, and its place in the Community system is described in detail along the lines set out in the introduction: the protection policy itself, the way in which it is coming to condition other policy areas, and the way in which global problems are adding a new dimension to the policy.

## Chapter 2 European Community Institutions

### 1. The Legal and Institutional Framework of the European Community

The Community works to achieve political objectives through the implementation of policies which are adopted in common and which cover an ever-widening range of subjects as the ongoing process of integrating twelve States into one Community progressively changes the relationship between them. In its simplest terms, this means that there is a gradual shift from decisions taken nationally by the Member States to ones taken in common by the Community.

The Community is therefore different from an international organisation by its powers, constitution and characteristics but it cannot be assimilated to a federal state either. Its contractual basis and its power to exercise direct authority upon its Member States and its citizens qualifies it as an organisation of supranational character. In international practice it has been given the description of "Regional Economic Integration Organisation". though this does not adequately describe the Community, whose specific characteristics are essentially:

- The constitution of legislative, executive and judiciary Community institutions (European Parliament, Commission, Council, and Court of Justice), each of which are provided with specific powers to be exercised in accordance with detailed rules of procedure safeguarding the balance of power between these institutions;
- The transfer of competence from the level of the Member State to the Community, as laid down in the Treaty and implemented by means of Community legislation which is adopted by the Council either unanimously or, increasingly, by majority vote;
- The supremacy of Community legislation over national law, its binding nature and uniform implementation, which is subject to legal review exclusively by the European Court of Justice.

In line with the evolutionary character of the Community, the consolidated Treaty - which governs its institutions, their competence and relations with and between Member States - is periodically updated.

In 1987, the Single European Act included, among other changes to the Community's founding treaties, a new chapter concerning the protection of the environment. The new Treaty on European Union, signed by all Member States on 7 February 1992, has introduced as a general objective the promotion of sustainable growth respecting the environment.

### 2. Allocation of Competence within the Community

All Member State constitutions allow for a transfer of legislative and executive authority to supranational institutions, thus limiting the exercise of their competence. These powers are used to build the Community. Under the Treaty, specific responsibilities and the authority to meet them have been transferred from the Member States to the Community, whose competence extends, for example to commercial policy, agriculture, transport, and the protection of the environment, amongst the areas of interest to UNCED.

In such areas, the Community has power to legislate internally as well as to enter into agreements with other countries which are binding on the Community and on its Member States. So far as concerns the regulation of trade with third countries (commercial policy), this competence is exclusive. Elsewhere, individual Member States may also legislate or enter into international agreements so long as these are not covered by Community legislation or the subject of a Community decision to take action (areas of concurrent Community competence). If the agreement includes areas of exclusive and concurrent Community competence, it is regarded as "mixed", where both the Member States and the Community participate. When the agreement only covers areas of exclusive Community competence, the Community acts alone.

Areas for which competence have not been specifically transferred to the Community by the Treaty remain in principle within that of the Member States. Nevertheless the Community is still entitled to act in such areas on the basis of a general provision (Article 235) where Community action is shown to be necessary in order to attain an objective of the Treaty. This was the case for environmental policy up to the entry into force of the European Single Act.

One of the general principles of Community action is subsidiarity: the Community may take action to the extent that action at the national level would be less efficient. A specific reference to this principle is made in the Treaty provisions relating to the environment.

### 3. Community Institutions and Law-making

#### a. The Principal Institutions

Four main institutions have been established by the Treaty to fulfill the tasks of the Community: the European Parliament which is directly elected, the Council of Ministers in which the governments of the Member States are represented, the Commission and the Court of Justice. The Council is responsible for adopting Community legislation and for concluding international agreements; the European Parliament cooperates or gives its opinion as part of the legislative procedure. The Commission is the executive institution of the Community; it has the monopoly of initiating legislation and the responsibility for ensuring that adopted legislation is properly applied by the Member States; the Commission will negotiate, in consultation with the Member States and where the Council so directs, international agreements of which the Community is to become a contracting party. The legal review and the settlement of disputes on rights and →

obligations of Community institutions or the Member States under Community law are conferred on the Court of Justice. The Court is also competent for the interpretation of the Treaty and can quash or interpret legislation or other acts of the Council and the Commission at the request of Community institutions, Member States, national courts or individuals.

### ***b. Legislation: Forms and Procedures***

All legally binding Community action needs to be founded on a specific legal basis laid down in the Treaty, which provides for the power to act and also fixes the objectives and conditions for Community action. It can take the form of regulations, directives or decisions under, in particular, the environment provisions of the Single European Act (See Annex I).

Regulations have general application, are binding in their entirety and are directly applicable to public authorities and private persons in all Member States.

Directives are binding as to the result to be achieved and the time within which to achieve it; they leave the choice of form and methods of implementation to the national authorities. This allows for the better integration of Community legislation into the different legal systems of the Member States.

Decisions, finally, create rights or obligations only for those to whom they are addressed. They serve, for example, to allow the Commission to enforce competition rules relating to companies, or the Council to conclude international treaties on behalf of the Community.

In drawing up proposals for legislation, the Commission chooses the proper form of the action. The Council may change both form and content before adopting it, within the limits of competence set by the Treaty. Where the Treaty institutes a "cooperation" procedure, as in measures harmonising national laws to establish the internal market, the European Parliament gives its opinion on Commission proposals, and may amend them before the Council takes a final decision.

### ***c. Implementation***

Legislation is normally implemented by the Commission at the Community level and by the competent authorities of the Member States at national level. Regulations and other provisions of Community law having direct effect supersede national law, and it is the duty of all institutions at national, regional and local level to apply them in full. Supremacy of Community law is the condition for its complete and uniform implementation and the guarantee of equal treatment throughout the Community. No national authority can declare a provision of Community law nul and void. This is the prerogative of the Court of Justice to which national jurisdictions must refer.

Where a directive has been chosen as the appropriate means of legislation (normally the case if substantial changes of national legislation are required), the Commission has the task of ensuring that its provisions are transposed into

national law completely and correctly and within the specified time limits. It then has the duty to ensure that the national law is being implemented in a way which achieves all the objectives of the directive.

Where the Community is a contracting Party to an international agreement, this must be implemented by Community legislation. This is normally achieved through a regulation. The recent Regulation 594/91/EEC on Substances which deplete the Ozone Layer, implementing the Revised Montreal Protocol, serves as an example. The community is a full contracting party with the same rights and responsibilities as other parties, to 28 international treaties and protocols in the field of the environment.

#### *d. Means of Redress*

The Commission has the duty to bring cases of non-compliance, of misuse or of wrong interpretation of Community law before the Court of Justice. It takes the initiative, often on the basis of information received from a Community citizen or organisation. It is duty bound to investigate the issues raised in complaints made to it.

The procedure is the same, both where the Commission acts on its own initiative or where it acts on the basis of information received: it seeks and obtains information from the Member State concerned; if it is satisfied that a case needs to be answered, it then gives formal notice of its grounds for this and if the Member State disputes the allegation or does not correct the presumed infringement, then the Commission takes the matter to the Court. It is finally the Court which decides if the Commission's findings are well-founded. Where it concludes that a Member State is in breach of Community law, that country is held to take the necessary measures to comply with the judgement. There are no further sanctions provided for in the Treaty, except in the case of a second infringement procedure on the failure to take the measures needed to redress the situation. However, political pressure on the Member States to comply with the Court's judgements is considerable, and non-compliance is quite exceptional.

## **4. Conclusion**

The integration of the Member States into the Community has a considerable impact on their actions at national and at international levels. Part of their legislative powers and responsibilities have passed on to the Community so that they may only act jointly with, or even exclusively through, Community institutions. The extensive Community activity in environmental matters, which is the subject of subsequent chapters, demonstrates the extent of Community powers on the international scene.

So far as concerns environmental protection, it is important to remember that the Community shares its competence with the Member States, and consequently that the activities described in this document are backed up by complementary activity in the Member States in so far as specific areas are not fully covered by existing Community legislation.

**PART II**

**THE ENVIRONMENT POLICY**

**OF THE COMMUNITY**

## Chapter 3 An Introduction to the Policy

### 1. Origins

Though there is earlier legislation of an environmental nature, the impetus for the creation of the present arsenal of environmental regulations, directives and decisions was given by the Heads of the Community States meeting in Paris in 1972, just a few months after the Stockholm Conference. They recognised that economic expansion was not an end in itself, but that it should *"result in an improvement of the quality of life as well as in standards of living and that particular attention should be given to intangible values and to protecting the environment"*. They consequently invited the Community institutions to prepare a first Environmental Action Programme.

### 2. The Environmental Action Programmes

The first programme was adopted in November 1973. It defined the basic principles and objectives of Community environment policy, and identified the general actions to be taken over the following years.

Its main principles - some of which were subsequently incorporated into the 1987 amendments of the Treaty - are the following:

- The best environment policy consists in preventing the creation of pollution and nuisance at the source, rather than subsequently trying to remedy the effects;
- Effects on the environment should be taken into account at the earliest possible stage in all technical, planning and decision-making processes;
- Any exploitation of natural resources or of nature which causes significant damage must be avoided, in view of the limited capacity of the natural environments to absorb pollution and to neutralise its harmful effects;
- The cost of preventing and eliminating nuisances must in principle be borne by the polluter;
- Care should be taken to ensure that activities carried out in one state do not cause any degradation of the environment in another state.

They have been updated and extended in the three subsequent programmes (adopted in 1977, 1983, and 1987), reflecting the evolution of environmental thinking over the last fifteen years, as well as the challenges which have emerged.

The third and fourth programmes emphasised the need to integrate environmental protection requirements into other policies, aiming at what today would be called "sustainable development". The fourth accompanied this with a

statement on the need for a more integrated approach to pollution control and reduction, in order to avoid the transfer of pollution from one area of the environment to another.

In addition to developing a philosophy of environmental protection and improvement, the programmes set an agenda for specific actions for the years which they covered. For example, the fourth called for harmonised legislation to manage the environmental risks associated with the use and release of genetically-modified organisms, now adopted. It also called for a new instrument to ensure the integration of environmental concerns into policy and programme preparation in all sectors of economic and social activity. This is now the subject of a Commission proposal to Council.

As concern for the emerging global environmental challenges has increased, so the priority given to the international dimension of Community environmental policy has grown. The Fourth Action Programme was particularly sensitive to the need to promote international action for the protection of the environment, and in particular the need to assist the developing countries to overcome the special difficulties they face in this area.

The realisation of the complexity of the issues involved in coming to grips with environmental problems, and in particular with the very complex interplay of forces which all forms of human activity engenders has led to the development of a considerable research programme covering a wide spectrum of environmental activity.

### **3. Achievements**

Today, the protection of the environment has the position of a major Community policy. It lies at the centre of the 1992 single market programme, which is often perceived in economic terms: the Treaty objective of establishing the internal market is conditioned by a requirement to take as a base a high level of environmental protection, when drawing up measures for its implementation. In addition, since the Single European Act, the Treaty requires that the Community pursues environmental objectives as an end in themselves in order to:

- Preserve, protect and improve the quality of the environment;
- Contribute towards protecting human health;
- Ensure a prudent and rational utilisation of natural resources.

Taken as a whole, Community environment policy has gone a long way since the first steps were taken to identify a line of action in the early 1970s, although some gaps still need to be filled and some areas developed. Over the past twenty years, the Community has taken extensive legislative and regulatory action (over 175 legally binding acts in all areas) to limit environmental damage and loss, and to rectify past abuses. It takes part in the work of a series of international conventions and other arrangements at the regional and the global levels, aimed at resolving common environmental problems. It keeps abreast of scientific and technical developments through its research programmes, and, finally, it is

making increasing amounts of money available for environmental improvement and protection through its own budget.

#### 4. The New Challenges

Much remains to be done. "The Environmental Imperative", which is the June 1990 Dublin Council's declaration, expressed deep concern about the threats to the natural environment and recognised the need to intensify efforts to protect and enhance it, adding that *"completion of the internal market in 1992 will provide a major impetus to economic development in the Community. There must be a corresponding acceleration of the effort to ensure that this is sustainable and environmentally sound"*.

The priorities the Council identified as important for the Fifth Action Programme, to cover the period 1992-1997, include the continuing integration of environmental considerations into all other policy areas, solutions to all forms of pollution including that created by the agricultural sector and by the transport of hazardous substances, the enforcement and periodic evaluation of existing legislation, public information, and the review of the overall level of budgetary resources devoted to Community environment policy.

The declaration added that *"the traditional 'command and control' approach to problem-solving should be supplemented where appropriate, by economic and fiscal measures if environmental considerations are to be fully integrated into other policy areas, if pollution is to be prevented at source, and if the polluter is to pay."*

It is clear that the narrow emphasis on administrative and regulatory instruments has indeed been a limitation on Community environmental policy. The challenge today is to broaden the base of action in order to ensure that the discipline required to achieve sustainable development is accepted, or failing that, imposed across all areas of environmentally-significant activity. The means of achieving such ends will be discussed in the Fifth Action Programme, but will include a wider range of measures to improve the level and nature of environmental integration, including different risk avoidance instruments such as environmental impact assessment at the planning stages of development, environmental audit, or industrial codes of conduct.

In order to secure the profound and lasting change towards environmentally-friendly behaviour in all social and economic actors which the proper integration of environmental considerations should move towards, complementary mechanisms must be developed, providing economic and social incentive to change.

The potential role of such economic and fiscal instruments has received much attention in recent years. Their major advantage is that price signals are given to the market which are consistent with environmental objectives, which force actors in the economy to account for the environmental damage which their economic decisions might cause.

Finally, it is also clear that the emphasis placed on the resolution of internal Community problems will need to change. There are issues of a regional nature which need treatment in common with other European countries; and there are issues of a global nature where the Community can take a lead in getting problems resolved.

## **5. The Structure of Part II**

The following chapters describe that part of environment policy which has been characterised as "command and control", though it often already goes beyond this. Their sequence reflects the pollution cycle: human activity, and industrial activity in particular, produces pollution and waste; pollution reaches the environment; means are put in hand for dealing with the problem. So the review of chemicals and biotechnology management and of nuclear safety precedes the chapter on waste which in turn precedes policy relating to water and to air whilst the final chapter deals with the means at the Community's disposal for supporting legislative action to deal with the problems created.



## Chapter 4 The Environmentally Sound Management of Chemicals In Industry

### 1. Labelling and Classification

The Community's first chemicals directive was adopted in 1967, it aimed to classify packaging and labelling dangerous substances. For the first time, the public, the industry's workers, and the poison centres who have to deal with emergencies could learn the identity of a chemical, its risks, and therefore how to act in case of emergency.

Successive amendments to the directive have resulted in the formal labelling of close to 1500 substances, and industry has provisionally labelled up to 18,000 more, following guidelines first published by the Commission in 1983 and last revised in 1991. These identify sixteen categories of danger.

Labelling is more than information for users. It involves a process of consultation between the Commission and experts from the Member States, unions and industry, leading up to adoption of a formal danger classification, which is a first step towards risk management in the workplace, for consumer protection, or for wastes.

By way of example, agreement was reached in 1990 on the criteria for classifying substances in the category "dangerous for the environment". These will apply to many solvents, polyglycol ethers, dyestuffs and the constituents of plant protection products such as pesticides and herbicides. The classification covers chemicals which present or may present an immediate or delayed danger for one or more aspects of the environment, including air, water, soil and living organisms. It is based on a combination of criteria for toxicity, persistence and bioaccumulation potential and will cover about 40-50% of the chemicals currently on the Community market.

Public interest in environmental issues has led to the proliferation of so-called "green products" on supermarket shelves, and consumers are faced with the task of trying to compare the relative merits of products in the absence of any generally-recognised reference points.

An eco-labelling system which answers this need can have a market impact on consumer behaviour, industrial marketing policy and, as a consequence, environmental quality. To arrive at an acceptable system, it is essential that products are evaluated against scientifically valid criteria and that consumers can understand them in order to make an informed choice. A labelling system regulation was adopted in December 1991. The evaluation procedure for it would take into account the entire life-cycle of the product, from the raw materials and the energy used in its manufacture, to any pollution resulting from its manufacture, use and disposal. Products would be judged alongside competitors in the same product groups. Apart from its value in providing information on substances, the eco-labelling system could be important for waste limitation or prevention, by encouraging more efficient production technologies.

## 2. Notification

### *a. The New Chemicals Notification Scheme*

A 1979 amendment of the chemicals directive introduced a scheme for testing substances for potential hazards and for their notification before marketing in the Community. It introduced a single unified system for testing, classifying and labelling, and monitoring the risks and uses of new commercial chemicals across the Community. Any chemical substance marketed by a manufacturer or an importer for the first time must be notified in advance to the appropriate national authority. The notification must contain a dossier of information about the chemical's characteristics, hazards, uses, and disposal, as well as a risk assessment. A summary of this dossier is transmitted to the Commission and from there to the authorities of other Member States.

This pre-market notification system was the first Community environmental law to set up a system of identifying and avoiding risks to the environment.

By filing a proper notification for a new chemical with the appropriate authority of one Member State, a manufacturer or importer receives the right to market the substance throughout the Community. The notification scheme has thus constructed a single "doorway" through which new commercial chemicals can enter the entire Community market.

Manufacturers and importers must themselves test, assess, classify and label new chemicals. This seems a logical responsibility, since it is the industry which has the information, and it means that those who gain the profit bear the burden.

### *b. Existing chemicals*

The original directive drew a line between "new" and "existing" chemicals and required the Commission to provide an inventory of "existing" chemicals which would not have been subject to notification because they had been marketed before the system's entry into force. "New" is defined as a substance which cannot be found in the European Inventory of Existing Commercial Chemical Substances (EINECS). There are over 100,000 entries in the inventory as published in 1990.

Unfortunately, many of the EINECS inventory substances have never been tested for their effects on people's health or the environment. Others have been tested only partially, and even where a chemical is known to be dangerous, there may be no information on how much is being produced or who is exposed to it. A regulation is being discussed that would establish an efficient, cost-effective and systematic procedures for the evaluation and control of these existing chemicals.

### *c. The Next Step: a Strategy for Control and Risk Reduction*

Chemicals control has been fragmented, with regulatory measures banning or restricting their marketing and use, controlling emissions, classifying and

labelling, or setting workplace exposure limits. Taken together with the proposed new regulation on existing chemicals, they do nevertheless form a legislative framework from which a more systematic approach can be developed in the coming years. This will provide common approaches to hazard and risk assessment and will allow the development of coherent risk reduction strategies for priority chemicals.

### **3. Hazardous Exports: Warning the Importer**

Modern transport systems make it easy to ship wastes or controlled chemicals to parts of the world where importers or governments are unaware of the risks they pose, or lack the means to control them. The Community accepts that it is the responsibility of the originators of such products to inform recipients of their nature and to pay for their disposal. In 1984, it adopted a directive introducing prior notification for the international movement of hazardous wastes which requires the exporter to obtain the consent of the importing country in advance, and only allows their export to countries which have environmentally safe disposal facilities.

This was backed up in 1988 by a regulation controlling the import and export of 23 chemicals, mostly pesticides, which are banned or severely regulated by Community law.

The situation is continuing to evolve, with UNEP's guidelines (last amended in 1989) requiring all exporters to inform the authorities of the importing country well in advance of shipment, and to give them the opportunity to refuse the products. Amendments to Community legislation are now proposed to bring it into line with that notification procedure known as the Prior Informed Consent.

### **4. The Control of Industrial Risks**

Industries frequently use chemicals that are dangerous to human health or to the environment. The 1976 chemical accident at Seveso, in Italy, drove home the need for preventive measures and well-organized emergency response procedures to deal with the emergencies which can arise as a result.

The Community's response has been the 1982 directive on the major accident hazards of industrial activities, widely known as the "Seveso" directive, which establishes a procedure that requires industrial managers to identify, assess, and take steps to prevent major accidents in their operations.

The directive also seeks to ensure that even if an accident occurs, it will not escalate into disaster. Plant managers and public authorities must prepare on and offsite emergency response measures and inform the public - including people likely to be affected who are living across the border in another Member State.

The directive has since been broadened twice so that it now covers practically all industrial operations using dangerous chemicals. The first modification came after the Sandoz warehouse fire in 1987, which caused tonnes of highly toxic chemicals to wash into the upper reaches of the Rhine River. The second was

made in 1988 to cover on and offsite storage, whether linked or not to an industrial operation. Today, the comprehensive risk assessment must now be carried out by the managers of more than 2500 industrial operations, who have to report in detail to their national government.

In 1990, the Community also strengthened the requirements on public information by insisting that the Member States provide appropriate information actively and regularly. A practical guide to public information expected under the directive is being prepared; this will describe the company, its industrial operations and the substances involved, the risks they pose, and the company's proposals for dealing with them.

For the future, the Community aims to strengthen implementation by collaborating with the Member States to harmonize the principles and practice of preparing the safety reports, and to experiment with a scale for determining the gravity of industrial accidents, which it proposes should become a permanent arrangement within two years.

## **5. A Special Issue: Safety without Pain: Regulating Animal Testing**

During the mid -1980s, over 11 million vertebrate animals were used annually for research in the Community.

Researchers justify the use of animals to test the hazards of a chemical on the grounds that this helps to protect human beings and other species from new risks. But society is becoming increasingly concerned about the capacity of animals to be aware, to feel pain and to suffer. This concern has led to a reappraisal of the rationale and ethics underlying man's use of other species for experimental and other purposes. Many countries now have legislation to restrict and control such experimentation. The Community, for its part, adopted a directive in 1986 to ensure full implementation of the 1985 Council of Europe Convention for the protection of vertebrate animals used for experimental and other scientific purposes.

This directive accepts that animals must be used for scientific experiments, but aims at limiting their numbers and at safeguarding their welfare to the fullest possible extent. It requires public authorities to encourage the development of alternative methods. It applies to experiments undertaken for the diagnosis or prevention of disease or ill-health in people, animals or plants, and the protection of the natural environment in the interests of people or animals. It prohibits experiments on endangered species except in research aimed at the preservation of the species concerned, or for essential biomedical purpose where no alternative course of action exists.

## Chapter 5 Managing Biotechnology

### 1. The Context

In recent years, the development and use of new techniques of genetic modification as well as techniques for the understanding, control and exploitation of organisms, tissues and cells have profoundly changed the traditional methods and scope of biotechnology. Appropriate use of this new technology can contribute to economic development both in the developed and developing worlds; particularly in developing countries, the technology can help meet the challenge of successfully combatting disease and increasing the food supply. Appropriately used, the technology can provide a tool for the conservation of genetic material and species and can thus contribute to the strategy for the maintenance of biological diversity.

The new techniques have allowed the identification of many useful genes and their transfer to other organisms, by-passing biological barriers and thus creating new forms. For instance, a gene from an organism encoding a property for the expression of a natural toxin against insect pests can be transferred into the genetic material of plants or animals, which can then protect themselves from these insects without the need for chemical treatment. This kind of application can be very significant for both developed and developing countries.

There are however, concerns about the possible risks of the new techniques, both to human health and to the environment. The sound management of biotechnology is necessary - it is indeed the only way forward. The Community is building such a policy based on three important and parallel activities:

- The development and adoption of harmonised legislation to manage the environmental risks associated with the use and release of Genetically Modified Organisms (GMO);
- Research and training programmes to strengthen the scientific base for biotechnology and to develop the environmentally-useful applications in domains such as agriculture and nutrition as well as the evaluation of possible risks involved in the use of GMO;
- The creation of a competitive environment for the industrial activities based on biotechnology.

### 2. Legislative Requirements

Legislation to manage possible environmental risks from the use and release of GMO is necessary: novel organisms could reproduce and change their own characteristics by mating and mutation, or transfer new genetic traits to wild species, or out compete naturally occurring species. Such adverse effects must be avoided as they are likely to be irreversible; the spread of micro-organisms in particular cannot be restricted to certain areas and environments. The widespread use and release of genetically modified organisms could upset the delicate balance existing in nature or even have evolutionary impacts..

As possible adverse effects to the environment depend not only on the characteristics of the new organisms but also on their interaction with others in any given ecosystem, a careful individual assessment of each release must be made. These issues are important

everywhere, but perhaps even more so in many sensitive and vulnerable ecosystems in the developing world, which need to be conserved if sustainable development is to be achieved.

In the early stages of the use of genetic modifications, the new organisms were confined to laboratories and fermenters. However, new applications, particularly in agriculture, have now led to their release into the environment. So far these have been conducted on an experimental scale, but their more widespread use for commercial purposes is not far over the horizon. While no problems associated with the research and field tests of GMOs so far carried out have been identified, it is nonetheless necessary to ensure that a legal responsibility is placed on those carrying out operations to evaluate potential risks in conjunction with public authorities.

Concerns about the absence of harmonised legislation for the environmentally sound management of the use and release of GMO have consequently been growing, especially since national approaches have been varied and currently leave many parts of the Community unprotected.

In 1990, the Community adopted legislation establishing common environmental risk assessment and safety measures.

The two relevant directives are intended to manage the possible risks associated with the use of engineered organisms, covering both their deliberate release into the environment, and their contained use.

Their main features are that:

- An environmental risk assessment must always be carried out before any use of GMO;
- No deliberate releases of GMO may be carried out without the consent of the competent authorities; for contained uses, either a simple notification or an approval is needed, depending on the risk and scale of operation;
- A national approval procedure is required for contained use operations or for experimental releases into the environment;
- A Community approval procedure is foreseen for deliberate releases made by placing a GMO containing product on the market.

For conducting the risk-assessments, the directives stipulate that a number of parameters have to be taken into account, including:

- The pathogenicity of the GMO to be used or released, as well as other health considerations;
- The survival and persistence of the GMO in the environment;
- The genetic impact of the GMO if released into the environment;
- Environmental and ecological considerations.

Though there is no fully-developed methodology for accurately predicting either the exact kind or magnitude of risk that could be associated with the introduction of any GMO, such assessments can be made.

The flexible, case-by-case system envisaged will not only allow work to continue but will also help in the development of assessment models. It should also help to build public confidence and acceptance of the technology and its products.

### 3. Research Activities

The Community has financed research activities which can provide a better understanding of the scientific issues involved and thus support the efforts for the environmentally sound management of biotechnology.

A first programme dealing with genetic engineering, enzymology and cellular and molecular pathology was developed after 1974. More intensive work began in the 1982-86 Biomolecular Engineering Programme which focussed on genetic engineering of plants and micro-organisms (important for agriculture, genetics and genetic engineering of virus and cellular genes important for animal husbandry) and on enzyme engineering.

These objectives were amplified in the Biotechnology Active Programme of 1985-89 to include research on disease resistance in plants, production of rDNA vaccines for farm animals and analysis of plant-micro-organism symbiosis. A new sector on the assessment of risks which could be associated with the release of rDNA in the environment was included. Further "pre-normative" research is being financed under the current programme (1990-94).

Finally a new programme is being prepared under the third framework programme, adopted early in 1991 which includes funds for the assessment of risks and the protection of genetic diversity. Important efforts will be made in the fields of microbial ecology and on the development of methods for assessing genetic erosion.

Biotechnology research could help developing countries to solve several of the major problems they have in protecting the environment. In order to obtain significant results however, the participation of research teams from the interested developing countries is necessary. The Community has established the Life Sciences and Technologies for Developing Countries programme (STD) and the International Scientific Cooperation programme (ISC) as a means of developing cooperation by way of joint research contracts established between organisations in both the Community and the developing countries.

### 4. The Biotechnology Industry

The Commission adopted in 1991 a Communication on providing a competitive environment for the industrial activities based on biotechnology within the Community, which was endorsed by the Council.

This Communication makes recommendations in the fields of legislation, standards, research, intellectual property, ethics and the statistical base, all of which will both strengthen the industry and enable the technology to be used to meet the challenges facing the developed and developing countries in a way that is safe and environmentally sound.

A proposal on intellectual property is in discussion in the Council and this should encourage industrial investment in the sector.

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The Commission has also set up an ethical committee to advise it on ethical questions so that the broader implications of biotechnology can be examined and better understood by the public at large.

## 5. Conclusion

The issue of the use and release of genetically modified organisms remains a sensitive one. The Community has considered it necessary to provide a sound framework for industrial development and to adopt legislation in order to provide for protection of human health and the environment, for researchers and industry. The result is appropriate, flexible, progressive and workable legislation that will provide a sound basis for future scientific endeavour, industrial production and product development and which will provide a framework for the environmentally sound management of biotechnology and its adaptation to accumulated experience.

At the same time, the importance of research which will provide a better understanding of the risks as well as of the opportunities is recognised by the Community. Furthermore, the development of research capacities in developing countries through joint research contracts is seen as an effective way of ensuring that the benefits of the techniques are distributed as widely as possible as part of the effort to promote environmentally safe and sustainable development.

## Chapter 6 Nuclear Safety

### 1. Introduction

Community action in the nuclear field is based on the 1957 Euratom Treaty, the main objective of which was to provide the conditions necessary for the growth of nuclear industries. One of these conditions was, to establish uniform safety standards throughout the Community, another was to promote nuclear research. Today, both are highly interrelated since a significant part of nuclear research activities is dedicated to enhancing safety.

The current emphasis is on the follow-up and expansion of the strategies adopted in response to the Three Mile Island and Chernobyl accidents in the USA and the USSR respectively, with the latter having a great impact in the areas of radiation protection, accident mitigation and management, and in emergency response preparedness.

This chapter deals with the issues raised by nuclear power plants and other radiation producers; problems of waste and its disposal are covered in chapter 7.

### 2. Radiation Protection

#### *a. Regulations and Practices*

Basic safety standards for the protection of nuclear industry workers as well as the public have been produced and regularly updated since 1959. They are based on the recommendations of the International Commission on Radiological Protection (ICRP) and the work of the UN Committee on the Effects of Atomic Radiation (UNCEAR). They contribute to reaching the necessary global consensus on protection standards.

Implementation of the standards is monitored through a Community-wide data collection system which includes specific programmes such as that on job-related occupational dose statistics for light water reactors, and on the protection of workers occasionally exposed to radiation (outside workers). Medical radiation is a major and still-growing source of exposure, and standards were extended in 1984 to protect people undergoing examination and treatment; this has also involved the better training of personnel and the better control of installations.

Work is underway on determining the significance of exposure to natural sources of indoor radiation, and in particular to radon. The Commission has produced a recommendation on acceptable levels based on ICRP principles.

Urgent action was required after the Chernobyl accident to set common intervention levels for food control for all potentially important radionuclides to be applied in the event of future accidents. A regulation adopted in 1988 lays down maximum permitted levels for babyfood, dairy produce, liquid foodstuffs and "other major foodstuffs"; they also apply to exports to third countries.

Radiation monitoring is undertaken in all the Member States, who regularly report their findings to the Commission. The Euratom Treaty entitles the Commission to verify monitoring equipment in the Community. It only occasionally used this right until 1990, when it began systematic, though selective, verification of equipment for measuring discharges of radioactive effluents and for environmental monitoring.

In the international field, the Community cooperates in emergency response preparedness through its activities in the atmospheric dispersion exercise, ATMES, jointly organized by it, the IAEA, and the World Meteorological Organisation. The exercise includes comparison of atmospheric dispersion models in order to identify the best ones for future development.

### ***b. Research***

Community research in radiation protection began in 1961 with studies of the harmful effects of radiation on living organisms, and has continued since. Successive programmes have consolidated the scientific basis of radiation protection, supported the regulatory activities of the Commission, achieved cost-savings for Member States by making optimal allocations of available scientists, resulting in an effective dissemination of results and intensive cooperation. Today, the Community supports about 30% of all radiation protection research carried out on its territory and coordinates more than 80% of its research.

The scientific content of the research programme covers the entire range of subjects relevant to radiation protection, sources, exposure pathways and measurement systems, the prevention of human exposure to radiation, the assessment and treatment of its effects, and the risk management of radiation exposure.

Research activities are carried out in close cooperation with other countries and international organisations. Sweden will participate as a full partner in the radiation protection research activities of the Community, and other EFTA countries have expressed interest in such cooperation. Regular exchanges of information are agreed with the US and Canada defining joint priorities and actions. Contacts and cooperation are also maintained with the Nuclear Energy Agency of the OECD, with UNCEAR, the IAEA and the other relevant specialised agencies of the United Nations system.

### ***c. Information, Training and Education***

The Community continues to meet the increasing need for both the public and the industry's workers to be educated, informed and/or trained in radiation protection. A 1989 directive provides for information on health protection measures to be applied and steps to be taken in the event of a radiological emergency, so that people who might be concerned by an emergency plan can understand its nature.

Training in radiation protection addresses several levels of knowledge and is adapted to various professional target groups such students in medicine and sciences to give them the necessary background in radiation protection, to young

scientists to stimulate their understanding of the general problems of radiation protection and to senior professionals working in the field to be kept up-to-date.

### 3. Nuclear Plant Safety

At present, nuclear electricity generation in the Community accounts for about 34% of the total supply (and up to 70% in countries like France and Belgium). There are about 140 nuclear power stations throughout the Community. Although the responsibility to licence and operate them lies entirely with the Member States, the Community is active in reactor safety research programmes to harmonize operating procedure and practice.

Harmonization of safety requirements and criteria at Community level was decided on in 1975. The aim was to obtain equivalent and satisfactory levels of protection for all its populations and for the environment. The main steps were the 1981 publication of the safety principles for light water reactors, the establishment of guidelines and criteria for the safety of fast reactors and the development of codes and standards for fast reactor components, which culminated in 1989 with the "Assurance of Safety of Nuclear Power Plants" document. Work continues on the harmonization of the approaches towards safety rules and practices which will lead to the development of a *harmonised Community approach* on the one hand and reinforcement of a Community network of prenormative research and development on the other.

Safety criteria and guidelines have also been produced for fast reactors. Work on the evaluation of the mechanical behaviour of the vessel in fast reactors and a comparison of codes for the description of whole core accidents is being finalised.

The relationship between the development of technical codes and standards and that of a nuclear safety logic is important. Work on steel components in fast reactors is under way and is being extended to the components of light water reactors.

A number of activities are taking place to reinforce the Community's prenormative research and development network. For example the 1989 TELEMAR programme for remote handling in hazardous or disordered nuclear environments has led to the Community's Joint Research Centre work in that field.

Research also concentrates on the development of a common methodology for risk evaluation. New analytical tools have been studied to improve probabilistic methods in analysing accident scenarios. A European Reliability Data System has been set up to make the necessary data available. The quantitative assessment of reliability of structures belonging to Nuclear Power Plants being is continuously improved. In particular, the project for inspection of steel components, to which most of the OECD Member States contribute, is designed to verify inspection procedures and to create the basis for norms and standards. The developments and improvements aim to reduce the likelihood of large accidents in operating power stations and other installations.

#### **4. Decommissioning of Nuclear Installations**

The Community has been promoting decommissioning research and development since 1979. At that time only five nuclear power plants in the Community had been decommissioned. This number is expected to rise to about fifty by the year 2000.

The objective of the programme is to reinforce the scientific and technological basis for ensuring the safety of dismantling activities and to provide some economic evaluation for it.

Decontamination processes, dismantling techniques, adaptation of remote-controlled systems and the treatment of specific wastes are covered by the programme, which also aims to provide guiding principles to simplify operations and to minimize radiological impact on workers.

#### **5. Transport of Radioactive Materials**

The transport of radioactive materials - many of which are unrelated to nuclear energy production - is an area where the international dimension is permanently present because the majority of materials concerned are the subject of exchanges between states.

The international safety dimension is considered jointly by the IAEA, the Community, and its Member States. At global level, the IAEA lays down and periodically updates regulations. The Member States incorporate their substance into their national legislation. The Community analyses the compatibility of national legislations and coordinates the actions of the Member States.

The transport of radioactive materials inside the Community could see significant growth which will need more precise and specific regulation and the Commission is pursuing its efforts in cooperation with the Member States as well as undertaking preparatory work in setting up a joint data bank on hazards and procedures to be applied in case of an accident. It contributes to the work of the IAEA in this field.

#### **6. Trends**

Nuclear safety is a dynamic area of work. The competent authorities of the Member States and the international organisations have a permanent challenge to keep up to date with developments and to set out priorities for action.

For the Community, this challenge is of the greatest importance because of the complex political context which involves the creation of the single Community Market on the one hand and the general process of European integration, including the opening of the Community towards Eastern Europe on the other. In addition, the need for global approaches to the problem of industrial risks which will guarantee environmentally sustainable economic growth must be considered as part of the challenge.

Cooperation with the relevant international organisations in order to maintain the existing international consensus basis radiation safety standards is crucial. Accession of the Community to the IAEA Notification and Assistance Conventions in case of a nuclear accident is a necessary step in this.

Research will continue in the main areas outlined. The deployment of an integrated Community nuclear emergency management system will combining monitoring systems with different modules for accident consequence analysis is in development. Such a system would allow real time emergency management at Community level including the optimization of countermeasures to cope with current, near and distant future contamination scenarios.

The Community believes that an important priority is to promote contacts and exchanges, in particular via bilateral cooperation agreements, for example with the countries of Central and Eastern Europe where there are a large number of nuclear power plants.

Such new forms of cooperation could be implemented in practice by means of, inter alia, subject-specific audits, personnel exchanges and the joint implementation of training courses for control room operators in which advance simulators would be used.

For its part the Commission will continue to fulfil its obligations under the Euratom Treaty which includes the further enhancing of international cooperation in the field of nuclear safety and radiological protection.

## Chapter 7 Waste

### 1. The Problem

Annual waste production in the Community has been put at two thousand million tonnes, of which some 100 million is household waste and about 30 million is classified as dangerous. Despite many efforts and the successful reduction of some waste streams (the process of transformation which produces wastes alongside the desired product), most streams are still increasing. Disposal is increasingly hampered by a shortage of space for landfill sites. Public concern has been awakened by the pollution such sites can engender in soil and water, as well as by the problems of toxic or noxious emissions from waste incinerators.

In the past, one non-viable solution has been to dispose of wastes by exporting them, including export to developing countries where controls may not be as strict and public awareness of the problems generated not as developed. Similarly, wild dumping has been widespread. Both solutions have subsequently been made illegal by Community legislation.

In all cases, waste involves costs which in an ideal world ought to be avoidable: the word "waste" itself suggests something that should not have been created in the first place, or something which should not have been thrown away. "Waste" means that raw materials and energy have been inefficiently used.

Community policy has evolved from action aiming to control disposal towards action encouraging its minimisation, with considerable emphasis now being placed on the identification of appropriate instruments to encourage new clean technologies and products, and to place the burden of disposal more firmly on the producer.

### 2. Current Legislation

The First Environmental Action Programme called for measures to control waste and its disposal. Framework legislation came in 1975 in the form of a general measure, establishing a management system governing most forms of waste, though it excluded radioactive material (covered in section 6 below), mineral waste, some agricultural wastes, waste water, or gaseous effluents. It included provisions for the identification of waste authorities, who were given the duty of drawing up disposal plans and of instituting a system of authorisation of installations treating or disposing of wastes. The plans were to cover technical requirements, especially of types of disposal, the identification of suitable sites, and the arrangements to be made for particularly difficult wastes.

Supplementary directives were adopted in 1978 and 1984, strengthening requirements for the disposal of toxic and dangerous wastes and regulating its movement. The latter required a notification system aiming to give potential recipients adequate information on the waste proposed for transport.

The framework legislation imposed general duties in addition to those specified above, including application of the principle that the polluter should pay for the damage he causes, and measures to encourage recycling.

In addition to the general waste measures, specific legislation has been enacted to control disposal of products or by-products liable to cause pollution. This includes waste oils, PCBs, titanium dioxide, paper, sewage sludge, containers for certain liquids and used batteries.

### **3. Policy Development**

Successive action programmes on the environment have set out basic policy guidelines for the Community in relation to waste management. The sequence of priorities they have set has always been prevention, recycling and reuse, and the safe disposal of non-recoverable residues. The idea is that wherever waste can be prevented, it should be; where it has to be produced, then its recycling and reuse be the priority; and only where limits to these are reached should appropriate disposal methods be sought. In addition, the transport of waste should be limited as far as possible (except where it is going to reuse or recycling), and remedial action should be taken to clean up contaminated sites. The cost of such action should be borne by the polluters, where they can be identified.

The Community encourages new technology development in these fields; its action ranges from research and development to demonstration projects bridging the gap between research and general production. It funds a certain number of waste management and disposal projects and some clean technology projects.

### **4. The Way Forward**

Waste management needs to be guided by comprehensive medium to long-term policy setting out priorities. The Community must be self-sufficient for the treatment and disposal of all forms of waste as a prerequisite of sustainable development. It has recently adopted a comprehensive strategy which is based on four principles:

- The direct reduction of waste streams,
- The optimisation of environmentally-sound treatment and disposal to common standards,
- The reduction of movements, and
- The liability of the producer.

#### ***a. The Direct Reduction of Waste Streams***

Reduction implies prevention in the first instance. A dual approach to prevention is proposed including the introduction of new, clean technologies, and by developing appropriate products.

The primary purpose of developing clean technologies in this context is to perfect non-polluting manufacturing processes which produce a minimum of waste. Minimising waste at the product level means taking into account the environmental impact of the entire product life-cycle. Products placed on the market should make the smallest possible contribution, by their design, manufacture, use and final disposal to increasing the amount or harmfulness of the waste stream. Consumers need to play a part, they must be informed about the ecological characteristics of products and packaging by appropriate labelling (see chapter 4 for other aspects of the eco-labelling proposal).

The second element of such strategy is reuse and recycling. Once waste has been created, the best way of preventing or reducing adverse effects on the environment is to reuse or recycle it, in other words, to keep it in or bring it back into, the economic cycle. This can take a variety of forms including regeneration, raw materials recovery, and energy conversion. The choice should be based on the aim of reducing quantities and of conserving raw materials and energy to a maximum compatible with economic considerations.

#### ***b. Optimisation, Reduction of Movement and Liability***

In order to ensure that all wastes which cannot be recycled are disposed of without endangering the environment, two types of action are needed, aiming to achieve high standards and self-sufficiency.

In the first place, Community-wide standards of treatment and disposal are needed, ranging from plant construction and operation, acceptance regimes to the obligation to exercise post-closure care in the case of landfill sites need to be developed.

The optimal infrastructure for waste disposal is one which is self-sufficient at Community level. At present, treatment capacity is far from being adequate. One issue is the need to establish a network of disposal facilities to meet need patterns. This is seen as requiring a level of inter-regional cooperation in the development and management of facilities which does not exist at present, but towards which the Community is working. Its aim would be to minimise movement as well as to provide a service of the appropriate standard.

Any waste still leaving the Community will have to comply with the stringent requirements of the Basle Convention of 1989 of which the Community is a signatory. The Council is currently considering legislation to implement its provisions in the Community, which will enable the Community and the Member States to ratify the Convention, and thus bring it into force. In addition, the Lomé IV Convention bans the export of hazardous waste from the Community to the countries of Africa, the Caribbean and the Pacific (the ACP countries, see chapter 18).

Transport over long distances, disposal and treatment of waste will become much less attractive to producers if the social risks generated by their activities are incorporated into the prices of their products or services. A proposal has therefore been tabled which would make producers liable for damage caused by their waste.

## 5. Research and Development

Community research and development programmes follow and inform waste management policy. Priorities include the development of appropriate treatment technologies, the treatment of existing pollution, increasing the rate of recycling and use of waste through the development of economically-viable technologies and promoting industrial competitiveness through the development of innovative technologies, the use of recycled materials and the promotion of recyclable materials

Although conventional techniques for emission abatement, waste treatment and disposal still have potential for development, new approaches have to be promoted, taking advantage of biotechnologies, for example. "Clean" technologies and the improvement of the economy of recycling processes will therefore continue to receive particular attention in the future.

The results of these activities have been complemented at pilot and or demonstration scale in the energy demonstration programmes in the field of biomass energy from waste, which covers the production and use of refuse-derived fuels by gasification and pyrolysis ( see chapter 15). Environmentally-sound new technologies demonstration projects are funded under the ACE programme which has also aimed at encouraging the development of methods of monitoring waste disposal sites.

The structural funds (discussed in chapter 13) enable grants to be made for new infrastructure where this forms part of the economic development strategy of less-favoured regions. A specific 500 Mecu component of the fund which is specifically geared to resolving environmental problems (ENVIREG) includes finance for waste management in certain coastal areas, for example where there is a huge seasonal variation in population as a result of tourism, and for toxic waste management in all eligible areas.

## 6. Radioactive Waste Management and Disposal

The Community launched a programme on radioactive waste management and disposal in the mid-1970s which has been renewed every five years since. It is implemented by means of shared-cost actions with institutions in the Member States (universities, public laboratories, private institutions), the programme pools the resources of more than 40 European bodies including two Community research facilities, at Joint Research Centre at Ispra in Italy and at Karlsruhe in Germany (see chapter 16). The objective is to contribute to the demonstration of a complete system for radioactive waste management, which ensures the safety of the population and the protection of the environment during all the management phases and, in particular, during the final, disposal, phase. The priorities of the programme are:

With regard to waste:

- The reduction of quantities and releases into the environment;
- The development of waste packages with a view to disposal.

With regard to disposal:

- The demonstration of the feasibility of deep geological disposal through pilot facilities;
- The confirmation of the safety of migration of radionuclides through the geosphere and the development of related engineering and safety studies.

With regard to the whole system:

- The promotion of quality assurance and its control, concerning processes, waste packages, facilities and software such as calculation codes.

The present programme is a framework for the exchange of information and for reflection in the Community, allowing, among other things, the search for a European consensus on common approaches and to harmonise practices. It also seeks to promote scientific and technological cooperation between Member States.

The programme deals with waste resulting from the operation of nuclear power plants and installations associated with the nuclear fuel cycle, waste resulting from dismantling operations of nuclear installations, and spent fuel where considered as waste. This is particularly necessary with regard to the dismantling wastes because in the next century they will form an important part of production; it is an important component of the decommissioning programme outlined in chapter 6.

The problem of waste and its safe disposal is a crucial issue. The Commission considers it essential to continue world-wide efforts to demonstrate viable methods for safe disposal of long-lasting and highly radioactive waste and welcomes international cooperation in the field. The Commission will continue to strongly support Community pilot projects aiming at an early validation of the concept of deep geological disposal.

## 7. General Conclusion

The Community, as one of the most important trading partners in the world, has a responsibility to minimise all forms of waste and to become self-sufficient in their management and disposal. Moreover, it must be able to demonstrate this self-sufficiency and to profit from the development of the essential technology in support of moves towards sustainable development.

The solutions to waste problems will vary according to the specific characteristics of different waste streams. The Community is starting to work on individual solutions in priority sectors. This work aims at achieving ambitious targets for prevention, recycling and reuse within this decade, and at significantly reducing the amounts of waste going for final disposal.

Waste generation is inherent to industrial production and trade, and the problem is always bound to have an international dimension. Adequate

control mechanisms are needed in order to avoid the movement of wastes to areas where environmentally-sound final disposal is not guaranteed. The Community consequently participates actively in all international activities aiming to improve the control of wastes and at reducing their effects on the environment, and in particular the Basle and Lomé IV Conventions.

## Chapter 8 Water

### 1. Introduction

Water pollution had been increasing since the industrial revolution in many parts of the Community until concerted action began to be taken on a wide front to deal with the problem. The major benefit of the legislation which has been put into force over the past 20 years has not been so much a noticeable improvement in water quality as a halt in the decline in water quality in most areas which now provides the springboard for action to improve standards, and to return to the quality of water enjoyed by earlier generations, but happily still available in some parts of Europe.

### 2. Community Legislation

Many directives relating to the prevention of pollution or to the improvement of fresh water also relate to marine waters that ultimately receive much of the pollution that enters the former. They can be divided into three basic categories. The first comprises of a group of directives which lay down quality objectives or other requirements for water intended for specific uses. The second category relates to specific industries or sectors, and the third deals with the discharge of dangerous substances. The new directive on urban waste water treatment (May 1991) constitutes a departure from these problem-specific measures.

The first group formed the main part of Community action in the 1970s. They concentrated heavily on the protection of water quality according to its specific use; most rely on the Member States to designate such waters. The Member States are then committed to bring these waters up to the quality standards required by a certain date, and to maintain them there. Some also call on the Member States to draw up programmes of improvements.

The group also includes two directives on water for human consumption (one on the quality surface water intended for abstraction and other on drinking water standards), three on the quality of water required for fish or shellfish, and one on the quality of bathing waters which has proved to become one of the best-known of directives by the general public, because of their concern for the standards of the tourist resorts they frequent.

The second group includes legislation governing the titanium dioxide industry and protecting waters against nitrate pollution from agricultural sources (see paragraph 6 below). Proposals have been tabled for the paper and pulp industry.

The third group can be divided into two categories, the one dealing with discharges to ground water, the other with discharges to surface waters.

The first are dealt with by legislation which prohibits discharge of substances on a black list and limits discharges of those on a grey list. It is governed by a framework directive from 1976 and applied through a series of "daughter directives". The framework law identified two lists of families of substances which were deemed to pose a threat to the environment by virtue of their lasting

toxicity or their bioaccumulation capacity and persistence. There was a problem in trying to decide which substances in a family should be included in the daughter directives which was overcome in 1986 by a general implementation directive providing for a streamlined decision-making procedure. It has enabled measures to be specified for 14 substances in the five years since its implementation compared to three in the previous ten years. Further work is in progress for a group of 16 of the 132 substances the Commission has identified as requiring attention.

The urban waste water directive has as its objective to protect the environment from the adverse effects of waste water discharges. It provides that all major centres of population should have secondary treatment or better by different dates according to the sensitivity of the receiving waters (1998 for the most sensitive areas, and then 2000 or 2005). The directive distinguishes between urban areas with discharges into the sea, where the general population threshold above which secondary treatment is required is 10,000, and those discharging into inland waters, where the limit is 2000.

An important aspect of Community policy with an impact on water quality control is freedom of access to environmental information, a subject on which legislation was approved in 1989 (see chapter 10)

### **3. International Action**

The international dimension is particularly important in water policy: seas and river basins for which concerted action may be needed can both stretch beyond the limits of the Community. This is the case with all three of its regional seas (Baltic, North Sea and Mediterranean) as well as for some of its major river basins (Rhine, Danube, Elbe and Oder). All these are the subject of international conventions or agreements in which the Community either participates or intends to participate.

Regular ministerial conferences of the riparian states define programmes of action for the North Sea, the principal element of which at present is to reduce nutrient inflows to it by 50% by 1995, relative to 1985 levels. In addition, the North Sea and the North-Eastern Atlantic are the subject of international conventions which deal with dumping at sea (the Oslo Convention of 1974), and with pollution from land-based sources (the Paris Convention of 1976). The Community is an observer in the first and is a party to the second.

For the Baltic, the Community follows the work of the Helsinki Convention and intends to accede to it in the near future.

The main river basin initiative till recently has been the Rhine Convention of 1976 which considers the river basin from Lake Constance to the sea. This has set a series of objectives on quality, including the return of salmon by the year 2000, and which includes measures such as emission standards for municipal waste water works.

The "Rhine Action Programmes" adopted under the convention also serve as a model in other river conventions such as the recent Elbe Convention, th which

the Community is party, which is the first involving one of the new democracies of Central and Eastern Europe (the Czech and Slovak Federal Republic).

It is involved in the discussions on similar conventions for the Oder and Danube basins. The Community cooperates financially with all the countries who are likely to participate in these conventions, mainly through the PHARE programme (Poland and Hungary Aid to the Reconstruction of Economies - now extended to the other countries of the region as well, see chapter 18).

The Mediterranean is the subject of a range of international instruments, agreements and programmes which have UNEP's regional seas initiative as their origin. The principal instrument is the Barcelona Convention of 1975 and its sequence of Protocols dealing with land-based pollution, oil spills and special protection areas, to which the Community is a contracting party. In addition, the Nicosia Charter of 1990 on environmental cooperation in the basin provided a five-year programme of action which effectively supplements and gives consistency to the 1988 Environmental Programme for the Mediterranean drawn up jointly by the World Bank and the European Investment Bank in collaboration with the Commission and all the riparian States. The Commission's participation in these actions are reviewed in chapter 10, for the MEDSPA funding programme, and in chapters 14 and 18 for development assistance inside and outside the Community.

#### 4. Accidental Pollution

Since the end of the 1970s, when public opinion was aroused by massive oil spills such as the wreck of the Amoco Cadiz on the west coast of France, the Community has launched and progressively developed a system for dealing with accidental pollution. Its main elements are a Community information system and the operational means for combatting pollution at sea.

The information system consists, amongst other things, of an inventory of European experts and experience in dealing with accidents. Though it was originally designed to facilitate cooperation in cases of oil spills at sea, it has now been extended to other dangerous chemicals and to rivers.

The main objective of the operational system is to provide administrative and technical assistance to authorities faced with an emergency. A team is available round the clock, and a task force follows up the team's work by offering assistance on the ground. This system enables the Community to assist third countries when confronted with a major pollution incident. It was used in the international effort to fight the after-effects oil pollution caused by the Gulf War.

#### 5. The Research Strategy

Research on the protection of the aquatic environment is carried out within the general environment programme (STEP for 1989-92 and its successor for 1991-94) as well as in the Marine Science and Technology programme (MAST and its successor). Their financial resources have increased substantially in real terms over the years and are still growing, indicating both the importance attached to environmental research issues and the recognition that a Community level of activity is appropriate in many cases.

The main objective of the MAST programme is to contribute to establishing a scientific and technological basis for the exploration, exploitation, management, and protection of European coastal and regional seas. In the new programme, geographical coverage is extended to include the Northern Atlantic Ocean.

MAST's focus is on marine processes rather than problems. Whilst marine pollution is not specifically addressed, a number of projects on biogeochemistry and biology/ecology will increase understanding of pollution mechanisms through an improved knowledge of marine processes.

## 6. The Future

A seminar of environment ministers held in Frankfurt in 1988 was the occasion for an agreement to *"expand and intensify the Community policy and legislation on the protection and management of Community water resources"*. They identified several areas of work to follow up, including the need for the waste water directive which has now been adopted. However, the major part of the work programme they identified is still in preparation. This includes an initiative on defining and protecting the ecological quality of all waters, whose problem resides in the great variation of conditions from the temperate northern countries to the drier south.

Elsewhere, the problems of the discharge of dangerous substances needs to continue to receive attention, though the emphasis is shifting from an approach dealing with dangerous substances originating from specific sources to the problem of diffuse sources of pollution and in particular that resulting from intensive agriculture. This has led to the adoption of a directive on nitrate control and limitation, including the control of spreading of animal manure, which is one of the main causes of nitrate pollution of ground and coastal waters (coastal zone problems are treated in chapter 12). The problems posed by marine pollution is leading the Community to consider measures to control its main sources, including the ever-growing fleet of pleasure craft.

Finally, the problems of managing water resources is a subject which is beginning to receive attention, as a result especially of the increasing competition for it in the drier southern Member States.

## Chapter 9 Air

### 1. Introduction

Not all forms of air pollution or their harmful effects can readily be detected, many only become apparent in the long term: the deterioration of stonework in buildings as a result of atmospheric acidity can take decades to manifest itself, for example. This leads to air pollution problems frequently being underestimated.

The "acid rain" issue of the 1970s, which engendered serious damage in many European forests, triggered the preparation of control measures for SO<sub>2</sub> and NO<sub>2</sub>. Since it rapidly became evident that the problem went well beyond Community borders, most European Countries, the Community, the United States and Canada signed the Geneva Convention on Long-Distance Transfrontier Atmospheric Pollution in 1979 which aimed to reduce these substances. The Convention gave the Community the political impetus to continue developing a comprehensive air pollution strategy, coupled with monitoring networks and information systems.

The pollution control measures involve the definition of air quality, product, and emission standards (for mobile as well as for stationary sources). The basic principles of the measures is to define uniform Community norms and limit values for concentrations of specific pollutants. Air quality standards set are monitored with the help of networks backed up by a framework of air quality information exchange.

Development and improvement of the system concentrates on three areas: ensuring the compatibility of measurement methods, developing the exchange of data and public information, and the control of additional pollutants, including organic compounds and heavy metals not already covered.

Finally, regulations have been introduced on Chlorofluorocarbons which are one of the ozone-depleting group of gases (see chapter 22).

### 2. Air Quality Standards

The pollutants covered by existing Community legislation are SO<sub>2</sub>/particulates, NO<sub>2</sub> and lead. The standards set for each are those required for the protection of public health and are defined in terms of limit and of guide values for concentrations in the air.

Information exchange amongst the national networks of monitoring stations covers more pollutants than the legislation currently controls. The extra substances include NO<sub>x</sub>, CO, O<sub>3</sub> and heavy metals such as cadmium. A pilot inventory of air quality was initiated in 1985 in order to provide more comprehensive information; about 1900 stations are to be linked in the longer term.

These activities have enabled the Community to initiate some limited air pollution controls, but also to gather considerable amounts of information required in order to draw conclusions on the appropriate forms of future action.

The establishment of the European Environmental Agency which has the objective of helping to provide Community-wide reliable and comparable information, will help in the monitoring and calibration of pollution measurements in order to build up a complete and reliable picture of air quality across the Community.

### **3. Product and Emission Standards (Mobile Sources)**

The reduction of some polluting emissions can be achieved through the imposition of standards for products, and for fuels in particular. These cover lead and benzene in gasoline and sulphur concentrations in gasoil. New proposals aim to reduce losses from evaporation from the storage and distribution cycle of petrol.

Legislation governing mobile sources of emissions are also mainly aimed at significantly reducing motor car pollution. Early legislation limited CO and HC emissions (1970); this was followed by limitations on NO<sub>x</sub>. In 1991, the Community adopted consolidated legislation aimed at harmonising emission standards for passenger cars and heavy duty trucks. The limit values are equivalent to the current U.S. standards and will require three-way catalytic converters on passenger cars. The legislation also includes provision for the use of fiscal incentives to meet the agreed standards earlier than mandated.

### **4. Fixed Source Emissions**

Five directives govern industrial emissions from industrial plant, industrial plant, large combustion plants, sources of production of asbestos cement and new and existing waste incinerators. The first two fix limit values for several types of pollutant, including dust, heavy metals, SO<sub>2</sub>, HCl and HF. The industrial plants legislation provides an authorisation procedure setting emission limit values and provides for the retrofitting of a long list of existing plant. Best available technologies (not entailing excessive costs) are to be used in all cases. The large combustion plant directive provides for:

- SO<sub>2</sub>, NO<sub>x</sub> and particulates standards for new plant across the Community;
- A fifteen-year period to run down acid rain-creating pollutants by existing plants, by 60% for SO<sub>2</sub> (to 2003) and 30% for NO<sub>x</sub> (by 1998).

### **5. Conclusion**

Community legislation to combat air pollution has evolved very rapidly during the last years, particularly in relation to mobile sources. The Community is now equipped to keep up with new technological developments and will hopefully steadily reduce air pollution from all sources. However, if the volume of road traffic increases, the Community and international measures already taken will

be nullified. It is therefore necessary to consider how to limit such traffic through the appropriate transport policies (see chapter 15).

## Chapter 10 Means of Action

### 1. Introduction

Sectoral policies are backed up by measures and by activities which aim to help with their implementation. These are of four quite different types: the CORINE experimental data base system which will be incorporated into the European Environmental Agency, public access to environmental legislation, financial instruments, and economic and fiscal instruments. Each is reviewed in turn.

### 2. CORINE and the Agency

CORINE stands for Coordinated Information on the Environment. It was a five-year experimental programme which ran from 1985 to 1990 and which aimed at demonstrating methods of obtaining permanent comparable and coherent information systems on the environment.

Its results can be grouped into three categories, relating to:

- The information system and its data bases;
- Nomenclatures and definitions;
- The development of networks of expertise in Europe.

The Agency will be established as soon as its seat is decided by the Council. It is to consist of a central body, the Agency proper, and of a European information and observation network. Both will use the CORINE experience to undertake specific auxiliary tasks in support of Community environmental policy. They will aim to provide the Community and other European states which participate with:

- Objective, reliable and comparable information at European level, enabling them to take the requisite measures to protect the environment, to assess the results of such measures and to ensure that the public is properly informed about the state of the environment;
- To that end, the necessary technical and scientific support.

The Agency will be open to European Countries which are not members of but which share its concerns for the objectives of the Agency. The terms of such participation will be determined by agreements to be concluded between the Community and the countries concerned.

Its governing regulation provides that further tasks can be conferred upon the Agency after an initial period of two years. These could include assistance in the monitoring of the implementation of Community environmental legislation, preparing specific criteria for the delivery of environmental labels or promoting friendly technologies and processes and their use and transfer within the Community and in third countries.

A different example of international cooperation in the environmental field is the Community's participation alongside Hungary, the United States and the UN ECE in the Budapest Regional Centre for Central and Eastern Europe. The Centre aims to collect environmental data and monitor the situation with the participation of Non-Governmental Organisations.

### 3. Public Access to Information

Community legislation is increasingly designed to create a process of generating and evaluating information about environmental risks before investment decisions are taken.

Government, industry and the public need comprehensive information to identify the potential risks of products, activities or wastes, which enable them to take precautions to avoid or control these risks. Information is crucial to creating and controlling environmentally responsible management systems.

Informing and involving the public is done in three ways:

- By requiring the Member States to submit regular reports to the Commission on the implementation of a particular law;
- By requiring the Commission to report to the Council and the Parliament on implementation in the Member States;
- By requiring that the public receive certain information and be given an opportunity to respond to it as part of the scheme of the law.

The Commission adopted a three-year cycle for the reports on implementation, with its reports occurring in the year following the receipt of the reports from the Member States.

Explicit opportunities for public information and comment depend on the purpose of a particular law. For example, the directive on environmental impact assessment requires that a request for development and information about the project be made available to the public, which also must be given an opportunity to express an opinion before the project can be authorised.

A series of directives aimed at controlling the risks from chemicals lay down detailed public information requirements. The 1967 and 1979 directives on classification, labelling, and the notification of new chemicals provide precise rules for informing consumers of the name, hazards and appropriate safety measures for dangerous chemicals and preparations.

The 1982 "Seveso" Directive on controlling risks of major accidents in industrial installations lays down detailed public information and consultation requirements, which are aimed at informing the public of the risks concerned and appropriate behaviour in case of a serious accident.

In keeping with the Commission's policy of public information, the directives on the contained use and deliberate release of genetically modified organisms define

a set of information about genetically modified organisms and their risks which must be made available to the public. Further, the member states may involve the public in its decision to allow or deny the release.

Under several of these laws the right to information applies to citizens in other member states as well as the one directly concerned.

A more general approach was taken in 1990, when the Community adopted a directive on access to information about the environment. In principle, all environmental information held by public authorities must be freely available to the public, also in a crossborder context.

The Commission is currently discussing proposals for extending its labelling system by rewarding environmentally friendly products with a Community "eco-label". It is also preparing a regulation on environmental management and auditing by industry, which would be voluntary but would lay down stringent environmental management and auditing standards for those companies which decided to participate in it.

## 4. Financial Instruments

### *a. Limits to Funding*

The direct financing of measures in support of environmental policy has always been small, but financing by long-term loans, for instance from the European Investment Bank, is significantly more important. In the first place, it is a general Community principle that financial assistance is not given for the implementation of legislative measures which the Member States have themselves agreed to take in Council. Secondly, environmental funding is circumscribed by the polluter-pays principle, on the basis that "Charging to polluters the cost of action taken to combat the pollution which they cause encourages them to find less polluting products or technologies, thereby enabling more rational use to be made of the resources of the environment." (Council Recommendation to the Member States, 1975). Thirdly, action in the Community is taken at the level at which it is most appropriate to do so, and for the environment, this has generally meant the Member State or even the local level.

Such finance as has been made available has taken one of four forms:

- Demonstration and related measures acting as inducements to environmentally-desirable action;
- Research and technology development support in the environmental field;
- Environmental measures co-financed by the Community in support of other policies, particularly those related to structural adjustment.
- Long-term loan financing by the European Investment Bank.

Only the first of these is discussed here; the other three are covered in chapters 18 and 14.

### ***b. Funding of Demonstration and Related Measures***

Four groups of measures exist which are aimed at helping to resolve particular types of environmental problems which occur across the Community. They cover two principal types of activity: encouraging new clean technologies and supporting site conservation and management techniques.

Two of the groups of measures concentrate one on each type of activity, the other on regional problems (providing assistance for both types).

In the first group are:

- The ACE (Community Action for the Environment) programme's "Technology" component funds demonstration projects aimed bridging the gap between research and the market in the fields of new clean technologies to reduce pollution and waste production, the reuse and recycling of wastes and the development of site restoration techniques;
- The ACE "Nature" component, which supports the conservation and management of endangered natural or semi-natural habitats, discussed in chapter 24.

In the second group are:

- Measures for the improvement of conditions in the Mediterranean Basin (MEDSPA), undertaken in close cooperation with the European Investment Bank and the World Bank as well as in collaboration with other Community funding sources (essentially for structural adjustment - see chapter 14). This has provided 16 Mecu between 1986 and 1990, but will make 37 Mecu available for the three years 1991-3;
- Similar measures for the North Sea, with a budget of 10 Mecu for the period 1991-3, though the amount is likely to be increased to help meet the special needs of the Eastern Länder of Germany.

### ***c. A New Financial Instrument***

The European Parliament has long pressed its sister institutions to act more forthrightly in the environmental field, believing that the "command and control" approach is too limited to resolve certain types of issue. One of its arguments has been that stronger financial instruments are a necessary complement to legislative action, particularly where the aim is to deal with environmental problems quickly. Also, finance is required to deal with certain common problems of environmental deterioration where it is impossible to pinpoint the cause or the person responsible. Thirdly, there is a growing awareness of the interconnectedness of many environmental problems, which often transcend national borders, and for which Community-level funding is therefore appropriate. Finally, the Community is best-placed to respond effectively to the global challenges which are now coming to the fore.

In 1990, the Commission carried out a review of all Community environmental funding in order to assess the need for a stronger instrument along the lines described by Parliament, and it has now made a proposal (called LIFE) to create a single financial instrument incorporating the existing lines, and covering four main lines of activity.

Within the Community:

- To strengthen and increase the effectiveness of administrative structures or services designed to ensure the implementation of environmental provisions;
- To help control and reduce the various forms of pollution;
- To help protect sensitive areas and maintain biogenetic diversity.

Outside the Community:

- To provide technical and financial support for the implementation of international conventions and the resolution of common or global problems.

## 5. Economic and Fiscal Measures

As described in chapter 3, Economic and fiscal measures are seen as a necessary complement to the existing mechanisms for achieving the goals of environmental policy.

The Community already has some experience in the use of such instruments, as discussed in chapter 9 on the implementation of improved emission standards for motor vehicles. The Commission is now preparing a combined energy and CO<sub>2</sub> tax which will form one part of an overall strategy to improve energy savings and to widen the application of clean energy technology. The tax would complement traditional command and control measures as well as the existing fiscal proposals.

It is envisaged that the tax would be composed of an energy element and a carbon element because CO<sub>2</sub> stabilisation (see chapters 16 and 21) can best be achieved by exploiting two major potentials, energy efficiency and reduced carbon content of fuels. In order to minimise economic adjustment costs for industry and other consumers, the tax should be introduced gradually.

## **PART III**

# **INTEGRATION OF ENVIRONMENTAL REQUIREMENTS INTO OTHER POLICY AREAS**

## Chapter 11 The Principles of Integration and the Main Areas of Concern

### 1. Context

"Integration" is a crucial objective in Community environment policy, not just because it is the embodiment of a Treaty obligation, not just because it is a tool for environmental protection per se, but because it is the lynch pin in the process of establishing sustainable social and economic development patterns.

The chapter on the environment included in the Single European Act recognised the central importance of the principle of integration, and stated that "environmental protection requirements shall be a component of the Community's other policies".

The new Treaty of European Union reinforced the need to integrate environmental protection requirements into both the definition and the implementation of other Community policies.

There are already numerous examples of the integration of environmental protection requirements into other Community policies. For instance, the Lomé Convention of 1990, which governs the development partnership between the Community and the countries of Africa, the Caribbean and the Pacific, includes an environmental chapter which is a model of the new direction, stating that the Community provides support to bring an improvement to "the living conditions of their populations and to safeguarding those of future generations". The European Investment Bank will agree to make long-term loans only after a systematic environmental impact assessment of the projects financed in this context.

Furthermore, the European Bank for Reconstruction and Development, in which the Community has a large stake, has stated in its Articles of Incorporation that it would assist in the implementation of measures "to promote in the full range of its activities environmentally sound and sustainable development".

## 2. The Areas of Community Policy Reviewed

Environmental considerations need to be built into all other policy areas. However, there are some where such considerations are more immediately or more obviously necessary because the physical impacts of implementing them are so great. Three groups of Community policies are important: the agricultural and related policies affecting the land use patterns of 80% of the territory, the structural policies whose aim is regional development, and the sectoral policies with direct impacts on regional economies or land use, in particular transport, energy. The long-term loans of the European Investment Bank covers these different sectors.

Beyond the Community's territory, cooperation and trade policies also have important environmental dimensions which are evolving along parallel lines to the internal ones. It must be emphasised here that the environment and development priorities within the Community are not necessarily the same as those outside it. Within the Community's borders, there already exists a substantial body of knowledge on the state of the environment, together with the institutional capacity and the instruments to address problems of deterioration or conservation needs.

In stark contrast, many of the Community's partners - particularly on the African continent - have no effective institutional structures or means of addressing environmental issues. The Community attempts to take such differences into account when formulating its policies and programmes.

The fact that this third part of the document concentrates on the areas mentioned must not be taken as implying that others are not the subject of similar considerations. For example, a system of checks and balances is needed when the Commission vets government aids to industry which promote the conditions for creating the single market, but which do not fly in the face of the principle that the polluter must pay for his actions.

There are comparable needs for integration in the social policies, including training and job creation. To take another example, if the aim of the Community is to move towards sustainability, and if, in order to achieve it, a reorientation of economic activity is needed, then the appropriate training becomes a critical issue. The Community is developing a number of instruments which are important in the context of ensuring integration and which form the embryo of a physical development strategy which is reviewed before the sectoral policies mentioned earlier.

## Chapter 12 Towards a Physical development Strategy

### 1. The Extent of the Community's Remit

In order to be able to appreciate the extent and nature of Community activity in land and its use, it is necessary to understand the Community's remit in the field. The crucial difference between policy relating to land and that relating to the other areas so far described is its diversity and complexity, involving all aspects of social and economic activity. Many remain the competence of national or local governments, including development authorisation procedures, for example, or the drawing up of land use plans and strategies which determine the distribution of activities which will have a direct effect on the environment.

As a result, Community environmental policy and legislation which directly concerns land and its use is more limited than that which concerns, say, water protection and use. That is not to say that environmental controls are weaker, but that they rest to a much greater extent in the hands of the Member States.

Community legislation aiming to protect land from the consequences of untoward development is limited to two directives. One ensures that the potential effects of development proposals are taken into account in the decision-making process, the other protects certain natural areas important for conservation.

In addition to its legal instruments, the Community is preparing policy orientations directly related to the use of land, part of which are tools for use in other policy areas but which include an environmental dimension. For example work is in hand in drawing up positions on regional planning issues, coastal and mountain areas, or areas at risk from erosion or soil degradation.

### 2. Legislation

#### *a. Environmental Impact Assessment*

Economic development continues to transform the face of the Community, placing considerable pressures on land as the needs of new enterprises for new infrastructure are maintained. All Member States have development control procedures aiming to control and direct such pressures in line with their land use policies. The Community's action has been to ensure that these procedures all came to contain a common respect for environmental protection needs by imposing two principal obligations in the 1985 Environmental Impact assessment (EIA) directive. The first is to undertake EIAs for projects which are "*likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location*". The second is to take the results of the EIA, of the public's reaction to it and to the project as well as the opinion of the competent environmental authorities into account in coming to a decision about the project.

The Community believes it necessary to extend the EIA principle "upstream", to the policy-making and planning stages of development. There are perhaps two main reasons for wanting to do so, both leading to better-informed decisions at the end of the day.

The first is that it is often too late to take alternatives or cumulative effects into account by the project stage. One example is a road project which is evaluated on the basis of its alignment and design characteristics and not on whether it (rather than a railway) is the appropriate solution to a problem - a decision which will have been taken at the planning stage. A second example is the irrigation of a part of dryland plain which does not threaten its specific fauna, but the irrigation's extension through a number of projects covering the plain will result in the disappearance of that fauna.

The second, given in the Fourth Environmental Action Programme, is that it helps to ensure the integration of an environmental dimension into the economic, industrial, agricultural social and other policies of the Community and of the Member States, in line with the Treaty obligation so often mentioned already.

The Community is also concerned to ensure that its neighbouring countries do not suffer the physical consequences of its development and consequently participates actively at the international level. It has taken part in the preparation of the Convention on Environmental Impact Assessment in a Transboundary Context, and signed it at Espoo in Finland in 1991. In addition, the Community participates in the UN Economic Commission for Europe's task force for the application of the principles of EIA to policies, plans and programmes with a view to drafting a convention.

#### ***b. Nature Protection***

The two main axes of nature protection activity, the prerequisite for the maintenance of biological diversity are site and species protection. This section only reviews the former, the latter is covered in the chapter on biological diversity (chapter 24).

Site, or habitat, protection requires land and control over land. The first step in instituting a Community level of protection was taken in 1979. The directive protects birds and their biotopes to an extent which is adequate for the maintenance of the population levels of all species and for the survival of endangered species, as well as the conditions of their survival through the regulation of hunting, commercial and transport practices.

This legislation is to be very considerably reinforced by a habitats directive currently being discussed in Council which aims to cover the protection habitats of fauna and flora and of their habitats. The basic aim of the proposal is to establish, in the best possible time frame, a network of protected areas such as to guarantee the maintenance of all vulnerable species and habitats across the Community. Though important biotopes may cover 10 to 20% of the total Community territory, the proportion needing strict protection measures under the directive would probably not exceed more than 1 or 2%. The remainder would

need to be the subject of maintenance measures which do not exclude economic activity.

### **3. Policy Areas**

Specific types of area and specific issues relating to land are increasing being dealt with at the Community level, because the problems they face are common to all or several Member States.

#### ***a. Regional Strategies***

The Community believes it is necessary to provide decision-makers at all levels with a reference framework which brings out the main trends in land use changes as a result of the process of political and economic integration. A document has been prepared whose purpose is to stimulate a debate on the issue with a view to orienting future planning activity.

The document is one initiative in the process of development of sound Community policy, as well as a tool for national, local and private sector planning. In particular, it aims to provide the groundwork for determining and orienting common action in the Community's regional and related structural policies.

The strategy is important to environment policy formulation, not only because it is the very type of activity into which it is crucial to build a significant environmental dimension, but also because it conditions environmental policy being formulated for specific types of area or problems, coasts on the one hand and soil conservation on the other.

#### ***b. Coasts***

As interface between the aquatic and the terrestrial ecosystems, coasts have diverse and irreplaceable ecosystems which contain 50% of the richest and often most diverse ecologically-important areas of the Community. They are subject to marine, geomorphological, and climatic processes as well as to the consequences of intense and intensifying human activity. They are generally subject to rapid population growth, especially in the Mediterranean Basin, where the French and Spanish rates of growth are three times the Community average, for example. In addition, the extreme seasonal variability of coastal populations places great strain on local environmental services (water supply, sewerage, waste generation). Typically, coastal resort populations increase ten-fold during the summer months.

Paradoxically, coastal areas are also often amongst the least prosperous of the Community. Thus the ten regions identified as most in need of Community structural support are all coastal. More than half the total package of finance currently available in the Structural Funds, or 36,000 Mecu out of 63,000, is earmarked for these regions, inevitably adding to the pressures on the coasts themselves.

The Community is drafting a strategy for the 1990s and beyond. A key element will be the promotion of integrated management and planning of the coastal zone, both of land and sea resources. This would be carried out primarily at the local level, with Community financial assistance provided for pilot projects. A crucial aspect of the policy will be the need for structural fund (see chapter 14) and other development activities to conform to the strategy's orientations. Public awareness of the importance and the fragility of the coastal zone will need to be raised and mechanisms provided for the exchange of information and know-how, including the mobilisation of NGOs. The European Environmental Agency should play a part in the work.

### ***c. Mountains***

Many of the mountain ranges of Europe serve as political boundaries which means that the intrinsic difficulties of managing these areas of difficult access, steep slopes and delicate environments are increased by having authorities with quite different aspirations responsible for different parts of what are in effect geographical units.

The Alpine countries of the Community and beyond have recognised this and have recently begun preparing a convention which would aim to provide a basis for common planning and management to which the Community will be a contracting party. A series of protocols are being prepared which cover the main areas of concern, including regional and local planning procedures, environmental protection (closely inter-linked) and transport.

The common problems of mountain areas of the Community are also the subject of policies aimed at helping to overcome their difficult geography. Mountain farmers have been receiving specific agricultural aids to encourage land management techniques which maintain the balance of nature. The Community funds common programmes in border areas which aim to reduce disparities from one side to the other, in order to establish the conditions for a Community with no internal political frontiers.

### ***d. Soil Conservation and Agricultural Land Management***

Soils are formed in a slow process of change involving topography, climate, parent material, and biological conditions. They are significantly affected by almost every human activity with agriculture being the most extensive.

Threats to soil can be grouped into three categories, which are contamination by harmful substances, degradation of physical and chemical structure, and the misuse of land and water resources. The Community recognises the need to protect soils as a resource and adopts a broad-based approach to it, taking into account the complexity and the interrelationships of the factors involved.

Considerable efforts have been made within the framework of the structural element of the Common Agricultural Policy to tackle the problems of physical degradation, including erosion, and of chemical contamination which are often caused by intensive agricultural practices.

Several regulatory measures exist which contribute to soil protection by controlling the addition of specific substances (such as copper, mercury or persistent organo-chlorides) to feedstuffs or to agricultural inputs. Further measures are being examined by the Council, including a proposal to take into account local environmental conditions when applying pesticides and herbicides.

Another series of environmental measures aiming at soil protection fixes conditions concerning the use of sewage sludge which may be the source of heavy-metal contamination of agricultural soils and protects ground water.

Extensive and reliable information is required to develop and assist such activities. A CORINE programme has supported the assessment and mapping of soil erosion risks in the southern parts of the Community. Soils data have been digitized from the Community 1:1 million map, thus offering an opportunity for the compilation of thematic maps which are an invaluable tool for policy making.

Research is undertaken into the quality of soil with respect to the behaviour of pollutants, the effects of agriculture and forestry practices, and the use and processing of organic sludges and manures; land use aspects including erosion prevention are extensively studied.

The STEP and EPOCH programmes currently include research topics on soil and groundwater protection against organic and inorganic pollutants and erosion, whilst a new programme in the field of competitiveness in agriculture and the management of agricultural resources is expected to make a positive contribution to soil protection.

The International Scientific Cooperation agreements with the countries of the Asian, Latin American and Mediterranean regions are supporting joint scientific activities involving research organisations from the Community and partners in the areas of soils, desertification and pollution. Particular attention has been paid to research where the results may contribute to environmentally safe and sustainable development, including the rehabilitation of degraded land.

#### ***e. Urban Areas***

A Green Book on the urban environment was produced by the Commission in 1990. It aimed to initiate a debate on an area of policy which had received little attention at the Community level until then. It sets out to identify the difficulties which face the major urban areas and to propose appropriate lines of action which take account of the multi-sectoral character of urban activity on the one hand, and the growing need to move towards a rational urban network which answers the needs of a Community with no internal frontiers on the other.

The Green Book proposes that the guiding principles for action might be improved coordination of the different types of policy (economic, financial/investment, transport, environment, and town planning), clear lines of responsibility, sustainable development and a recognition of the principle of subsidiarity - by which action is taken at the most appropriate level of activity.

Town planning, transport, water and energy management are identified as the areas in which Community-level action might be developed.

## Chapter 13 Agriculture and Related Activities

### 1. Areas of Community Interest

Agriculture, fisheries and forestry are the three policy areas which most directly involve the use of natural resources. Each is the subject of its own policy, with its own specificity. However, forestry is different to the other two in not being a food-related matter and in having an important "global challenge" dimension in terms of its importance both in the world's CO<sub>2</sub> balance and for biological diversity. As a result, Community forestry policy is reviewed as a global issue alongside tropical forests, in chapter 23.

### 2. The Common Agricultural Policy

#### *a. Policy Orientations*

Agricultural policy has long had a preeminent place in Community affairs. It is one of the areas mentioned in the 1958 Treaty of Rome. Its aims at the time were to increase productivity in order to ensure adequate revenues for farmers and to guarantee food security at reasonable prices. The pricing mechanisms and supply guarantees were all too successful, leading to a tremendous intensification of production throughout the Community.

With intensification came transformations in traditional farming patterns which profoundly changed the rural landscape: new machinery, the restructuring of holdings, new crops and breeds and new chemicals benefitting the richer areas in particular; decline in revenue, rural abandonment and depopulation in poor, particularly mountain, areas are all a part of the transformations.

The level of overproduction and the rate of transformation of so many landscapes coupled with the ever-more rapid loss of natural habitats, through construction activity as well as through new agricultural practices, have led to public reaction and to demands for reform which are now beginning to result in concrete action.

There has been a shift of emphasis from the 1958 concerns of farm price and food security, to the 1991 concerns to have a policy which guarantees rural living standards, respects the environment, caters for the huge contrasts between the regions and remains truly common to the twelve Member States.

The shift in emphasis began - so far as the environment is concerned - in the mid-1980s, with the introduction of a regulation concerning agricultural structures in which assistance was made available to farmers who were willing to manage their land in an environmentally-friendly way where their holdings were in sensitive areas.

This timid first step (the rates of grant were low and the restrictions on area often severe) has been followed by policy statements on agriculture and the environment (1988) as well as by a proposal to extend the opportunities for use of

the assistance mechanism just mentioned. Its new emphasis would be on reducing the use of chemicals, on the maintenance of abandoned land and inducing broad-leaved or mixed tree planting on land set aside from agricultural production.

The new proposal would provide a much stronger tool to achieve methods of agricultural production respecting environmental conditions in a broad sense. It would aim to favour less-polluting methods of cultivation and less intensive cropping systems, in order to maintain landscapes and prevent soil degradation, to maintain rural populations in environmentally sensitive areas so as to ensure their management, and to encourage the appropriate training.

Nevertheless, the main thrust of environmental integration into agricultural reform policies is yet to come and involves the modification of some at least of the fundamental mechanisms of the system.

### ***b. New Directions***

In 1990, 57% of the Community budget went into agricultural price support (compared to about 25% into the development of the less-favoured regions described in the next chapter, or 1.4% into environmental protection). The vested interests in the system are therefore considerable and any transformation is going to be closely argued before it is adopted. However a proposal for a fundamental reform of the present system is on the table. It is a bold initiative which aims to reduce farmer reliance on subsidies in order to produce surpluses, and which includes a range of proposals for nevertheless maintaining the rural populations essential to manage the land.

Whatever the results of the debate, the importance of the environmental dimension of the problem and the need to act in favour of protection is no longer in doubt. Indeed, it has been put amongst the principal objectives of - and reasons for - the reform.

The main lines of thought at present are that the price support mechanism which operates without any limits as to volume produced (except, recently, in the case of milk where quotas now exist), will need to be replaced by a support system based on area cultivated, which would be given an environmental dimension by adding inducements for conforming to limits on chemical inputs, on yields or on animal density, which might vary from region to region according to carrying capacity (the converse might even be considered as a form of fiscal instrument: of reducing or refusing support for exceeding such limits).

Again, whatever the results of the debate, the system which emerges will be a complex one in which the wide range of European conditions, opportunities and needs will have to be addressed. How far, for example, to apply milk quotas in mountain areas where dairy herds are not only the essential source of income but also the essential management tool of a delicate ecosystem? One answer will be to maintain support for the environmentally-friendly farming and land management techniques mentioned in the previous section, though the problems of arriving at equitable solutions to this type of issue will be difficult.

### **C. Rural Development**

The second main component of agricultural policy is its structural element, which aims at the adjustment of development levels across the Community, accompanying the regional policies which are the subject of the next chapter. This in turn, has two components which are the acceleration of the adaptation of agricultural structures and the development of less-favoured rural areas

The regulation including assistance for environmentally-friendly farming is one of the means of implementing the former component. It has provided assistance worth 39 Mecu between 1985 and 1990, or 1% of the total financial allocation. Expenditure on measures aiming at environmental improvement under the rural development component, including soil and erosion protection, biotope management or selective afforestation for example, is put at 310 Mecu for the period from 1989 to 1992. This is some 12% of the total amount being granted by the Community.

A second aspect of rural development funding within direct effects on the environment are the schemes to promote off-farm income, which will provide farmers in many marginal areas the opportunity to make a living whilst maintaining the land they might otherwise abandon.

### **3. Fisheries**

Fisheries is another activity where massive technological development in the relatively recent past has led to the transformation of the industry. This has not just been a question of increased fishing capacity, but also of increased fishing range and of processing, distribution and marketing of produce. World catches tripled between 1948 and 1968, the Community's doubled between 1958 and 1968.

Catches have since stagnated or declined because capacity has exceeded stock regeneration potential. The exploitation of many commercially-valuable marine species remains beyond levels which will maintain long-term sustainability.

Faced with problems of over-exploitation in the early 1970s, certain states introduced 200-mile fishing zones. The Community followed suit in 1976. The 1982 Law of the Sea conference recognised the move and proposed that the coastal states ensure that the living resources of their zones were not endangered by over-exploitation.

The Community's 1983 common fisheries policy aimed to provide a basis for regulating activity within the 200-mile zone, protecting its fishing grounds, conserving its biological resources and ensuring its balanced exploitation on a lasting basis in appropriate economic and social conditions.

Beyond the 200-mile limit, the sea is free. However, a series of international agreements and conventions regulate the management and conservation of fish stocks, including conventions for the conservation of Atlantic species such as

tuna and salmon, or the Convention for the Conservation of Antarctic Marine Living Resources. The Community is a participant in these conventions as well as a regular observer in the work organised under the aegis of the Food and Agriculture Organisation as well in that of the International Whaling Commission.

It is difficult to balance the Community's call for fish and fish products and the capacity of the seas to produce it. At present, a substantial reduction of fishing effort is envisaged including a reduction of capacity of the Community fishing fleet, in order to guarantee the balance of the binomial resources/fishing effort. At the same time, however, technological changes continue to introduce problems to which existing legislation is not necessarily adapted. Two examples will serve to illustrate the problem. One of these are beam trawling practices which are particularly damaging to benthic environments, including Posidonia-growing areas of importance for the reproduction of commercially valuable species. A second issue, which concerns both the Community's and International fish stocks, is the development of large-scale pelagic drift nets whose catch is unselective and includes non-target species such as dolphins, seals, turtles and even birds.

The Commission has proposed amendments to the legislation to limit both activities: in the case of drift nets in order to conform to the relevant United Nations Resolution on maximum dimensions which the Community actively helped to draft (to be followed by a moratorium); and in the case of beam trawling to limit the areas open to the activity. A Commission proposal limiting drift-net length to 2.5 km was adopted by the Council on 28-10-91.

Research programmes at Member State and higher levels aim to improve both the information needs of fish stock management and the nature and levels of controls which are appropriate to ensure the sustainability of catch levels.

For the future, it is clear that neither technological innovation nor the need for controls will cease. The Community will continue its course of supporting policies for the sound management of fisheries and adopting the appropriate instruments in cooperation with the fishing community at large.

## Chapter 14 Structural Policy

### 1. Background

Structural policy is an essential component of the strategy of promoting the harmonious development of the Community as a whole. It aims to narrow the gap between the better-endowed and the less-favoured regions of the Community in order to create the conditions for the single market. The total package of assistance agreed in 1988 and supplemented in 1990 when Germany was reunified was some 70,000 Mecu at 1991 prices. It accounts for about 25% of the Community's budget annually. This package supersedes earlier assistance programmes with similar aims but much more restricted means.

Funds are made available to the Member States to co-finance development projects, productive investment, training and job creation measures in the regions which are to benefit. Nearly two-thirds of the money goes to the less-favoured regions, the rest is divided between regions in industrial decline, rural areas with low incomes not benefiting under the first objective, and social measures in all those areas. The rural areas are those described in section 2b of the previous chapter. The Mediterranean parts of the Community, Portugal, Ireland and the French overseas departments are the main beneficiaries, but every Member State benefits to a greater or lesser extent.

Three funds are principally involved. The largest is the regional fund whose remit is to manage Community activity in the less-favoured regions and in areas of industrial decline, as well as to participate financially in the rural areas. The second is the structural component of the agricultural fund described earlier. The third is the European social fund which provides finance for training and job creation in support of the previous two.

Further assistance is available in specific circumstances from the fisheries fund, from budget allocations for transport, or for Coal and Steel Community areas, for instance.

Finally, the Community has its own financial institution, the European Investment Bank (EIB), which actively supports structural activity by financing investment in the EC's less favoured regions.

### 2. Environmental Integration

The earlier Community funding packages concentrated on agricultural or rural investment in Mediterranean regions and in relatively restricted areas of all Member States where the kind of structural problems outlined above were felt most acutely. In the first round of Mediterranean programmes, beneficiaries were required to abide by Community legislation, but specific mention of the environment was limited to a mention of the desirability of undertaking EIAs as a means of ensuring consideration of the likely environmental consequences of action. The second generation of Mediterranean programmes as well as the earlier structural programmes went further, specifying the need to conform to Community environmental policy and including a requirement to undertake

EIAs for significant projects, in accordance with the new Community legislation just then coming into force.

The environmental dimension of the new structural fund system, put into place in the wake of the 1987 Treaty amendments (which provided the new impetus for the funds as well as for environment policy) is more significant. The documents which form the contract between the Member States and the Commission as fund managers (the Community Support Frameworks) make three demands. The first is the obligation of conformity with environmental legislation, the second is the legislation's objectives are met where it has not yet been implemented, and the third is a requirement to include information about the likely environmental consequences of the action.

The skeleton of a system to ensure consideration of the environmental consequences of structural fund activity was thus put in place. The Member States, who prepared the investment programmes, were then expected to put flesh on it, in partnership with the Commission.

The results of the exercise have been mixed, bringing out new ways of overcoming problems as well as illustrating the difficulties of introducing systems which require new approaches to the standard problems of development. In brief, the exercise could be characterised as having brought to those involved an awareness, not of the need to consider environmental issues - which most already had - but of the complexity of doing so.

In this respect, the structural fund system has served as a testing ground for methods of integration both at the Community level (in terms of determining the appropriate way of framing fund activity) and at the operational level, in terms of building up the working practices required to make it effective.

These are all ways of illustrating first, the difficulty of achieving the integration of an environmental dimension into other activities and second, the kinds of needs which arise in undertaking such a task. They also give a taste of the tasks ahead in achieving the aim of sustainable development.

### **3. Environmental Investment**

A second aspect of the evolution towards more environmental consideration has been the very significant change in scale in expenditure on environmental infrastructure in particular, even allowing for the change in scale of funding. The environmental component of the funds has been multiplied by seven, from around 100 Mecu per year in 1985-87 to 730 Mecu per year since (estimate at 1991 prices).

In the less-favoured regions, expenditure which is environmental in character represents some 6% of total sums called on by the countries concerned. In the industrial areas in decline, where site rehabilitation and improvements to outworn infrastructure are important, it rises to 15%.

The main area of expenditure is water-related infrastructure, including sewage treatment and potable water abstraction, adduction and treatment, and household, industrial and hazardous waste management and disposal. A

second area is natural resource management where, in addition to expenditure described in the previous chapter, funds have been made available for water resource management and soil protection measures against erosion. A third area is the training required to ensure the operation of the other two.

Finally, the Community recognised the need for a particular effort to be made to in resolving a number of environmental problems and has provided some 500 Mecu for a programme called ENVIREG which enables the beneficiary regions to finance environmental actions linked to economic development, such as coastal sewage treatment, waste management and to protect sensitive areas in certain circumstances. Industrial and mining land pollution issues are also dealt with in programmes aimed at areas in industrial decline, the most significant of these is the RECHAR initiative for coal mining basins.

#### **4. Investment under Coal and Steel Community Rules**

Though the Coal and Steel Community Treaty terms are now unified with the other Treaties, some of its objectives are still met through specific programmes and actions, including ones which are environmental in character.

First, it provides loans at preferential rates for investments in the rehabilitation of sites as part of structural fund activities.

Second, it is now introducing a scheme providing interest rebates on capital investment on projects of high environmental standards.

Finally, it has recently allocated a budget for experimental and demonstration projects in derelict and poisoned land rehabilitation in coal and steel areas.

#### **5. European Investment Bank**

The EIB plays an important role in financing investment in order to abate pollution and improve the environment. While much of its loan-finance is reserved for investment in the EC's less developed regions, specifically environment-related investment projects can qualify for EIB finance irrespective of their location in the EC. In addition, the Bank's rigorous appraisal of all investments systematically integrates environmental considerations, verifying that EIA procedures have been applied or that other environmental legislation is adhered to. The same attention is paid to environmental considerations when the Bank finances investments outside of the Community (ACP, Mediterranean and Central or Eastern European countries) in the framework of the Community financial and technical cooperation with those countries.

Loans for environmental projects have been rising strongly over the last few years. In 1991, they amounted to 1888 M Ecu, corresponding to 14% of its loan finance. The main areas of environmental investments have been widened over the years, they now include e.g. sewage treatment, waste management, air pollution control, reforestation and soil conservation, as well as investments improving urban environment.

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In addition, the European Investment Bank is actively involved in several international cooperation schemes concerning environmental protection. It has launched with the World Bank the Environmental Programme for the Mediterranean and a related technical assistance programme called METAP, in which the EC-Commission and UNEP also cooperate. It participates in the Baltic Sea Environmental Programme, jointly with the Commission and other agencies, as well as in initiatives in Central and Eastern Europe now being set up. The EIB is also member of CIDIE (Committee for International Development Institutions on the Environment).

# Chapter 15 Transport

## 1. The Present Situation

Transport plays a vital economic and social role. A Community-wide infrastructure network and an efficient transport sector will contribute to the establishment of the single market by facilitating the free movement of people as well as goods, just as they make it an important element in the realisation of the structural objectives described in the previous chapter. The economic significance of the transport sector in the Community is considerable: it represents 9% of employment, 10% of GDP and 40% of public investment.

However, transport has a wide-ranging impact on the environment. The nature, extent and variety of issues raised by transport makes the integration of an effective environmental dimension an imperative. All modes of transport are in some way at the root of a number of environmental problems. These include noise, air, water, soil pollution, congestion on the roads particularly in urban areas, and in the air, accident risks as well as the broader issues of the depletion of natural resources (especially fossil fuels), or of CO<sub>2</sub> production (25% of global emissions are transport-related).

The transport sector has developed consistently in the Community. Its average annual growth rate of 2.6% represents growth of inland transport of 2.3% for goods and 3.1% for passengers, though for road transport on its own the rates have been 3.9% for goods and 3.2% for passengers.

The disappearance of national frontiers within the Community, eventual monetary and economic union, and the emergence of a much broader economic area including central and eastern Europe are likely to mean transport growth for decades to come. In the "business as usual" scenario, total car mileage in the Community is expected to rise by 25% by 2010 whilst the increase in tonnes per kilometre carried on roads may exceed 40%. Air traffic, is also set to grow: at the world level, the expected doubling of air seat miles between 1990 and 2005, coupled with an increase of only one third in average aircraft size implies a two thirds growth in the total number of aircraft movements, in which Europe will undoubtedly share.

## 2. Policy Orientations

There are two principal areas in which an environmental dimension to transport policy will help to provide more effective guidance on the appropriate options for the future. These are the mode of transport and its infrastructure, and its operational characteristics. The considerations which are important for each are quite different.

In the first, environmental information is required which can be set against economic and social data to build up the most complete models of the options possible. This is the type of field in which the proposed "upstream" extension of the EIA principle described in chapter 12 will be of particular value.

Basic choice of mode needs to be supplemented by the appropriate measures to reduce or at least contain the impact of the chosen mode on the environment.

In the second area - operational pollution caused by transport - the legislative measures on vehicle emissions and on noise need to be extended as well as complemented by measures to encourage the use of the best available technologies and measures for regular checking of environmental performance and compliance.

Such checks are not the only tool to improve or change transport-user behaviour. A more powerful option is the use of fiscal and economic instruments as selective deterrents or incentives - to discourage unnecessary demand as a whole, to discourage specific practices (high speeds, high fuel consumption, noise, high emission levels), or to encourage others (clean technologies, use of public transport, better distribution of loads).

Measures aiming at changes in behaviour through fiscal or other action will need to be accompanied by information, education and public awareness campaigns.

### **3. Moving towards Sustainable Mobility**

All these options are currently being considered by the Community. However it is clear that all industrialised countries, including those of the Community, which have allowed the unbridled growth of road traffic will need to examine their future options with more care in a world where CO<sub>2</sub> levels continue to rise and where towns all suffer to a greater or lesser extent from the effects of noise, fumes and congestion. A clear illustration of this is the concern about the environmental nuisance and damage caused by the high level of traffic in sensitive geographical areas such as the Alps, as well as in densely populated conurbations.

Thus, in order to ensure a balance between economic efficiency and commercial viability of the transport sector and the urgent need to safeguard the environment, the Community is at present reviewing its approach towards transport policy with a view to providing a framework which will allow for "sustainable mobility".

Such a framework will require a combination of measures which seek to reduce operational pollution of the the different modes of transport, limit the land use implications of transport infrastructure, reduce traffic and congestion, and reduce the risks inherent in the transport of dangerous goods. This will require initiatives of three kinds: technical measures, transport policy measures, and measures which can influence human behaviour.

# Chapter 16 Energy Policy

## 1. Introduction

The Community houses 340 million people who are responsible for some 14% of the total energy consumption in the world. Their per capita consumption of primary energy amounts to about 3.5 tonnes of oil equivalent, a low figure if compared to other industrialised countries but far higher than the levels in developing countries. Emissions from such energy use causes a significant increase in the atmospheric concentration of greenhouse gases, especially of CO<sub>2</sub>, the main trigger in the process of global warming, and of pollutants such as SO<sub>2</sub> and NO<sub>x</sub> which produce acid rain and other regional air pollution phenomena. While problems with acid rain can be dealt with through legislative measures (see chapter 5) and through technological adaptation (flue gas desulphurisation, catalytic converters for vehicles, for example), the complexity of the problem of global warming requires a more comprehensive response

The Council has urged all countries to introduce extensive energy efficiency and conservation measures and to adopt as soon as possible targets and strategies for limiting emissions of greenhouse gases. An overall CO<sub>2</sub> target for the Community have been put forward which distinguishes between different Member States' ability to make improvements (see chapter 21).

In its communication entitled 'A Community Strategy to limit CO<sub>2</sub> emissions and to improve Energy Efficiency', the Commission suggested a combination of fiscal and non-fiscal actions and more specifically studied the possibility of a mixed energy and carbon tax designed to improve energy efficiency and to effect a transfer towards low or zero carbon-content fuels. Possible further instruments include financial interventions (taxes, subsidies) which could help to further the development of transport systems with fewer CO<sub>2</sub> emissions. On the basis of this communication the Council adopted on 13.12.91 conclusions supporting this approach and asking the Commission to carry on further studies on the envisaged instruments.

The non-fiscal instruments include technical standards and other development work designed to promote the use of more efficient technologies in the energy sector, as well as information and training in general and through contractual arrangements with industry. The most important of these instruments is the THERMIE programme for the promotion of innovative energy technologies. The technologies funded through this initiative have led to annual reductions of the order of 3. million tonnes of CO<sub>2</sub>, 190,000 tonnes of SO<sub>2</sub>, and 100,000 tonnes of NO<sub>x</sub>. Funds are made available to disseminate and promote the successful technologies, which will give further benefits.

The distribution of the consequent burdens across the different Member States based on economic development will be an important political and practical consideration in the development of this policy.

## 2. The Present Policy

The Community's energy policy objectives for 1995 call for "a search for balanced solutions as regards energy and the environment, by making use of the best available and economically justified technologies and by improving energy efficiency".

Current patterns of energy consumption have far-reaching and potentially dangerous consequences: energy production practices are great users of natural resources as well as the main cause of global warming and the key to its arrest. The Community needs to adapt its energy policy to address both issues, it needs to continue to support the demonstration and application of innovative technologies to reinforce and expand efforts in energy efficiency improvements and energy conservation, as well as increase the use of non-fossil fuels or low-carbon energy sources.

In order to go beyond the framework of the Community and to influence the global dimension of the greenhouse effect, international solutions need to be found which can respond to the specific needs of the developing countries by providing assistance and help especially in the fields of energy planning and of technology transfer.

### 3. Energy Efficiency Improvements

The cornerstone of the environmental dimension of energy policy must be a commitment to efficiency and conservation. The importance of efficiency improvements has often been stressed, including by the World Commission on Environment and Development, which believes that *"energy efficiency should be the cutting edge of national energy policies for sustainable development"*.

The Community has followed an active policy aimed at improving energy use since the first oil crisis in 1973, including undertaking a comprehensive series of energy audits of the major consuming industries (steel, aluminium, paper, glass, brick and clay, chemicals, grains, milk and ceramics). The non-nuclear research and development programme has supported almost 300 projects in the energy efficiency category, covering a wide range of technologies. The demonstration programme has supported almost 600 efficiency projects.

An auditing service to small and medium enterprises throughout the Community was launched in 1980. A data base of over 10,000 audits is held by the Community's Joint Research Centre at Ispra, in Italy.

The European Investment Bank offers loans under advantageous conditions for investments in energy efficiency and it has supported the promotion of innovative techniques to accelerate investment in the field.

At present, the Community is concentrating on two major programmes on end use and efficiency.

In the PACE programme a wide range of initiatives are mainly concerned with the "software" aspects of electricity end use. The programme will concentrate on the setting up of consumer information systems, the exchange of information between utilities, the establishment of joint study topics, voluntary agreements with energy-using equipment manufacturers and minimum appliance efficiency standards.

SAVE is a medium to long-term programme which will endeavour to create a more positive environment for energy efficiency through a series of initiatives aimed at improving consumer information, setting minimum efficiency levels for energy, using equipment and realising efficiency improvements.

#### **4. Renewable Energies**

The Community's 1995 objectives include the development of renewable energies, furthering the diversification of supplies. However, the contribution of such sources to date has been modest. In some Member States the share of commercialised renewable energies is higher, but only 3% of gross internal energy consumption in the Community comes into this category. Estimates of their future potential is especially difficult to assess, as these cover such diverse sectors as biomass combustion, solar energy, hydro (especially mini-hydro), geothermal and wind energy. However, even in the most favourable scenarios, these types of energy production are not expected to exceed 8% of total output by 2010.

In some cases, technologies that make use of renewable energies are already competitive although for the most will not be so for five or even ten years. It should be noted that the calculations these estimates are generally based on are straightforward cost comparisons with fossil fuels, and that if one took social costs into account (including for example the value of resource depletion or of environmental degradation and of climate change), then the relative viability of renewable energies is greatly enhanced. In the ten years from 1979 to 1989, the Community allocated about 300 Mecu to renewable energy demonstration projects. It is now actively promoting innovative technologies in solar, wind, geothermal, hydroelectric and biomass or waste combustion energy. A new ALTENER programme will be introduced before the end of 1991 which will support the market introduction of renewable energies.

#### **5. Clean and more efficient Technologies**

The introduction of clean and more efficient technologies can contribute to a more rational use of energy and meet major environmental concerns. Balanced energy solutions which make use of the best available and economically justified technologies need to be researched.

Market-oriented support of these technologies is a major element of the Community's policy. Between 1975 and 1989, it allocated roughly 1200 Mecu to some 1600 demonstration projects in the field of energy conservation and clean coal and hydrocarbon technologies.

They have proved to be a vital link in the technology chain by demonstrating the implementation of new systems on a commercial scale, confirming the need for continuing support for this kind of innovation and to help to bridge the "inertia gap" between successful demonstration and the implementation of new technologies in the market.

The new THERMIE programme takes this one stage further, aiming not only to support innovative energy technologies, but also to promote their

implementation in the market place through a network of 35 Organisations for the Promotion of Energy Technology (OPET). One of the activities of the OPET is to focus on forty specific projects a year, placing emphasis on the dissemination of results and encouraging investments in successfully-demonstrated projects.

## 6. The International Energy Cooperation Programme

The objective of the Community's international energy cooperation programme is to help to improve the long-term world energy situation by encouraging developing countries to make effective decisions in the field. The programme has its origins in the aftermath of the oil crisis of the late seventies when it was apparent that there was a lack of expertise and knowledge on how to deal with such issues. Its importance is growing as the links between energy and CO<sub>2</sub> production become clearer, and as the Community decides new initiatives in the field. (See chapter 21 on the joint environment and energy Council's decision to assist developing countries through the appropriate transfer of environmentally-sound technologies.)

The programme encourages technology transfer, supports research topics, training, study tours, feasibility studies and seminars. Fields of activity are in the larger Latin American countries, ASEAN, China, India, the Mediterranean, and more recently Central and Eastern Europe. One of its components is the COPED, the Cooperative Programme on Energy and Development, which consists of a network of policy research institutes in eight developing and two Community countries concentrating on the socio-economic aspects of the energy and environment relationships specific to developing countries.

The Commission expects that up to 20 percent of the Lomé IV financial resources (approximately 500 Mecu per year) will be allocated to development projects and programmes, and to address environmental problems.

# Chapter 17 Research and Technological Development

## 1. Overview

Development policy not based on sound principles is likely to create problems. Research is a critical area in that its results condition much of the pattern of subsequent development, and the integration of a sound environmental dimension at that stage is therefore particularly important. As an example, an industrial materials R&D programme which does not consider how the materials it develops are going to be reused or recycled at the end of their useful life is likely to be creating the same kind of waste problems as bedevils today's industry.

Successive Framework programmes for Community-funded research have included environmental components, but these have grown in parallel with concerns for its protection and improvement. In recent years, approximately 10% of all money spent by the Community on environmental protection and improvement has been on R&TD, including demonstration projects. This includes programmes which are primarily environmental and others which contain environmental elements in work on other fields, such as energy, transport, or agriculture.

The second framework programme (1989-92) contained three environmental components worth approximately 300 Mecu in addition to environmental projects in other programme areas, whose value is difficult to quantify. The third framework programme dedicates 518 Mecu out of a total budget of 5,700 Mecu to its environmental programmes, though there is also a strong environmental bias in several other programme areas.

## 2. Characteristics of R&TD Programmes

The primary characteristic of Community R&TD is its organisation into interlocking rolling programmes governed by the frameworks already mentioned. They often consist of shared cost actions, in which the Community provides up to 50% of the finance. In many cases, collaborative contracts are passed with groups consisting of a mix of laboratories, institutes, universities and industry from several European countries; in the case of the development cooperation programmes, the networks include organisations from the Third World countries concerned.

In addition to providing contract finance, the Community is also eager to ensure the coherence and coordination of research efforts across the Community; it therefore devotes a part of its energies to concerted actions in which it reimburses research coordination costs (meetings, travel etc.). Finally, it is keen to ensure that research results reach the widest possible audience and has decided to allocate 1% of all budgets to the dissemination of information.

Part of the Community funded research is carried out at the Joint Research Institute (JRC). Originally this concentrated on nuclear research, but in recent years there has been a shift into other areas such as safety, remote sensing and, of course, environment.

The Community is promoting cooperation with third countries and international organizations. Of special importance to UNCED is the Life Sciences and Technologies for Developing Countries Programme (formerly STD), which is specifically aimed at joint research projects for which there is a clear interest in developing countries. The financial means of the Life Sciences and Technologies for the Developing Countries Programme 1991-94 is 111 Mecu. Of equal importance is the International Scientific Cooperation (ISC) Programme. This programme is part of the economic cooperation agreements between the Community and countries in Asia, Latin America and the Mediterranean region. Since 1984 when the programme began, nearly 100 Mecu has been spent. The budget for 1991 is 27 Mecu.

### 3. Specific Programmes of Environmental Relevance

#### *a. The Environment Programmes*

The Environment Programme 1991-1994 consists of 4 areas:

- Area I. Global Change
- Area II. Technologies and Engineering for the Environment
- Area III. Research on Economic and Social Aspects of Environmental Issues
- Area IV. Technological and Natural Risks.

Research on global change will focus on anthropogenic climate change, climate change impacts, stratospheric ozone (processes which lead to the depletion of stratospheric ozone and the consequences of this depletion and the provision of the scientific basis for preventive measures), tropospheric physics and chemistry, biogeochemical cycles, and ecosystem dynamics. It will be open to

scientists in the Community and third countries. Area I provides a basis for contributions to global programmes (e.g. WCRP, IGBP) with a focus on topics of more specific European interest.

Area II focuses on the assessment of environmental quality and monitoring, and technologies for protecting and rehabilitating the environment.

Research on economic and social aspects of environmental issues is a new Area III in the environmental research programme. The general objective is to improve the understanding of the legal, economic, social, ethical and health aspects of environmental policy and management. Research will address critical areas of environmental social science and environmental economics research, ranging from the basic development of methods and concepts and their application to environmental issues, to their incorporation into specific Community sectoral policies and environmental research programmes.

Area IV on technological and natural risks is intended to help solve broad problems of transnational interest through interdisciplinary research. Projects will cover natural risks (seismic hazards, volcanic risk, wildfires), technological risks (risks to soil, surface and groundwater quality from agricultural technologies and land use practices, certain regional aspects of ecosystem protection, risks to health and the environment from chemical substances) and the desertification in the Mediterranean area.

#### ***b. The Marine Science and Technology Programme***

The Marine Science and Technology programme contains a number of relevant areas: biogeochemical cycles and fluxes, interface and boundary processes, and biological processes. Also Area II, coastal zone science and engineering, which concern coastal physical processes and coastal engineering. Area III on marine technology will be funding, e.g. studies on the exploitation of marine biological resources.

#### ***c. Energy***

The main aim of Community action in this area is the development of sound, environmentally safe energy technologies designed to improve the Community's energy balance at reasonable expense within the single market. This is supported by research in three main areas:

1. Fossil and renewable energy sources, energy utilisation and conservation
2. Nuclear fission safety; the Joint Research Centre participates in this action through work in the field of reactor safety, radioactive waste safety and management, the management and safety of fissile materials, nuclear fuel and actinide
3. Controlled nuclear fusion, where the long-term objective is the creation of safe, environmentally sound prototype reactors. The

Joint Research Centre contributes by means of work on installation safety, support for NET and some basic work on materials.

#### *d. Biotechnology, Agriculture and Agro-Industry*

The Biotechnology programme has three parts:

1. Approaches at the molecular level (structure and function of proteins involved in the essential functions of living cells; study of the structure and function of genes)
2. Approaches at the cell and organism level (cell regeneration mechanisms, cell development, in vitro testing of toxicity, plant, microorganisms and animal livestock metabolisms, and intercellular communication systems)
3. Ecology and biology of populations (impact of biotechnology on the environment, conservation of genetic resources).

The programme will include consideration not only of industrial relevance, but also of ethical and social implications of the work. It will reinforce activities in bioinformatics.

#### *e. Industrial and Materials Technologies Programme*

This programme, which is the successor to BRITE/EURAM and the Raw Materials and Recycling programmes, will cover the whole life-cycle of materials. It will address generic technologies, including raw materials, new and improved materials and their processing, design and manufacturing, and aeronautical technologies. Accordingly, in the development of technologies for clean products and processes, it will include design methodologies regarding the environmental impact of products in the choice of materials, extraction, processing, manufacture, use and reuse or disposal.

### **4. Scientific and Technological Cooperation with Developing Countries**

The European Community has a long and significant history of scientific and technological cooperation with developing countries, which is carried out through the bilateral efforts of the member states as well as through specific Community actions.

#### *a. Life Sciences and Technologies for Developing Countries*

One particularly important programme in the context of UNCED is the Science and Technology for Development (STC) programme. This is a programme of scientific cooperation with all developing countries, regardless of whether they are party to financial agreements with the Community. It is part of the Community Framework Programme, and covers two areas of vital importance to these countries – agriculture (including forestry and fisheries), and medicine,

health and nutrition – both of which have a direct impact on land use patterns and population pressures on environmental resources.

The objective is to increase cooperation between scientists in Europe and developing countries, so as to enable the latter to benefit from the scientific knowledge and technological developments available in the Community and to encourage the development of research capacity in these countries and in the member states. These objectives will mainly be reached by the funding of joint research contracts involving genuine collaboration between research institutes in the Community and in developing countries. The STD programme has also promoted north-south links and strengthened research capacities in developing countries by training and the provision of laboratory equipment. It has played a leading role by supporting certain areas of research, which are now largely dependent on the programme for scientific progress.

The third phase of the STD programme will have a stronger environmental orientation in its agriculture and health research than formerly. It will have a marked bias towards a holistic approach to research, and will encourage multi-disciplinary teams in each area. The emphasis on the sustainable use of natural resources for development will be supported by a concern for the well-being of the populations in these countries through components dealing with food security, poverty alleviation, and improved health and nutrition.

*D.* International Scientific Cooperation (ISC) aims to establish durable links between scientists in the Community and in ALA/MED countries, through the award of postdoctoral fellowships to ALA/MED scientists, joint research projects and workshops.

ISC activities are developed through bilateral cooperation agreements which define the priorities and procedures. Although ISC can cover the whole range of the natural and exact sciences, research on the environment is an ISC priority in many countries and makes up a substantial proportion of activities supported in the past. They include projects on wastewater treatment, seismic risk, the fate of agrochemicals, aquaculture, plant protection, remote sensing, chemistry of natural products, agronomy of tropical crops, and the physiology of natural vegetation.

The emphasis in ISC is always on identifying scientists who are already active in their field and providing support so that they can work together on precompetitive research projects.

## Chapter 18 Environment and Cooperation

### 1. The Community as a Partner In Development Cooperation

#### a. A World-Wide Interest

The twenty years since the Stockholm Conference have coincided with a radical transformation in the size, scope and nature of the Community's development cooperation effort. This reflects both the changing needs of the partners and the evolving understanding of the complexities of the development process.

The Community has now established bilateral or multilateral agreements with a substantial number of the world's Independent nations. These set out the financial arrangements and priority sectors for development cooperation which are reviewed in this chapter under four headings:

- The countries of Africa, the Caribbean and the Pacific (the 69 ACP States),
- Asia and Latin America,
- Countries of the Mediterranean Basin,
- Countries of Eastern and Central Europe.

#### b. Growing Financial Resources

The Community and its Member States together have long been the largest source of official development assistance. In 1988 they provided 47% of the total of such assistance, representing 0.45% of GNP. By comparison the USA provided 20% representing 0.21% of GNP, and Japan provided 18% or 0.32% of GNP.

The Community dimension of aid has grown considerably over the years. In 1972, the year of the Stockholm Conference, it provided 100 Mecu which was channelled through the Community (this represented 4% of the Community plus Member State aid). By 1988, expenditure channelled through the Community had grown to 2240 Mecu and 12% of the total. Furthermore, coordination between Community aid and the individual bilateral programmes of the Member States has been strengthened over time to ensure a coherent and effective response to partners' needs. The Community is also working towards ever-closer coordination over long-term aid programming in the belief that its partners should not be faced with conflicting advice, priorities and administrative procedures from the various donor agencies within Europe. Such coordination also extends to other multinational donor institutions.

### 2. The Lomé Conventions for Africa, the Caribbean and the Pacific

#### a. Historical perspective

The most comprehensive of the regional relationships of the Community is that with the ACP States enshrined, first in two Yaoundé Conventions and subsequently in four Lomé Conventions.

The first cooperation agreement was signed at Yaoundé in 1963 and brought together the Community of six countries with 18 African States.

The first Lomé Convention was signed in 1975 with 46 states. The most recent convention, Lomé IV was signed in December 1989 and included 68 states alongside the Community, with the newly-independent Namibia signing a few months later. The level of resources devoted to development cooperation with the ACP group has grown even faster. Lomé I provided 3,450 Mecu through the European Development Fund (EDF) and the EIB, whilst 12,000 Mecu is available under Lomé IV (with 10% of that from EIB) for the first five of its ten-year negotiated duration.

The Lomé Convention defines a contractual relationship freely negotiated between independent states and the Community. It provides for a permanent dialogue through its Joint Council of Ministers and the Committee of Ambassadors as well as through the regular meetings of the European Parliament and Parliamentarians or other representatives of the ACP States.

In these respects it is unique amongst international development agreements.

The conventions have placed particular emphasis on regional cooperation to tackle the problems which transcend national boundaries. Some 10% of the resources are made available for regional projects, which have made a major impact where strong regional organisations have developed, such as the Southern Africa Regional Development Coordination Conference. This component of the EDF has been used for projects with specific ecological aims, in the conservation of river basin resources, for example. It has also proved valuable in helping the small island states to meet specialist needs through shared resources.

Successive conventions have encouraged development at the very local level by allocating sums to micro-projects undertaken at the initiative and with the participation of local populations. The amounts made available for micro-projects in each state are determined in discussion with the government concerned as part of the national programming exercise.

The conventions have always contained a mechanism for an automatic flow of resources. These were provided to guarantee export earnings from certain raw materials. In Lomé I this system was confined to agricultural commodities (STABEX), but in Lomé II a similar system was put into operation to help meet losses in earnings on mineral exports (SYSMIN). Both continue in Lomé IV.

Whilst certain aspects of the conventions have remained, others have evolved to meet changing circumstances. The project mix has changed considerably, with early emphasis on improving infrastructure to eliminate transport bottlenecks giving way, in Africa in particular, to issues of food security and thus to rural development as well as providing increasing emphasis on the role of women and on local participation. Most recently, this has extended to policy dialogue and to support the structural adjustment process.

#### b. The Environmental Dimension

The first two Lomé Conventions made no specific references to the environment, which was not perceived as a priority issue by the world community.

However, Lomé II did contain many initiatives on the conservation of natural resources and on the protection of the environment.

When Lomé III was signed in 1984, the dramatic consequences of desertification in the Sahelian region of Africa on food security and indeed on survival were very much in the public eye. The text reflected this new priority, and special attention was focused on means of ensuring sustainable agricultural production, and of combatting deforestation and soil erosion.

When, four years later, the Community and ACP negotiators started preparing Lomé IV, the environmental concerns had become one of the main priorities. Indeed, its position as Title I of the areas of Community- ACP cooperation, in front of agriculture, food security and rural development, illustrates the extent to which concern has grown. Its text is included as Annex I to this document.

The General Provisions of the convention, describing the overall objectives and principles of cooperation set the tone. These state, amongst other things, that: "development shall be based on a sustainable balance between its economic objectives, the rational management of the environment, and the enhancement of natural and human resources" (in Article 4), and that: "priority must be given to environmental protection and conservation of natural resources, which are essential conditions for sustainable and balanced development from both the economic and human viewpoints" (in Article 6).

As well as continuing emphasis on desertification, the convention gives priority to the preservation of tropical forests and of biological diversity, to the protection and rational use of water resources, to urban issues and the balance between urban and rural areas. These priorities are reflected in the national indicative programmes negotiated with individual ACP States.

A specific issue addressed in Lomé IV is that of toxic waste, the export of which is banned to all ACP States, and the convention provides for consultation on major environmental hazards caused either by industrial technology or by global problems (see also chapter 7).

### c. Integration into other Areas of Cooperation

The convention's objectives and guidelines in the main areas of cooperation go on to develop the nature and extent of environmental considerations in development practice: "cooperation schemes in all areas shall therefore be designed to make the objectives of economic growth compatible with development that respects natural equilibria" (in Article 14).

The sectoral considerations of the convention follow the same pattern. The examples below come from Title II, Agricultural cooperation, food security and rural development, and from Title VII, Energy development: "Cooperation ... shall be aimed at continuously and systematically promoting viable and sustainable development based in particular on protection of the environment and rational management of natural resources" (in Article 42).

One of the main objectives of cooperation in energy development is to: "protect the natural environment by conserving biomass resources, particularly fuelwood, by encouraging alternative solutions, improving consumption techniques and habits, and using energy and energy resources in a rational and sustainable manner" ( in Article 106), amongst other things, in order to reduce the dependence of the majority of them on imported petroleum products.

An analysis of the national indicative programmes signed by the Community and its partners in mid-1991 showed that for more than 80% of countries, the environment had been identified as a priority concentration sector. Some 20% of total resources, is expected to be allocated to it.

### 3. The Asian and Latin American States

The evolution in the environmental dimension in the Lom\_ Conventions has its parallel in the evolution in policy orientations governing the bilateral agreements with the ALA States. From being a marginal or even non-existent quantity, environmental protection has become one of the central features of cooperation and is systematically present in the new agreements.

Community policy was reviewed at the beginning of 1991. Basing itself on 13 years of experience, the new orientation was to adapt the objectives and the forms of cooperation to the situation and to the economic evolution of each country, concentrating on the poorest but without excluding cooperation with more advanced countries in specific areas such as environment, institutional reinforcement, pilot projects, or in the context of regional projects.

Seven main areas were defined for support: rural development, the environment, the fight against drugs, the human dimension of development, regional cooperation, reconstruction assistance and the prevention of catastrophes. Scientific, technical and economic know-how are to be developed in order to improve the competitiveness of enterprise in the countries assisted.

The total amount allocated to the cooperation initiatives in these fields for the periods 1991-95 is 2900 Mecu of which at least 10% must be on environmental projects, with a particular emphasis on tropical forests (see chapter 23).

In addition to increased cooperation on environmental projects, the agreements stress the need for the integration of environmental evaluation in the development process as a whole, having the protection of the natural resource base and sustainable development as long-term aims.

A dialogue on local, national and global environment policy needs to be instituted in order provide the basis for effective action on the resolution of local problems, as well as for local participation in the resolution of regional or global problems. Here again, a priority is being given to tropical forest issues.

#### 4. The Mediterranean States

The Community's decision to renew its Mediterranean cooperation policy was made at the end of 1990, with the aim of reinforcing its links with its non-Community partners in the region. The policy aims to maintain contributions to social and economic development but calls for increased dialogue and information exchange as well as for increased cooperation between the Community, the Member States and their partners. Regional cooperation is to be reinforced, particularly in the environmental field, where the needs for protection and management of the Mediterranean Sea and its coastal areas is a cause of concern. Regional projects will need to be implemented outside the bilateral agreements with individual partners, by means of "horizontal" financial cooperation.

The renewed policy's five-year action programme (1992-96) foresees a reinforcement of bilateral aid agreements and the inclusion of an environmental priority sector to accompany the existing agricultural and productive investment axes, aiming to protect the natural resource base, constantly threatened by a growing population. As in the ALA cooperation agreements, a part of the Mediterranean programme allocations of 230 Mecu is to go to environmental demonstration and training or information projects in particular. Finally, the EIB will also play an important role, and is expected to allocate some 1,800 Mecu in loans for regional and environmental projects; the latter will benefit from a 3% interest subsidy from the Community.

A major initiative in this context was the 1990 Nicosia Charter, defining commitments and priorities for action by the Community, by virtually all the states in the basin and by the principal financial institutions concerned (EIB and the World Bank in particular, as the co-sponsors of the Environment Programme for the Mediterranean described in chapter 8). The priorities for action are to be defined so as to ensure sustainable development. The 1990 conference of the Council on Security and Cooperation in Europe, in which the Community participated, on Majorca, stressed the need to ensure the ecological stability of the Mediterranean Basin and the integration of this consideration into the social and economic policies of its member countries.

In addition, MEDSPA, a specifically environmental funding programme set up by the Community enables expenditure on technical assistance for measures aimed to protect or improve coastal areas also in non-Community countries, and expenditure on pilot and demonstration projects in conservation and management of sensitive Mediterranean coastal ecosystems, for deballasting, for the treatment of waste water and for the management of various solid wastes in the Community countries. 11.8 Mecu are available in 1991 for this programme as a whole.

Energy cooperation will also be reinforced, with programmes bearing on three issues: economising power, the development of regional distribution networks ensuring more rational use of supplies, and the fostering of renewable energies.

## 5. The Countries of Eastern and Central Europe

### a. Introduction

The emergence of democracy in 1989 and the opening of the borders that followed revealed, for the first time, the extent of the environmental and economic crisis prevailing throughout the region. The accumulated environmental damage is not only extensive and often intensive, but it risks getting worse in some areas before it can be made to improve, and - worse - may in certain cases be irreversible.

Although the extent and type of problem varies from country to country, there are a certain number of common issues of air, water and toxic waste pollution, and of poor sanitary infrastructure.

The need to improve the quality of life and levels of basic human health was immediately recognised by the new governments, and to integrate environmental management and investment with the economic reforms in progress. National environmental strategies are being formulated, environmental institutions strengthened and cooperation agreements drawn up to cover both general policy issues and to begin to tackle specific problems.

### b. Community Action

The need for international support for these activities is urgent and considerable. It is against this background that the Community set up a specific cooperation programme within months of the changes in central Europe. Originally geared to help Poland and Hungary, the Commission's PHARE programme was soon extended to include Czechoslovakia, Bulgaria, Yugoslavia and Romania. The EIB has also extended its operations to include these countries. The PHARE programme reflects the notion that the Community has a responsibility for the environment that extends beyond its boundaries. It has the moral obligation as well as a genuine self-interest in helping the new governments to protect and preserve their environment, and thus the quality of life for generations to come.

In 1990, the Community provided 500 Mecu from its own budget under the PHARE programme, of which about 100 Mecu was earmarked for specific environmental projects. Programmes have now been drawn up in each country for its expenditure.

The 1991 PHARE budget has been increased to 850 Mecu and the environment is again allotted an important percentage of the total. Whilst the first year's allocation went mainly to individual projects, expenditure in the subsequent years is and will increasingly be on the basis of strategies in support of, and integrated with, the economic and other reforms being instituted by the governments of the countries concerned.

Although some curative actions are to be initiated, the emphasis of Community support is on relatively low-cost preventive measures that can support the sustainable use of resources and prevent future pollution. Priority is being given to the strengthening of institutional and regulatory frameworks, the development of appropriate policies in the major areas of need, the transfer of know-how and technologies, and pilot projects with important multiplier and demonstration effects. Future programmes will also focus on the dissemination of information and on raising environmental awareness.

It is important to stress three points in connection with cooperation with the new central and eastern European democracies. First, the Community is not acting in isolation; its programmes are coordinated with those of the major lending institutions (the EIB, the International Bank for Reconstruction and Development and with the new European Bank for Reconstruction and development in particular), and with the efforts of the G-24 group of industrialised countries. Second, the governments of the countries concerned are still very new and whilst they learn how to cope with the problems that face them flexibility will be needed in the forms of cooperation agreed. Finally, and providing a common theme in programming, the integration of an environmental dimension is everywhere of critical importance.

6. Thematic Issues

The Community funds programmes targetted at specific issues in addition to its cooperation agreements discussed above. The current political framework for the environment theme is the Council's Resolution on Environment and Development of May 1990 which calls for increased support to developing countries in:

- Defining environmental priorities, strengthening environmental institutions and legislation, and staff training;
- The preparation of environmental action plans at national and sectoral level, and conservation strategies;
- Active implementation of the Lom\_ Convention provisions on environmental checklists and on the integration of environmental criteria into the project management cycle;
- Active improvement of appraisal methodologies.

The actions which are benefitting from this include tropical forestry initiatives (reviewed in chapter 23), desertification control, grass-roots assistance to NGOs and other organisations, and the "Ecology In Developing Countries" budget line.

Desertification control policy combines indirect action to safeguard natural assets and direct environmental action such as reafforestation or measures to combat erosion. Between 1986 and 89, 230 projects were financed with a value of 1,700 Mecu; about two thirds of this was spent on projects directly aimed at environmental protection.

The NGOs have played a significant role in the success of these programmes since they started participating in 1976, when the first 2.b. Mecu was allocated to grass-roots actions. These have grown considerably and 105 Mecu was allocated to them for 1991. Some of this money has been granted for environmental projects.

The smaller "Ecology In Developing Countries" budget line (12 Mecu in 1991) has financed several hundred small-scale actions, of which the most significant have been a West African satellite imagery project, and measures for the conservation of the African elephant.

## Chapter 19 Environment and Trade

### 1. The Community as Trading Partner

The identity of the Community is to a large extent determined by its significance as a trading partner in the world: its imports make up a third of world trade, it is the principal market for developing countries as a whole, and it provides a large part of development aid in the world.

The Community thus has a fundamental interest in maintaining an open world market and therefore to strengthen the competitiveness of its manufacturing base: because the Community is dependent on the world market for almost 45% of its energy requirement and for almost three quarters of the most needed raw materials, it depends on the export of its processed products.

The main features of the trade policy of the Community can be summarised as follows:

- Liberalisation of world trade within the framework of the General Agreement on Tariffs and Trade (GATT) which should be reinforced to enhance its capacity to prevent and solve trade conflicts, and expanded to cover areas of growing importance in trade relations (such as services, or intellectual property rights);
- The elimination, as part of the establishment of the internal market, of remaining restrictions to trade within the Community; a large and dynamic single market should be a factor in the expansion of world trade;
- The establishment or strengthening of close trading links with other countries in Europe (EFTA, Eastern and Central Europe), as well as with developing countries with which the Community has close historical associations;
- An active policy to promote the integration of developing countries into the trading system, both through multilateral trade liberalisation and the granting of trade preferences;
- The use of instruments of commercial policy to ensure fair conditions of competition.

### 2. Environmental Policy with Trade Impacts

In 1990, the Community decided that existing environmental policies, which remain mainly regulatory, needed to be complemented by economic and fiscal instruments. Climate change, solid waste, water and integration of environment policy into other areas were to be targeted as a priority. Bearing in mind the complex overlaps with economic, energy, taxation, transport and other policy areas, all work on economic and fiscal instruments must have a significant impact on trade flows within the Community.

It is also fostering self-regulation and voluntary agreements to encourage the productive sector to modify its economic behaviour and to conduct its activities in ways which are responsive to environmental concerns. Several schemes already exist to form an embryo programme in this field. For example, since 1987 the Community has made a series of environmental awards for industry which recognises the efforts of individual companies. A proposal for a Community eco-labelling system was proposed in 1991 (see chapter 4). A further proposal, on environmental auditing, is also in preparation; this encourages enterprises to subject their major industrial sites to an evaluation and to publish the results as an environmental statement.

The very process of integrating environmental concerns into the fabric of the Community's life will lead to changes in the allocation and use of resources which will inevitably be reflected in trade patterns.

### 3. Trade and the Environment

#### *a. General*

The new priority given world-wide to environmental objectives has brought to light the complex interrelationships between environment and trade policies.

Countries with high standards come under pressure to protect themselves against competitors with lower standards. Their competitive position will depend on their ability to offer environmentally-friendly products which are in accordance with both the consumers' demands and the product standards of their trade partners. However, regulatory standards or market-based instruments may have economic effects distinct from their environmental objectives, altering the competitive position of firms and countries and triggering shifts in trade flows which may prompt demands for compensation and protection vis-à-vis competitors facing less stringent environmental obligations. In some cases, environmental groups propose the adoption of trade measures as a means to promote better environmental conservation and management policies by third countries.

Several conventions already exist which restrict or prohibit certain forms of trade. One deals with endangered species, and three with environmentally-dangerous products:

- The Washington Convention (CITES, chapter 24) prohibits or severely limits the trade in endangered species of fauna and flora.
- The Montreal Protocols of 1988 and 1991 prohibit the import and export of ozone-depleting substances (chapter 22).
- Under Community legislation, based on UNEP guidelines, notification procedures are required for the export of a range of dangerous chemicals, coupled with procedures to ensure that the rules applicable to their handling within the Community are also applicable to the importers (chapter 4).

- When it comes into force (probably before the end of 1991), the Basle Convention of 1989 on the transfrontier movements of hazardous wastes will restrict and control the export and import of such products.

This overlap between trade and environment policies creates a potential for tension that must be eliminated by reflecting on ways of achieving a suitable balance between securing environmental objectives and preserving the open multilateral trading system. Trade and environment policies need to be mutually supportive in order to enhance their respective efficiency overall. It is particularly important to avoid having trade restrictions used as the substitute for domestic environmental policies, or that environmental standards constitute hidden barriers to trade.

### ***b. Sustainable Development***

One issue related to trade and to sustainable development is the use of depletable raw materials in order to earn foreign exchange. Developing countries face the dilemma of having to balance their needs for foreign currency with the damage to their environmental resources which supports their growth.

Trade can and should help achieve the goals of sustainable development since it generates additional resources through growth and contributes to the more efficient use of available resources, providing a long term incentive for conservation through the valorisation of natural resources for a large number of developing countries.

Although a growing number have diversified into manufactured exports, primary commodities other than petroleum continue to account for more than one third of the export earnings of the group as a whole. The Community gives broad trade opportunities and a generalised system of preferences for many products through the Lomé Convention or the cooperation framework with Mediterranean countries.

On the other hand, the growing number of trade opportunities and economic growth contain a certain risk for the environment. The often urgent need for foreign exchange may lead to unsustainable patterns of production and an over-exploitation of resources if environmental considerations are not taken into account.

The Community, through the technical and financial assistance it provides in the framework of bilateral cooperation programmes as well as its active participation in international environmental agreements, is aiming at the minimisation of these negative phenomena, although the primary responsibility lies with the developing countries themselves.

The priority attached to the environmental consideration in the new orientations of Community economic cooperation and development aid and the Community's consistent position in the form of the mobilisation of appropriate resources to assist developing countries to comply with the international environmental requirements are in the right direction of balancing these difficulties.

## 4. Relations with Specific Trade Structures

### a. GATT

The Community supports the further liberalisation of world trade within the framework of GATT and expects to bring its single market legislation into line with the agreements reached in the current negotiations.

Although the negotiations have not examined the interactions between trade and the environment, a number of issues raised there have a bearing on the subject, in particular those relating to prohibited or severely restricted goods, including hazardous substances.

The GATT does not prevent countries from following the policies they believe to be necessary to protect the environment, provided that such measures do not constitute hidden barriers to trade.

However, there is considerable uncertainty as to the relationship between GATT provisions and certain types of trade-related measures that may be adopted for the protection of the environment. Questions arise, for instance, on what might be the rules applicable to environmental production and processing requirements, or on how to avoid potential conflict between the GATT and the trade provisions of international environmental agreements. The Community welcomes the effective start of the work of a special group established for this purpose at the beginning of the '70's.

### b. *The International Tropical Timber Agreement*

The Community is a contracting party to the International Tropical Timber Agreement which came into force in 1986, and which devotes part of its text to the rational management of forests. It brings together 43 producer nations and 30 consumers, representing 90% of world trade in tropical timber. Its objective is to provide for an efficient framework for cooperation and consultation between the partners and to promote the trade as well as the structural improvement of the market. The agreement aims at the management of the forests as well as the use of timber. It encourages national policies which ensure the sustainable exploitation of forests in order to maintain their ecological equilibrium, which the Community supports through its participation in the ITTO's programmes and codes (see chapter 22).

## 5. Conclusion

The Community plays a world role in trade and is active in all the main fora. It has begun to play and intends to develop its role as a leader in the implementation of trade policies which will work to ensure sustainable development. The Community is equally convinced of the need to avoid using environmental policies as trade obstacles, or that environmental concerns are abused for protectionist reasons.

PART IV  
THE GLOBAL CHALLENGES

## Chapter 20 The Global Dimension of Community Environment Policy

### 1. Global Environmental Concerns

International concern about environmental issues has grown dramatically in recent years. As a result, the environment has begun to appear on the centre stage of international politics, a priority on the agenda. The principal reason for this could be called the "globalisation" of environmental concerns, and consequently of policies.

At the beginning, environmental policies were mainly focused on the solution of some particularly acute local problems, especially when they threatened human health. At a later stage, it became increasingly clear that pollution did not stop at national borders and that international cooperation to combat transboundary transfers of pollution needed to be intensified.

Today, this evolution has gone a step further as it becomes apparent that global problems such as climate change, ozone layer depletion, and loss of biological diversity are seriously threatening the ecological balance of our planet, requiring the development of a coherent global response.

### 2. The Community's Response

Because of the global nature of the problems we are confronted with, the scope of environmental policies has dramatically expanded. Community policy reflects this evolution.

The Fourth Environmental Action Programme recognised that "It is increasingly clear that there are many environmental problems that are of importance to the Community, which cannot effectively be dealt with at a local, regional, national, or even Community level. Some of these problems are, of their very nature, international (or even global) in character. It is essential that they should be tackled at those levels. This implies the necessity for the Community and its Member States to participate actively in international action for the protection of the environment."

The following chapters will describe the initiatives undertaken by the Community to respond to global environment challenges. It should however be noted that the issues raised at a global level are also being addressed in the definition and implementation of many sectoral actions, as has been shown in parts II and III of this document.

### 3. The Way Forward

In the foreseeable future the importance of the international dimension of the Community's work in the field of the environment will be significantly strengthened. As noted in chapter 3, the European Council's Declaration on the Environmental Imperative mentioned the deep concern felt by the Heads of State for the deterioration of the natural environment which fosters the life support system of our planet. They committed themselves to intensify their efforts to protect and enhance the natural environment of the Community itself and the world of which it is part.

The declaration also recognised that the Community and its Member States have a special responsibility to encourage and participate in international action to combat global environmental problems, fully exploiting the Community's position of moral, economic and political authority to advance international efforts to solve global problems and to promote sustainable development and respect for the global commons.

## Chapter 21 Climate Change

### 1. The Nature of the Problem

Burning fossil fuels and forest fires, amongst other relevant factors, have caused a 25% increase in the amount of CO<sub>2</sub>, which acts as a "greenhouse gas" trapping infra-red emissions from the earth's surface while letting the sun's radiation in. Other greenhouse gases such as methane, or chlorfluorocarbons are also contributing. The fact that average global temperatures have increased by 0.6° Celsius over the past 100 years may well be due to the changes in the composition of the earth's atmosphere which have occurred since the industrial revolution.

This process could be significantly accelerated by deforestation. Forests play a vital role in maintaining climatic stability by fixing atmospheric CO<sub>2</sub> through photosynthesis. Afforestation can result in a reduction of our planet's ability to fix the growing amount of atmospheric CO<sub>2</sub> since trees act as a carbon sink during their period of growth.

According to the report issued in 1990 by the Intergovernmental Panel on Climate Change (IPCC), the combination of factors which have caused the warming to date could cause a further increase of 1° in average surface temperature by 2025. If remedial action is not undertaken, the increase could be as much as 3° by the end of the next century.

Although much uncertainty remains on the possible effects of such warming, there is a general consensus amongst scientists that sea levels will rise dramatically as glaciers and ice caps melt. In addition severe disruptions of local and regional weather conditions which might have deep economic and ecological impacts are expected. The Community has a special responsibility to combat global warming, given its economic strength and its share in creating the problem.

### 2. The Community's Commitments

Concern about global warming led the Community to adopt policy orientations concerning both concrete measures to be taken by the Community, and global responses to be negotiated in international fora; in particular, that:

- A global response should be made without further delay, irrespective of remaining uncertainties on some scientific aspects of the greenhouse effect, and that, to this end, the Community should make an important contribution to the preparation of an international agreement on climate change;
- The Community should take proper account in future policy decisions of the problem of potential climatic change linked to the greenhouse effect and undertake urgent action to, inter alia, increase energy savings and improve energy efficiency and to promote the development and use of non-fossil energy sources.

The "Environmental Imperative" already quoted in chapter 3, added that *"recent scientific assessments show that man-made emissions are substantially increasing the atmospheric concentrations of greenhouse gases and that a 'business as usual' approach will lead to additional global warming in the decades to come"*. The commitment to the early adoption of a climate convention and associated protocols was reaffirmed, and the call introduce changes in energy production patterns was reiterated. Targets and strategies had to be adopted as soon as possible.

A joint Council of environment and energy Ministers in 1990 agreed on a common approach to the issue and to the Community's response. In essence, developed countries with high emission levels should take urgent action to stabilise or reduce them and should assist developing countries to play their full part in an international response to climate change through the provision of financial resources and the appropriate transfer of environmentally-sound technologies.

The ministers agreed on this basis *"to take action aiming at reaching stabilisation of the total CO<sub>2</sub> emissions by 2000 at 1990 levels in the Community as a whole."* Member States which start at a low level of energy consumption will be entitled to have CO<sub>2</sub> targets and/or strategies corresponding to their social and economic development needs, while improving the efficiency of their economic activities.

### **3. The Community's Strategy**

A comprehensive and coherent strategy is required to achieve the initial stabilisation objective, addressing all human activities which contribute to the problem, including energy, transport, agriculture, or industry. In particular it will be necessary to exploit to the full the opportunities for energy conservation and efficiency as well as to diversify supply towards those with lower CO<sub>2</sub> emissions.

There is undoubtedly an important potential for energy efficiency improvements and for conservation, which the SAVE programme mentioned in chapter 16 aims to address. It has been calculated, for example that the Community can stabilise emissions at 1990 levels by 2000 whilst still allowing the significant economic development required in some regions in order to enable them to reach average Community levels. In other words, the burden of costs for the overall reductions fall squarely on the shoulders of the major CO<sub>2</sub> producers in the richer industrialised regions so as not to penalise the poorer ones.

The Commission is also working on a proposal for a combined tax on energies which, together with regulatory and other instruments, is expected to result in the achievement of the Community's commitment on CO<sub>2</sub> stabilisation. This proposal is reviewed (in the context of economic instruments) in chapter 10.

Any global solution must go beyond the Community. It is therefore playing an active role in the negotiation on a Climate Change Convention to be signed at UNCED. The Community's position in these negotiations, to which the EFTA countries generally adhered in 1990, is that there should be a strong framework convention accompanied by two protocols, one on energy conservation and reduction of emissions, which would be primarily addressed to the industrialised countries, the other on the preservation of tropical forests, primarily addressed to the developing countries. There would be a balance of obligations, though extra resources are likely to be needed to help the developing countries meet their obligations.

The Community has the duty to assume the leadership in these negotiation, in line with the the "Environmental Imperative". and is currently working on the issue with a group of like-minded countries including the EFTA group, Japan, Australia and New Zealand.

## Chapter 22 Ozone Layer Depletion

### 1. The Problem

The significant reduction in stratospheric ozone (O<sub>3</sub>) was first noticed in 1979 over the Antarctic. Subsequent research showed this to be only one symptom of a general process of reduction of the ozone layer whose importance to life is to reduce the passage of ultraviolet which causes cancers and can engender mutations, but whose most important effect would be to kill lower-order marine organisms at the base of the food chain, with dramatic results further up it. Man-made chemicals were shown to be the principal cause of the change, and public pressure made remedial action rapid.

### 2. Community Action

Over the past decade, the Community has made considerable efforts to protect stratospheric ozone. The initial decisions to control the chemicals identified as ozone-depleting substances were taken in the early 1980s. However, the early controls were limited to two chlorofluorocarbons, CFC 11 and 12.

The Community played its role in the negotiation and adoption of the Vienna Convention for the Protection of the Ozone Layer, and the Montreal Protocol on substances that deplete it, in 1985 and 87. It ratified the Vienna Convention and adopted a regulation which implemented the Protocol in 1988, setting out production and consumption controls for five CFCs and three halons.

The Montreal Protocol was revised in 1990, strengthening the phase-down of the substances already controlled and extending the controls to new substances. This revision was implemented in the Community in March, 1991 by a regulation which is significantly more stringent than the revision. It gives a more rapid timetable for phasing out both the previously-included and the newly-controlled substances; for example, the dates for the elimination of all CFCs and for carbon tetrachloride from processes and products are advanced by three and four years respectively. The Community has asked that the protocol itself should now be revised in order to match or to come closer to these dates.

At the negotiations on the protocol revisions, the Community argued for the establishment of a financial mechanism to help developing countries meet the requirements of the Protocol and this was adopted in the same year.

Furthermore, the Community has concluded three voluntary agreements with industrial sectors which rely heavily on CFCs to reduce their use; these are the aerosol, the foam plastic and the refrigeration industries.

The scientific basis for the Community's initiatives draw on research in the STEP and EPOCH research and development programmes and through coordinated action involving national research programmes (undertaken in collaboration with the EFTA countries). Its general objectives are to develop an understanding and a data base permitting assessment of the impact of anthropogenic emissions on stratospheric processes leading to ozone depletion.

In order to focus project proposals on the objectives of the programme, six priority research areas have been identified in climatology and in stratospheric chemistry.

Supplementary funds were made available in 1991 for the first stage of the planned Arctic ozone campaign for 1991/2 which aims at researching four aspects of the problem: the ozone layer's vortex structure and evolution, the fast response chemistry of catalysts and reservoirs, ozone structure and trends, and denitrification and the role of PSCs.

### **3. Conclusions**

The Vienna Convention and Montreal Protocol are benchmark instruments in relation to global environmental issues. They provide control of globally-damaging substances, they use trade mechanisms, they provide for research and cooperation on environmentally-friendly substitutes, they provide a financial mechanism to cover the incremental costs incurred by developing countries implementing them. The Community is a full participant in the process and invites the other industrialised nations to join it in phasing out ozone damaging substances ahead of the schedule in the 1990 revision of the Montreal Protocol .

## Chapter 23 Forest Protection

### 1. Deforestation and Forest Degradation

Forests perform a vital ecological function as sinks for atmospheric CO<sub>2</sub> and habitats for fauna and flora. They also contribute to the regulation of the water cycle and to the protection of soil. They produce some basic goods and commodities such as timber, fuelwood, food. The survival of indigenous forest dwellers depends on the protection of their ecosystems.

Nevertheless, forests are subject to increasing pressures around the world. Deforestation, degradation and unsustainable development patterns are resulting in substantial losses.

Against this background, initiatives to combat deforestation and degradation are increasing. The Community itself has added its voice to these calls. The Declaration on the Environmental Imperative (see chapter 19) deplores the continuing and rapid destruction of the tropical forests. At the same time, it committed support for forest protection within the Community and to extending and strengthening programmes of afforestation. A tropical forest protection protocol is called for by the Community as part of the global climate convention (see previous chapter).

### 2. The Protection of Community Forests

Action to protect Community forests is integrated in the overall context of different community policies, including agricultural, regional and environmental policies. Forest protection actions follow three lines of policy:

- Improvement of the productivity of the forest and the development of silvicultural activities in rural areas;
- Extension of forest area, in particular afforestation of agricultural areas;
- Protection of the forest inheritance.

Action in the field has concentrated on four subjects, which are forest development and valorisation, protection against atmospheric pollution, the fight against forest fires, and the development and exploitation of forestry species.

A Standing Forestry Committee, consisting of Member State representatives, has the tasks of ensuring that forestry objectives are taken account of in other Community policies and of coordinating Member State and Community forestry policies.

#### *a. Development and Valorisation of Forests*

Forestry development and valorisation activity is one of the structural fund measures used to help provide new or better sources of rural income in ways

which can also help to protect or improve the environment - by protecting soils from erosion, for example. Funding is made available for measures ranging from planting through to management, to cooperative ventures in forestry product marketing.

The Community encourages planting on agricultural land through a mix of planting subsidies and of compensation for loss of revenue for reduced agricultural production. This is part of the set-aside measures currently being developed in order to reduce agricultural over-production (see chapter 13).

#### ***b. Protection against Atmospheric Pollution***

In addition to the regulation of acid rain substances at source (chapter 9), Community action includes undertaking an annual inventory of forest damage across its territory and the annual monitoring of their state of health, with the aim of building up an understanding of the problems and of ways of dealing with them.

The observation-post network of the inventory system has now been established across the Community forest area on a 16 x 16 km. grid. Observations are made of more than 50,000 trees annually. The measurement methodology is based on that recommended for the surveillance of atmospheric pollution effects in the Geneva Convention (see chapter 9). Proposals are in hand to intensify the level of monitoring in order to come to a better understanding of atmospheric pollution of forests and to restore damaged areas.

#### ***c. Protection against Forest Fires***

Fires represent one of the most serious threats to forests in the Community, particularly in the Mediterranean Basin. For more than ten years, the Community has been financing measures aimed at reducing them. Preventative measures have been taken on several thousand square kilometres of Mediterranean forest. It has also financed the reconstitution of forests that have burnt. The fires of 1989 and 1990 brought certain weaknesses of the system to light and it is being reconsidered and improved. It currently concentrates on the means of avoiding fires, on improving preventative measures and on preparing a system of information exchange about incidents with a view to increasing the understanding of the problem.

#### ***d. Research***

Two research and development programmes cover forestry matters: Environmental Protection, and Agriculture and Agro-industries.

Research under the former examines different organisational levels of forest ecosystems to improve understanding of them and how basic processes and patterns are influenced by changing external factors. This research has to be seen in the context of the international programmes on global change. It focuses on the influence of modifications in climate pattern, atmospheric chemistry and land-use and puts the emphasis on specific European conditions.

Research in the agriculture and agro-industries programme aims to increase the availability of forest resources, to provide better quality raw materials for industrial use and to improve international competitive use of forest industries.

### **3. External Policies**

#### ***a. General***

Forest protection and sustainable forest management issues are increasingly addressed as an integral part of the Community's development aid policies as required by the Lomé Convention described in chapter 18. The problem of deforestation and forest degradation is referred to in the context of environmental and agricultural cooperation, as well as in connection with food security, drought, desertification control, energy development and regional cooperation. Alongside similar cooperation agreements with Asian, Latin American and Southern and Eastern Mediterranean countries, these provide a sound basis for the implementation of cooperation on sustainable management of natural resources.

The Council adopted a resolution on tropical forests in 1990 which emphasizes their importance and the need to conserve them. It acknowledges that more funds should be provided, using existing instruments. A series of principles and activities are endorsed which include the recognition of the sovereignty of the tropical-forest countries, along with the need to assist them to carry out conservation actions themselves. The revised Tropical Forestry Action Programme (TFAP) is the recognised framework for coordinated funding and action. Legal, fiscal and institutional measures are all required to back up the programme's measures. The amounts to be spent will vary from country to country according to need. The social importance of forests, the involvement of the NGOs and the special place of the ITTO (see previous chapter) are all recognised.

#### ***b. Programmes***

The Community's cooperation programmes concerning tropical forests began to increase in scope and extent in the early 1980s. Actions were free-standing projects responding to immediate needs of the developing countries without any concerted attempt at sectoral coordination. Assistance to forestry from 1979 to 90 covered some 255 projects, committing 372 Mecu of Community funds. Annual expenditure in recent years has been about 35 Mecu. Actions have been undertaken in the fields of forestry as a land use, forest-based industrial development, and the conservation of tropical forest eco-systems; small amounts have been allocated to fuelwood and energy initiatives and to institution-building.

Much of the assistance has taken the form of a forestry component of an integrated rural development project. Many actions classed as industrial development have involved afforestation, and several projects have been related to the measurement of deforestation.

A major regional action decided in 1990 concerns the rational use of forest ecosystems in the Central Africa. It is expected that this will be able to test new approaches to the issue of harmonising development and conservation.

During the past five years, the Community has attempted to bring a more holistic approach to its actions. The TFAP is supported through participation in the consultation process and progress review missions and national indicative programmes in the ACP countries take TFAP sector reviews into account in order to orientate their forestry action proposals.

### *c. International Action: the Amazon Initiative*

The Environmental Imperative affirmed the Community's willingness to increase and develop cooperation programmes for conservation with the Southern countries concerned, in particular for the protection of the Amazon rain forest in Brazil. It also urged for special consideration to be given to the question of an international convention or protocol that would bring together forest protection, debt exchange, codes of conduct and additional resourcing. This initiative was taken up by the G-7 summit in the same year, where the seven largest Western economic powers expressed their willingness to cooperate with the Government of Brazil on a pilot conservation programme, the results of which might be applied to other countries.

The Commission was asked to cooperate with the World Bank in preparing the programme. The initial approach proposed by Brazil envisaged actions at two levels: one to strengthen institutional capacity - particularly for environment protection - to research, to carry out an economic and ecological land use plan with particular reference to the sustainable development of critical areas and to establish demonstration projects in those areas.

As regards the first, structural, level, the focus is on increasing the capacity of the Brazilian Institute for the Environment to carry out its management responsibilities, environmental evaluation and control in the Amazon region, monitoring of the quality of environmental resources in the region, follow-up and prevention, implementation of conservation units, conservation of natural resources, and environmental education. The demonstration projects will be in selected areas (nine have been identified so far) of particularly acute social and ecological issues and where there is strong involvement of local communities, including indigenous and forest peoples in the formulation of corrective action plans. Each demonstration project will be tailored to specific local conditions. An initial \$15 million (about 12 Mecu) was agreed in mid-1991 for the pilot programme.

### *d. Research*

The Community's international scientific cooperation agreements with the countries of the South are supporting joint activities involving institutions from each side working in a variety of fields including both environment and tropical forests.

The Community's STD programme will cover research on tropical forests alongside agriculture, medicine, health and nutrition. Joint projects between developing countries and Member States are encouraged.

A programme involving the European Space Agency and the Community's Joint Research Centre is developing a methodology for the continuous satellite monitoring of tropical forests.

A European research network is expected to assist in bringing together scientific activities in the field, to provide advice and to provide easier access to information.

#### **4. Conclusion**

The Community has already taken action to preserve its own forests as well as to plant new ones. It also works through the Lomé Convention towards reforestation in the Third World. It is playing its part in the Amazon Basin programme and has already allocated substantial resources to it. International coordination is essential in order to maintain the impetus to conservation, and it urges rapid international action on the issue.

## Chapter 24 Biodiversity

### 1. Introduction

Though the world today has a clear idea of the meaning of material and cultural wealth, it is much less conscious of the value of natural wealth it uses so freely, indeed squanders. The loss of that wealth is nevertheless irretrievable and it represents one of the major environmental threats today.

Biological diversity - biodiversity - is an umbrella term for the natural wealth of the biosphere: land and water species and their ecosystems. Its degradation is a matter of global concern for at least three reasons:

- As a matter of principle, all species have the right to exist in the conditions in which they are at home;
- The variety of life helps to maintain the chemical and physical balance of the earth's surface, its maintenance is a matter of survival;
- The economic benefits of maintaining a maximum genetic stock has been demonstrated time and again in agriculture, medicine and industry.

The rate of species disappearance continues to increase in the absence of a concerted effort to halt it and despite growing international certitude about the scale and nature of the problem. For example, extrapolations of the present trends show that no less than 5% and up to 15% of all world species could be extinct by 2020 and up to 20% by 2050. There is NO timetable for recovery: although nature has considerable capacity for healing, it has no mechanism for coping with the death of a species on anything other than a geological timescale.

This is a European problem as well as a global one. Pressures on land are severe and the pressures on species as their habitats shrink and alter are even more severe. Habitats under particular threat tend also to be the richest: wetlands are a particular case in point but the Community's forests also face multiple threats from acid rain, from drought, and most of all from fires which consume some 250,000 hectares a year, mostly in the Mediterranean basin where regeneration can be difficult as the soils left bare erode away.

Perhaps the most difficult problem, because it is so diffuse, is that of the break up of environmentally-rich areas as development cuts across rural areas, separating once-continuous expanses of land into ever smaller areas ever less able to support the diversity they maintained.

### 2. Action within the Community

#### *a. Principles*

Community action has concentrated on setting up control systems protecting species and their habitats. Such actions continue to be required and developed.

However, they also need to be supplemented by policies and actions which will ensure that the risk of loss of biodiversity is reduced and eventually eliminated, not just within the Community's territory but also beyond.

The application of strict protection measures to ensure the survival of species or sites can only be the exception rather than the rule: it can be used for particularly vulnerable or endangered cases, not for the maintenance of biodiversity generally. The proposed habitats directive which is described in chapter 12 aims at establishing what is in effect a hierarchy of levels of protection in order to achieve its conservation aims.

The establishment of such a hierarchy and its operation is more than an environmental issue: it is a social and economic one of the first importance and it is an integral part of the move towards sustainable development: after all, what can sustainable development be, if it does not include conservation of biological diversity as one of its bases?

A further dimension of the question is of course the international one: species and habitats do not recognise frontiers; the most effective conservation network will be the one that reaches the furthest across the continent.

#### ***b. Legislation***

The first steps in instituting a Community level of protection was taken in 1979, when the Community adopted the directive on the protection of wild birds and their habitats mentioned in chapter 12.

1979 also saw the adoption of two international conventions governing the conservation of migratory wild species (the Bonn Convention) and the conservation of European wildlife and habitats (the Berne Convention). Both were the subject of implementing Community legislation in 1982.

In addition to its protection activities on its own territory, the Community helps to protect endangered species at a global level through its active role in the work of the Washington Convention on International Trade in Endangered Species (CITES), which it adopted in a regulation in 1983. This has subsequently been completed by a series of modifications of which the most recent, aiming to reinforce the protection of the African elephant, was signed in 1989. The Community has undertaken specific actions on funding programmes in Africa in the range states to protect the elephant.

For the future, the Community and its Member States are active in the preparation of the convention on the conservation of biological diversity, under the auspices of the United Nations Environment Programme. In the Community's opinion, such a convention will only work if it includes both a general obligation to conserve nature, and the financial mechanism to ensure that the resources exist to implement it where it is most needed - especially in the tropical developing countries.

### **c. Support Activities**

Habitats and species are not protected simply because legislation exists. Considerable effort and expenditure are required to make the principles of the legislation operational. The Community's ACE-Biotopes programme has been funding site protection schemes to this end, concentrating first on the most threatened and richest habitat types. For example, half the 80 or so projects funded since 1984 (in which Community participation has been 20 Mecu) have been in wetland conservation and management. The MEDSPA and ENVIREG programme mentioned in other contexts (chapters 10 and 14) both make funds available for biotope protection within the Community. Both impose restrictions on the nature of the projects which are fundable: the former concentrates on demonstration projects for biotope management in Mediterranean coastal areas; the latter can fund coastal biotope protection in eligible areas where a clear economic benefit can be gained from doing so (to stimulate tourism, for example).

The Community's support for species conservation has concentrated on a small number of endangered mammal and bird species whose conservation is a European rather than a Member State issue: the European brown bear, the monk seal, the wolf, the lynx on the one hand and bird species such as the European crane and the white stork on the other.

A research priority of the biotechnology programme (1990-94) is to improve the assessment of genetic diversity and its erosion, as a basis for focused and effective conservation efforts. The STD programme for life sciences in developing countries has focused on genetic resources for tropical and subtropical agriculture which can have conservation applications. The STEP and EPOCH programmes have components which are closely linked to biodiversity conservation.

The future programme in the field of environment will consider aspects of ecological genetics, including genetic diversity and its threat from environmental factors.

Under the FOREST programme, a number of projects on the assessment of genetic diversity and the identification of woodland ecotypes have been undertaken in order to develop conservation strategies, improve tree breeding and to reforest difficult sites, particularly in Mediterranean areas.

## **3. Cooperation**

The first area of cooperation described in the convention between the Community and its Lomé IV partners is the environment. The opening article of the Convention's Title I reads: *"In the framework of this Convention, the protection and the enhancement of the environment and natural resources, the restoration of ecological balances, the preservation of natural resources and their rational exploitation are basic objectives that the ACP States concerned shall strive to achieve with Community support with a view to bringing an immediate improvement to the living conditions of their populations and to safeguarding those of future generations."*

This cooperation aims to respect three principles: maintaining the essential ecological functions of beneficiary areas, conserving genetic diversity, and ensuring the sustainable use of natural resources (species and ecosystems).

The poorer a beneficiary country, the more difficult it is likely to be to uphold these principles and the narrower the range of options tends to be. However, there are probably no areas in which the sound management of natural resources will not benefit local populations in the longer term.

Solutions to the development and conservation issues in these countries are likely to be specific to each region involved, given the diversity of social, economic, climatic and biological conditions. The Community is attempting to support local administrations in the identification of important ecosystems and to encourage their rational management through national or regional strategies and through education and awareness-raising activities for local populations. This is being done through the Lomé programmes which includes specific conservation projects, particularly in forests, though priority has also been given to the conservation of other especially endangered ecosystems including wetlands, and coral reefs.

#### **4. Conclusion**

The Community is attempting, like many other countries, to come to grips with the most serious problem of the loss of biodiversity by its work within its boundaries and beyond. It is an active supporter of the proposed Convention on Biological Diversity, and believes that it is essential that such a convention including a possible protocol on the tropical forests which are the world's richest habitat should be signed at UNCED and that it should be accompanied by the appropriate financial assistance measures.

## Chapter 25 Conclusion

This report is the statement of activity of the Commission of the European Communities in the environmental field. It shows, unambiguously, how environmental concerns are percolating and deepening into every domain of European Community Policy: from proposals to change the fundamentals of the Community's agricultural policy, to new proposals to strengthen the environment articles of the Treaty of Rome in the context of the Intergovernmental Conferences on political union, to reinforcing energy saving and rational energy use as a first phase policy response to the Community's greenhouse gas stabilisation objective. The strong emphasis of the Lomé IV Convention on environmental objectives and the actions in Latin America and with Mediterranean countries are further proof of the Community's profound concern with the totality of the environment-development agenda. Furthermore, the Community's new Fifth Environment Programme, expected to be adopted by the Commission in the beginning of 1992, will continue upgrading the Community response, will be based on the principle of sustainable development and will contain a holistic approach to the environment.

The European Community is therefore playing its part in the pursuit of sustainable development. But this response is a dynamic and evolving one, and the Community is aware that to obtain these objectives more shared effort is needed from everyone, from the North to the South and East to West of the globe. No-one is exempt.

More knowledge on the importance of the environment and its real value has to be determined as a matter of urgency, and scientific and research understanding of ecological and economic interdependences needs to be greatly expanded, coupled with renewed efforts to explain, educate and train the decision takers of tomorrow.

The European Community believes that cooperative efforts are essential. Furthermore, the European Community is proof that pooling sovereignty and working together towards common objectives can result in both the development and application of cost-effective policies beneficial to all, provided there is the political will.

In UNCED 1992, the European Community will be at the head of the phalanx to generate the collective international political will necessary to find the consensus and policies to guarantee a sustainable and fair future for all. Poverty and underdevelopment must become museum pieces of the past. If this process results in failure "our common future" is in peril.

# ANNEXES

# Annex I            Environmental Provisions of the Single European Act

## *Article 18*

The EEC Treaty should be supplemented by the following provisions

## *Article 100 A*

1. By way of derogation from Article 100 and save where otherwise provided in this Treaty, the following provisions shall apply for the achievement of the objectives set out in Article 8 A. The Council shall, acting by qualified majority on a proposal from the Commission in cooperation with the European Parliament and the Economic and Social Committee, adopt the measures for the approximation of the provisions laid down by law, regulation or administrative action in Member States which have as their object the establishment and functioning of the internal market.

2. Paragraph 1 shall not apply to fiscal provisions, to those relating to the free movement of persons nor to those relating to the rights and interests of employed persons.

3. The Commission, in its proposals laid down in paragraph 1 concerning health, safety, environmental protection and consumer Protection, will take as a base a high level of protection.

4. If, after the adoption of a harmonization measure by the Council acting by a qualified majority, a member State deems it necessary to apply national provisions on grounds of major needs referred to in Article 36, or relating to protection of the environment or the working environment, it shall notify the Commission these provisions

The Commission shall confirm the provisions involved after having verified that they are not a means of arbitrary discrimination or a disguised restriction on trade between Member States.

By way of derogation from the procedure laid down in Articles 169 and 170. the Commission or any Member State may bring the matter directly before the Court of Justice if it considers that another Member State is making improper use of the powers provided for in this article.

5. The harmonization measures referred to above shall in appropriate cases, include a safeguard clause authorizing the Member States to take, for one or more of the non economic reasons referred to in Article 36, provisional measures subject to a Community control procedure.

## **Title VII**

### **Environment**

#### **Article 130 R**

1. Action by the Community relating to the environment shall have following objectives:

- (i) to preserve, protect and improve the quality of the environment
- (ii) to contribute towards protecting human health
- (iii) to ensure a prudent and rational utilization of natural resources.

2. Action by the Community relating to the environment shall be based on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source, and that the polluter should pay. Environmental protection requirements shall be a component of the Community's other policies.

3. In preparing its action relating to the environment, the Community shall take account of:

- (i) available scientific and technical data
- (ii) environmental conditions in the various regions of the Community
- (iii) the potential benefits and costs of action or of lack of action
- (iv) the economic and social development of the community as a whole and the balanced development of its regions.

4. The Community shall take action relating to the environment to extent to which the objectives referred to in paragraph 1 can be attained better at Community level than at the level of the individual Member States. Without prejudice to certain measures of a Community nature, the Member States shall finance and implement the other measures.

5. Within their respective spheres of competence, the Community and the Member States shall cooperate with third countries and with the relevant international organizations. The arrangements for Community cooperation may be the subject of agreements between the Community and the third parties concerned, which shall be negotiated and concluded in accordance with Article 228.

The previous paragraph shall be without prejudice to Member States' competence to negotiate in international bodies and to conclude international agreements.

**Article 130 S**

The Council acting unanimously on a proposal from the Commission and after consulting the European Parliament and the Economic and Social Committee, shall decide what action is to be taken by the Community.

The Council shall, under the conditions laid down in the preceding subparagraph, define those matters on which decisions are to be taken by a qualified majority.

**Article 130 T**

The protective measures adopted in common pursuant to Article 130 S shall not prevent any Member State from maintaining or introducing more stringent protective measures compatible with this Treaty.

Annex II Provisions of the Treaty on European Union, signed on 7 February 1992 (and being ratified by national parliaments) concerning

- Sustainable growth
- Environment
- Development cooperation

## TITLE I

### COMMON PROVISIONS

#### Article A

By this Treaty, the High Contracting Parties establish among themselves a European Union, hereinafter called the "Union".

This Treaty marks a new stage in the process creating an ever closer Union among the peoples of Europe, where decisions are taken as closely as possible to the citizens.

The Union shall be founded on the European Communities, supplemented by the policies and forms of co-operation established by this Treaty. Its task shall be to organize, in a manner demonstrating consistency and solidarity, relations between the Member States and between their peoples.

#### Article B

The Union shall set itself the following objectives:

- to promote economic and social progress which is balanced and sustainable, in particular through the creation of an area without internal frontiers, through the strengthening of economic and social cohesion and the establishment of economic and monetary union ultimately including a single currency in accordance with the provisions of the present Treaty,
- to assert its identity on the international scene, in particular through the implementation of a common foreign and security policy which shall include the eventual framing of a common defence policy,
- to strengthen the protection of the rights and interests of the nationals of its Member States through the introduction of a citizenship of the Union,
- to develop close co-operation on justice and home affairs,
- to maintain in full the "acquis communautaire" and build on it with a view to considering through the procedure referred to in Article W 2 to what extent the policies and forms of co-operation introduced by this Treaty may need to be revised with the aim of ensuring the effectiveness of the mechanisms and the institutions of the Community.

The objectives of the Union shall be achieved as provided in this Treaty and in accordance with the conditions and the timetable set out therein while respecting the principle of subsidiarity as defined in Article 3b of the Treaty establishing the European Community.

## TITLE II

### PROVISIONS AMENDING THE TREATY ESTABLISHING THE EUROPEAN ECONOMIC COMMUNITY WITH A VIEW TO ESTABLISHING THE EUROPEAN COMMUNITY

#### Article G

The Treaty establishing the European Economic Community shall be amended in accordance with the provisions of this Article, in order to establish a European Community.

1) Article 2 shall be replaced by the following:

#### "Article 2

The Community shall have as its task, by establishing a common market and an economic and monetary union and by implementing the common policies or activities referred to in Articles 3 and 3a, to promote throughout the Community a harmonious and balanced development of economic activities, sustainable and non-inflationary growth respecting the environment, a high degree of convergence of economic performance, a high level of employment and of social protection, the raising of the standard of living and quality of life, and economic and social cohesion and solidarity among Member States".

## Title XVI

### Environment

#### Article 130 r

1. Community policy on the environment shall contribute to pursuit of the following objectives:

- preserving, protecting and improving the quality of the environment;
- protecting human health
- prudent and rational utilization of natural resources;
- promoting measures at international level to deal with regional or worldwide environmental problems.

2. Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay. Environmental protection requirements must be integrated into the definition and implementation of other Community policies.

In this context, harmonization measures answering these requirements shall include, where appropriate, a safeguard clause allowing Member States to take provisional measures, for non-economic environmental reasons, subject to a Community inspection procedure.

3. In preparing its policy on the environment, the Community shall take account of:

- available scientific and technical data;
- environmental conditions in the various regions of the Community;
- the potential benefits and costs of action or lack of action;
- the economic and social development of the Community as a whole and the balanced development of its regions.

4. Within their respective spheres of competence, the Community and the Member States shall cooperate with third countries and with the competent international organizations.

The arrangements for Community cooperation may be the subject of agreements between the Community and the third parties concerned, which shall be negotiated and concluded in accordance with Article 228.

The previous subparagraph shall be without prejudice to Member States' competence to negotiate in international bodies and to conclude international agreements.

#### Article 130 s

1. The Council, acting in accordance with the procedure referred to in Article 189c and after consulting the Economic and Social Committee, shall decide what action is to be taken by the Community in order to achieve the objectives referred to in Article 130r.

2. By way of derogation from the decision-making procedure provided for in paragraph 1 and without prejudice to Article 100a, the Council, acting unanimously on a proposal from the Commission and after consulting the European Parliament and the Economic and Social Committee, shall adopt:

- provisions primarily of a fiscal nature;
- measures concerning town and country planning, land use with the exception of waste management and measures of a general nature, and management of water resources;
- measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply.

The Council may, under the conditions laid down in the preceding subparagraph, define those matters referred to in this paragraph on which decisions are to be taken by a qualified majority.

3. In other areas, general action programmes setting out priority objectives to be attained shall be adopted by the Council, acting in accordance with the procedure referred to in Article 189b and after consulting the Economic and Social Committee.

The Council, acting under the terms of paragraph 1 or paragraph 2 according to the case, shall adopt the measures necessary for the implementation of these programmes.

4. Without prejudice to certain measures of a Community nature, the Member States shall finance and implement the environment policy.

5. Without prejudice to the principle that the polluter should pay, if a measure based on the provisions of paragraph 1 involves costs deemed disproportionate for the public authorities of a Member State, the Council shall, in the act adopting that measure, lay down appropriate provisions in the form of:

- temporary derogations and/or
- financial support from the Cohesion Fund to be set up no later than 31 December 1993 pursuant to Article 130d.

#### Article 130 t

The protective measures adopted pursuant to Article 130s shall not prevent any Member State from maintaining or introducing more stringent protective measures.

Such measures must be compatible with this Treaty. They shall be notified to the Commission.

### DECLARATION ON ASSESSMENT OF THE ENVIRONMENTAL IMPACT OF COMMUNITY MEASURES

The Conference notes that the Commission undertakes in its proposals, and that the Member States undertake in implementing those proposals, to take full account of their environmental impact and of the principle of sustainable growth.

## TITLE XVII

### Development cooperation

#### Article 130u

1. Community policy in the sphere of development cooperation, which shall be complementary to the policies pursued by the Member States, shall foster:

- the sustainable economic and social development of the developing countries, and more particularly the most disadvantaged among them;
- the smooth and gradual integration of the developing countries into the world economy;

- the campaign against poverty in the developing countries.

2. Community policy in this area shall contribute to the general objective of developing and consolidating democracy and the rule of law, and to that of respecting human rights and fundamental freedoms.

3. The Community and the Member States shall comply with the commitments and take account of the objectives they have approved in the context of the United Nations and other competent international organizations.

#### **ARTICLE 130v**

The Community shall take account of the objectives referred to in Article 130u in the policies that it implements which are likely to affect developing countries.

#### **ARTICLE 130w**

1. Without prejudice to the other provisions of this Treaty the Council, acting in accordance with the procedure referred to in Article 189c, shall adopt the measures necessary to further the objectives referred to in Article 130u. Such measures may take the form of multiannual programmes.

2. The European Investment Bank shall contribute, under the terms laid down in its Statute, to the implementation of the measures referred to in paragraph 1.

3. The provisions of this Article shall not affect cooperation with the African, Caribbean and Pacific countries in the framework of the ACP-EEC Convention.

#### **ARTICLE 130x**

1. The Community and the Member States shall coordinate their policies on development cooperation and shall consult each other on their aid programmes, including in international organizations and during international conferences. They may undertake joint action. Member States shall contribute if necessary to the implementation of Community aid programmes.

2. The Commission may take any useful initiative to promote the coordination referred to in paragraph 1.

#### **ARTICLE 130y**

Within their respective spheres of competence, the Community and the Member States shall cooperate with third countries and with the competent international organizations. The arrangements for Community cooperation may be the subject of agreements between the Community and the third parties concerned, which shall be negotiated and concluded in accordance with Article 228.

The previous paragraph shall be without prejudice to Member States' competence to negotiate in international bodies and to conclude international agreements".

Annex III Fourth ACP-EEC convention signed in Lomé on 15 December 1989

TITLE I Environment

Article 33

In the framework of this Convention, the protection and the enhancement of the environment and natural resources, the halting of the deterioration of land and forests, the restoration of ecological balances, the preservation of natural resources and their rational exploitation are basic objectives that the ACP States concerned shall strive to achieve with Community support with a view to bringing an immediate improvement in the living conditions of their populations and to safeguarding those of future generations.

Article 34

The ACP States and the Community recognize that the existence of some ACP States is under threat as a result of a rapid deterioration of the environment that hinders any development efforts, in particular those aimed at achieving the priority objectives of food self-sufficiency and food security.

For many ACP States efforts to halt this deterioration of the environment and conserve natural resources are imperative and call for the preparation and implementation of coherent modes of development that have due regard for ecological balances.

Article 35

The dimension of the environmental problem and of the means to be deployed mean that operations will have to be carried out in the context of overall, long-term policies, drawn up and implemented by the ACP States at national, regional and international level with international support.

To this end, the Parties agree to give priority in their activities to:

- a preventive approach aimed at avoiding harmful effects on the environment as a result of any programme or operation;
- a systematic approach that will ensure ecological viability at all stages, from identification to implementation;
- a trans-sectoral approach that takes into account not only the direct but also the indirect consequences of the operations undertaken.

**Article 36**

The protection of the environment and natural resources requires a comprehensive approach embracing the social and cultural dimensions.

In order to ensure that this specific dimension shall be taken into account, attention shall be given to incorporating suitable educational, training, information and research schemes in projects and programmes.

**Article 37**

Cooperation instruments appropriate to environmental needs shall be designed and implemented.

Where necessary, both qualitative and quantitative criteria may be used. Jointly approved check-lists shall be used to help estimate the environmental viability of proposed operations, whatever their scale. Environmental impact assessment will be carried out as appropriate in the case of large-scale projects and those posing a significant threat to the environment.

For the proper integration of environmental considerations, physical inventories, where possible translated into accounting terms, shall be drawn up.

The implementation of these instruments has to ensure that, should an adverse environmental impact be foreseen, the necessary corrective measures are formulated in the early stage of the preparation of the proposed project or programme so that it can go ahead in accordance with the planned timetable though improved in terms of environmental and natural resource protection.

**Article 38**

The Parties, desirous of bringing real protection and effective management to the environment and natural resources, consider that the areas of ACP-EEC cooperation covered in Part Two of this Convention shall be systematically examined and appraised in this light.

In this spirit the Community shall support efforts made by the ACP States at national regional and international level and also operations mounted by intergovernmental and nongovernmental organizations in furtherance of national and intergovernmental policies and priorities.

**Article 39**

1. The Contracting Parties undertake, for their part, to make every effort to ensure that international movements of hazardous waste and radioactive waste are generally controlled, and they emphasize the importance of efficient international cooperation in this area.

With this in view, the Community shall prohibit all direct or indirect export of such waste to the ACP States while at the same time the ACP States shall prohibit the direct or indirect import into their territory of such waste from the

Community or from any other country, without prejudice to specific international undertakings to which the Contracting Parties have subscribed or may subscribe in the future in these two areas within the competent international fora.

These provisions do not prevent a Member State to which an ACP State has chosen to export waste for processing from returning the processed waste to the ACP State of origin.

The Contracting Parties shall expedite adoption of the necessary internal legislation and administrative regulations, to implement this undertaking. At the request of one of the Parties, consultations may be held if delays are encountered. At the conclusion of such consultations each Party may take appropriate steps in the light of the situation.

2. The Parties undertake to monitor strictly the implementation of the prohibition measures referred to in the second paragraph of paragraph 1. Should difficulties arise in this respect, consultations may be held subject to the same conditions as those provided for in the second paragraph of paragraph 1 and with the same effect.

3. The term "hazardous waste" within the meaning of this Article shall cover categories of products listed in Annexes 1 and 2 to the Basle Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

As regards radioactive waste, the applicable definitions and thresholds shall be those which will be laid down in the framework of the IAEA. In the meantime, the said definitions and thresholds shall be those specified in the declaration in Annex VIII to this Convention.

#### **Article 40**

At the request of the ACP States, the Community shall provide available technical information on pesticides and other chemical products with a view to helping them develop or reinforce a suitable and safe use of these products. Where necessary and in accordance with the provisions for development finance cooperation, technical assistance can be given in order to ensure conditions of safety at all stages, from production to disposal of such products.

#### **Article 41**

The Parties recognize the value of exchanging views, using existing consultation mechanisms under this Convention, on major ecological hazards, whether on a planetary scale (such as the greenhouse effect, the deterioration of the ozone layer, tropical forests, etc.), or of a more specific scope resulting from the application of industrial technology. Such consultations may be requested by either Party, insofar as these hazards may in practice affect the Contracting Parties, and will be aimed at assessing the scope for joint action to be undertaken within the terms of this Convention. If necessary, the consultations will also

provide for an exchange of views prior to discussions conducted on these subjects in the appropriate international fora.

## **TITLE II Agricultural cooperation, food security and rural development**

### **CHAPTER 1**

#### **Agricultural cooperation and food security**

##### ***Article 42***

Cooperation in the agricultural and rural sector, that is arable farming, livestock production, fisheries and forestry, shall be aimed, inter alia, at:

- continuously and systematically promoting viable and sustainable development based in particular on protection of the environment and the rational management of natural resources;
- supporting the ACP States' efforts to increase their degree of self-sufficiency in food, in particular by strengthening the capacity of the ACP States to provide their populations with food of adequate quantity and quality and to ensure a satisfactory level of nutrition;
- reinforcing food security at national, regional and interregional level by stimulating regional trade flows of food products and improving coordination of the food policies of the countries concerned;
- guaranteeing the rural population incomes that will significantly improve their standard of living, in order to be able to cover their essential needs in the areas of food, education, health and living conditions;
- encouraging the active participation of the rural population, both men and women, in their own development by organizing small farmers into associations and integrating Producers, men and women, more effectively into national and international economic activity;
- increasing the participation of women in their capacity as Producers, notably by improving access to all factors of

Production (land, inputs, credit, extension services and training);

- creating satisfactory living conditions and a satisfactory life style in the rural environment, notably by developing social and cultural activities;

- improving rural productivity, notably by transfers of appropriate technology and the rational exploitation of plant and animal resources;
- reducing post-harvest losses;
- reducing the workload of women by, inter alia, promoting suitable post-harvest and food-processing technologies;
- diversifying job-creating rural activities and expanding activities that back up production;
- improving production by on-the-spot processing of the products of arable and livestock farming, fisheries and forestry;
- ensuring a better balance between food crops and export crops;
- developing and strengthening agricultural research tailored to the natural and human environment of the country and the region and meeting extension service and food security requirements;
- in the context of the above objectives, protecting the natural environment particularly through specific operations to protect and conserve ecosystems and to fight against drought, desertification and deforestation.

#### **Article 43**

1. Operations to attain the objectives referred to in Article 42 shall be as varied and practical as possible, at national, regional and inter-regional level.