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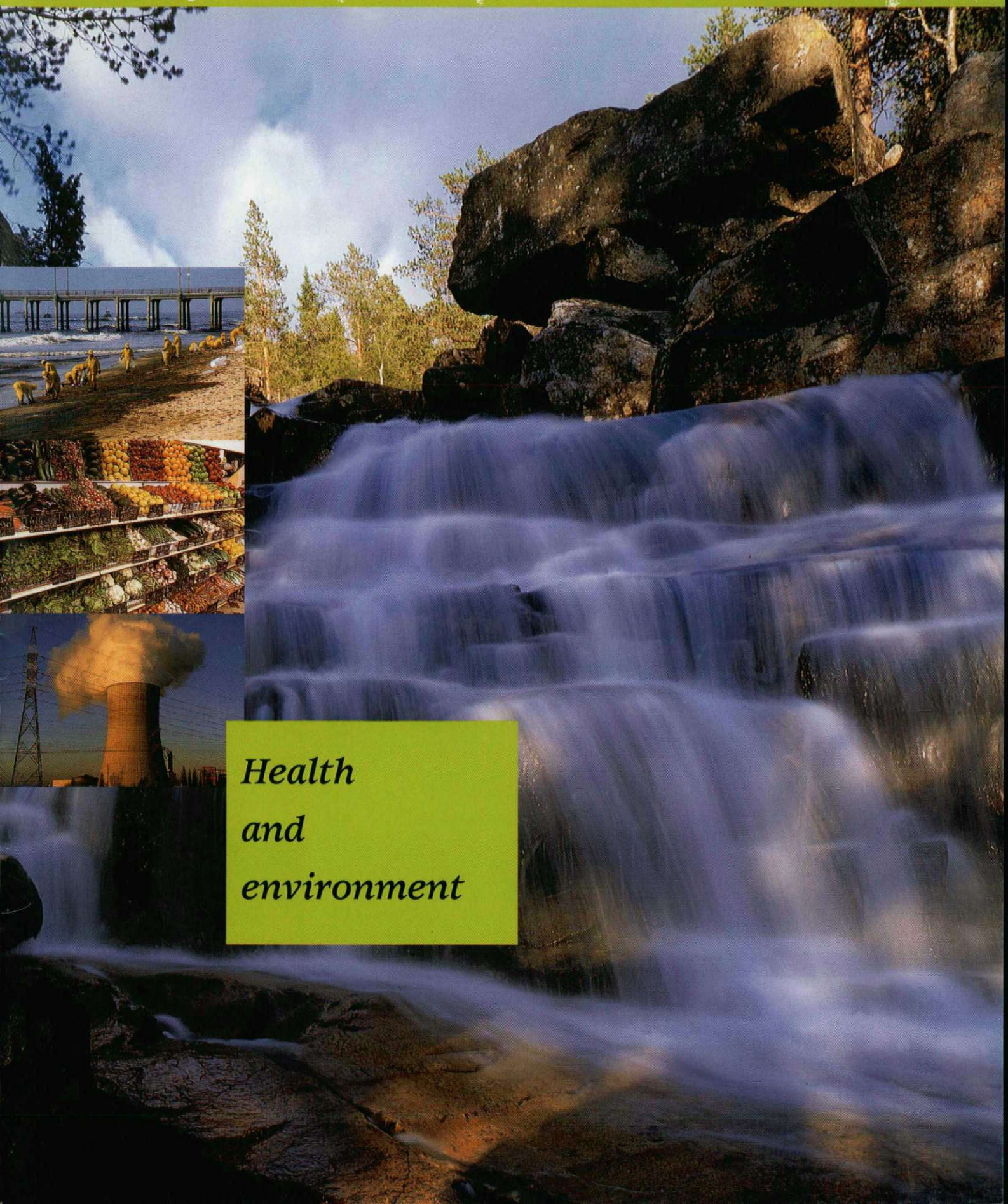

Health and environment

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A. & E. Lapied/Bios

Health and environment

Joined-up policy-making: the London Conference

It was in 1987, when I chaired the World Commission on Environment and Development, resulting in the report Our Common Future, that it became clear to me that sustainability relies on joined-up policy-making. Without sector talking to sector and working together, we could never pursue a holistic approach to a precious planet with limited resources, on whose integrity human life depends.

Two years later, the World Health Organisation brought together Ministers of Environment and their colleagues the Ministers of Health from WHO's member States of the European Region. The aim was to identify and formulate joint policies, and the Ministers drew up the European Charter on Environment and Health at the First European Conference on Environment and Health in Frankfurt in 1989. The next landmark was an environment and health action plan and declaration endorsed at the Second European Conference on Environment and Health in Helsinki in 1994. After policies and planning, the next step was implementation. The Third Ministerial Conference on Environment and Health, which is to be held in London on 16-18 June 1999, has the theme of partnership in action.

For London' 99 we are concentrating on areas where our member States believe they will get the highest return in positive health effects: water, transport, industry and the workplace; national environment and health action plans, economics and public participation. To these, we have added the emerging issue of the environment and children's health. European member States have global responsibilities too, and so climate change and ozone depletion and human health are also on the agenda.

In Europe we have had to learn that even the richest societies cannot afford to destroy their natural basis of human existence. Governments are aware of this: convincing data has been provided and widely disseminated. But when policy-makers are asked to focus on investment in health and well-being, they have often showed a dangerous reluctance to act. This is changing. As the economic ramifications of inaction are dawning on today's decision-makers, they are increasingly making the necessary decisions: to reduce emissions of ozone layer-depleting substances, to reduce CO^2 emissions to counter global warming, and other crucial, global environmental action.

Public concern about a degraded environment is directly linked to concern about its effects on human health. Ten years ago, there was simply no tradition for different departments and ministries to work hand in hand on these crosscutting issues and for many countries it is still a challenge. Too many countries are still in such a pressed economic state that short-term survival takes precedent over sustainable long-term solutions. Others are still choosing the short-term benefits of listening to politically powerful industrial lobby groups at a risk of increasing health costs and ignoring the environment as if we had a spare planet just next door.

Among the issues on the agenda for London, transport is one of the most striking examples where renewed and honest analysis of the economy within the context of social welfare, health and environmental costs shows the way ahead to a better future. The bill to EU citizens for the present hazardous road traffic is 162 000 000 000 ECU - you read correctly, 162 billion ECU every year. The benefits to the economy from ever-increasing transport efficiency can be questioned when you consider the evidence about damaged health and well-being through air pollution, noise, accidents and "sedentary" short distance traffic.

Partnership and public participation are comfortable words, but turning them into action is a profound challenge. Governments will have to be told that health- and environment-oriented policies will gain and not lose votes if they are based on evidence and supportive to the needs and wishes of the citizens. These policies will also re-build confidence of the actors in the economy. We have already seen that commercial forces which at first opposed policies protecting and safeguarding the environment have found such policies - once they have been executed - profitable venues for new market opportunities.

We have to demonstrate new successful strategies, or how else can we give the confidence to poorer countries that there is a way out of poverty, disease and destruction of natural resources? London'99 is a starting point for little steps - as well as huge leaps - towards a better future. We hope that Ministers will grasp the opportunity to adopt a protocol on water and health, a charter on transport, environment and health and a Declaration covering the important steps that need to be taken on all the topics.

The century of competition is nearly over. It has left us with some impressive results, but also with a lot of damage to repair and injustice to undo. The 21st century has to be the century of partnership and London'99 will help set the stage.

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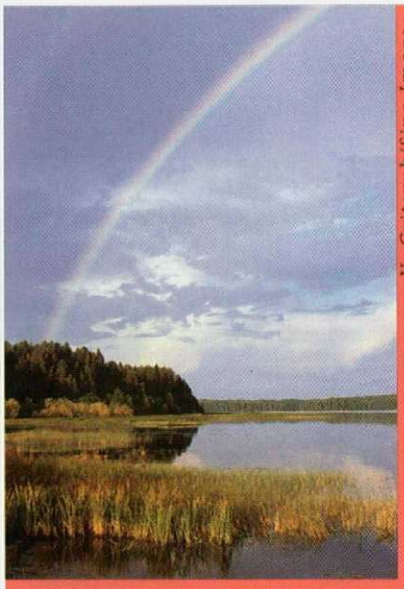
Environment: vital for health

The Third Ministerial Conference on Environment and Health is to be held in London in June 1999. Naturopa wished to be associated with the event by devoting its summer issue to Health and Environment, two aspects of life that are highly valued by citizens. This issue has been prepared in collaboration with the WHO Regional Office for Europe, to which we express our gratitude.

The London' 99 Conference is the third one of the "Environment and Health" process started ten years ago when the first Conference was held in Frankfurt. On that occasion the European Charter on Environment and Health (1989) was adopted by both Environment and Health Ministers. The charter sets up policy principles to be followed by European States. The "Environment and Health" process is an international framework for promoting and improving environment and health in Europe. It aims at improving the health and living conditions of the present generation, while ensuring that nature and natural resources are used in a sustainable way so that the rights of future generations to satisfy their needs are respected.

At the Council of Europe we have always maintained that the well-being of European citizens is a fundamental part of the building of a democratic society and that this goal needs to be attained assuring the permanence of the rich biological diversity and valuable landscapes that form the physical framework where we develop our activities. A balanced environment contributes to the health and to the quality of life of societies and individuals alike. Our environment is a resource that we need to keep alive, a wonderful heritage that we owe to our children, a capital of health and a source of enjoyment that it is our duty to maintain.

Eladio Fernández-Galiano
Chief Editor



V. Gritsyuk/Sipa Image

Archangel, Russian Federation

The environment, the economy and public health

An integrated view

The environment is central to the health of people and their economies. Just as a foetus is totally dependent on the life-support system of the mother during her pregnancy, so the health and vitality of people and their economies are totally dependent on their environments. Unfortunately, many people do not see it that way. They either see the environment as dependent on the economy - such as the politician who says: "let's make the economy strong, then we'll fix the environment when we can afford it" - or they see little connection between health and the environment, whether they are "deep greens" campaigning on ecological issues or doctors treating individual patients and individual illnesses. Whether we are politicians, greens or doctors, is there not a more efficient way to fulfil our aims? For this, a broader perspective is essential.

All economies are sub-systems of the larger environmental system which provides the:

- sources of energy and materials;
- sinks for pollution and other wastes;
- services of water, nutrients and carbon recycling;
- space for living, working and aesthetics ("a walk in the woods and the song of a bird").

Neglect of this life-support system of the "4 S's" leads to weaker or defunct economies as vegetation, food, soils, water or air become contaminated or exhausted and gradually fail to support economic activity. This is dramatically illustrated in the Aral Sea region, or the collapsed Canadian salmon fishing communities.

Indirect social costs

Less catastrophic but still costly is where economic damage is caused by pesticides and nutrient contamination of groundwater, involving millions of Euros in water treatment. This is a social cost to the economy that the agricultural sector does not include in the price of its food: an economic distortion that reduces the real wealth of society via false price signals that encourage the over-use of pesticides and fertilisers. Similarly, the "external" costs on society of road-transport-induced accidents, noise, respiratory and circulatory diseases and congestion amount to around 4 % a year of the EU GDP but these costs are not borne by transport users, which means that transport is encouraged beyond the level that is economic for society as a whole. By internalising these externalities via taxes and other means, the market prices for transport would become fairer and more efficient. Currently only about 30 % of transport externalities are covered by transport taxes. But if the health of an economy is dependent on the health of its environment, what about the health of its people?

Without access to the basics of clean water, shelter, fresh air and food, people obviously suffer. Even in more developed economies where the link between everyday life and the environment is not so visible, the role of environmental factors in disease and well-being is significant. Most of the major diseases of Europe, such as heart disease, cancer, respiratory diseases and allergies have an environmental as well as a genetic component within a multi-factoral chain of causation. And while each environmental factor may be small, if the links in the chain of causation are inter-dependent, as they often appear to be, then removing even a small link can break the chain.

Environmental factors

Take asthma in children, for example. There seem to be many causes, from a child's genetic inheritance to its nutritional status, which in turn help determine how it reacts to the many environmental factors, both indoor (such as mites, pets, damp, environmental tobacco smoke, nitrogen oxides) and

outdoor (such as pollen and pollution from industry and traffic), that have been implicated in asthma causation. Therefore it is clear that diagnoses of asthma and many other diseases should systematically embrace environmental factors. This will be a significant challenge for doctors whose time is scarce and whose training is not usually appropriate.

This multi-causal chain will vary in its exact make-up from child to child, but for children overall, even if the environmental factors such as damp housing or traffic fumes may be less important than, say, genetic make-up or nutritional status, the environmental factors may be the ones that can be most cost-effectively removed, thus breaking the causal chain. And, as with many environmental issues, there are secondary benefits of action, such as less noise or fewer accidents from traffic reduction, or energy savings from dry houses, which further justify the environmental actions even where exact causations are not well understood.

The environmental causes of disease and ill health are a controversial and ill understood area of science and opinions vary about their significance. Some say that, for Western Europe, perhaps 2-3% of public disease and ill-health is determined by known environmental factors but others maintain that it must be far more significant. They point to the sharp increases over the last two or three decades in asthma, allergies, and cancers (particularly of the reproductive organs such as breast and testicles) and related ill-health such as sperm count decline, which cannot be explained by genetic causes. They also observe that the large differences in health between the socio-economic classes cannot be explained without involving significant environmental causation.

It is thought that the ubiquitous presence of low doses of mixtures of chemicals in food, drink, air, consumer products and the general environment are playing some role in public ill health, even if the evidence for this is far from substantial (EEA and UNEP study, 1998).

Impact on public health

But what about environmental programmes and campaigns being little concerned with health? Well, history so far shows that the environment only gets serious attention when it is seen to be damaging either the economy or public health. Yet because "everything connects" in "socio-enviro" systems, action to stop infectious diseases from water contamination, or to reduce skin cancer from ozone depletion, leads to a better environment for all species. And if upland forests are preserved because they are seen to be cheaper and more effective water regulators (which reduce the risk of lowland flooding) than dams, then upland biodiversity benefits anyway, even if it was last in the queue for political attention.

Although public health may be seen by some as only a small part of "the environment", much environmental progress depends upon the political weight of the health impacts. For example, the cost benefit exercise on the current UN/ECE multi-pollutant/effect programme on acidification, eutrophication and low-level ozone shows that it is the benefits to human health, not eco-system damage, that provide the main economic justification for further reductions in SO_2, NO_x and NH_3 in Europe. Ecologists need the language of public health in order to maximise political support for the environment.

So, it is out of our specialist "boxes" of economics, health and ecology, and into a shared systems approach, with integrated programmes that build partnerships for progress.

Welcome London'99, the WHO conference that will bring these three worlds together!

Major health impacts associated with the environment

Most diseases are the result of several causes. These include inherited vulnerability, factors which are related to poverty (e.g. diet, housing quality and location, stress, alcohol and substances abuse, smoking, low birthweight etc), work, unemployment and climate, and other environmental factors arising from air, water, soil and surfaces exposures.

The link between environmental exposures and health impacts varies from known causal relationships, such as inhalable particles and respiratory-system damage, to suggestive but unproven associations, such as between some cancers and exposure to low levels of some pesticides. Poor diet plays a key role in the "diseases of affluence".

Examples of health impact	Associations with some environmental exposures
Skin diseases	• some metals, e.g. nickel • some pesticides, e.g. pentachlorophenol • some foods (allergies)
Developmental (foetal and childhood) disorders	• lead • mercury • smoking and ETS • cadmium • some pesticides • endocrine disruptors
Nervous system disorders	• lead • mercury • PCBS • methyl mercury • manganese • aluminium • some solvents • organophosphates

Source: European Environment Agency

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J.L. & F. Ziegler/Bios

Water and health

Need for concerted action

Adequate supply of safe and healthy water is essential for human life. Lack of safe water is the cause of diseases and ill health in many places of the world[1]. To ensure the supply of healthy water requires a harmonised approach in all respects of water management: protection of water resources, adequate water treatment and distribution, adequate sanitation and sustainable use.

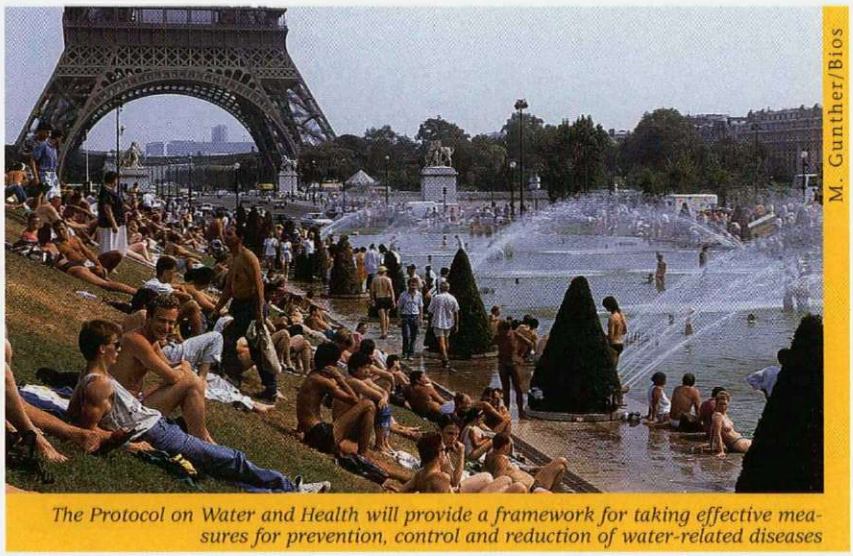
Current trends

The WHO European Region - with its 51 countries - comprises 870 million people, out of which several million people suffer from the adverse effects of lack of adequate water supply. Human health hazards mainly come from the risk of infection with microbiological, parasitic or other biological agents. Diarrhoeal diseases, such as typhoid, cholera, bacillar and amoebic dysentery, and also hepatitis A, are the most common ones. Although the Newly Independent States (NIS) are particularly affected, outbreaks of hepatitis A have been reported in Hungary, Spain and Albania. Cryptosporidium, a protozoon which is highly resistant to disinfectants, causes diseases all over Europe - for example, several thousand cases of Cryptosporidiosis have been reported from the United Kingdom alone.

Economic deprivation and consequent disconnection to water supply has resulted in increased incidence of hepatitis A and shigellosis, even in the United Kingdom. In some countries, especially in NIS and other countries with economic transition, this economically driven, voluntary restriction on use of water creates the risk and sometimes the real disease.

A recent survey, carried out in Hungary within the framework of the National Environmental Health Action Programme (NEHAP), has clearly shown that economic constraints (dramatic increase of water price) led to the reopening of old wells which had not been used for many years. Water from 56% of the wells studied proved to be inadequate for human consumption, mainly because of high nitrate concentration.

Chemical contamination of drinking water is increasing. Inorganic toxic metals (lead, copper), arsenic and fluor (sometimes of geological origin and not contamination), nitrate and nitrite pesticides are due to industrial and agricultural activity and might cause diseases. High nitrate levels have been recorded in many eastern and western European countries. Sewage-contaminated surface waters have frequently been shown to be a significant source of gastro-enteric and other disorders for people using them for recreation. However plausible, the possible adverse health effects are rarely the driving force to improve the situation.


M. Gunther/Bios

The Protocol on Water and Health will provide a framework for taking effective measures for prevention, control and reduction of water-related diseases

The lack of effective surveillance systems in many countries prevents the full assessment of the risk of infectious diseases - outbreaks are not even recorded in many countries.

A binding instrument

When the WHO Regional Office for Europe-EURO, in preparation for the Third Ministerial Conference on Environment and Health, reviewed the priority environmental health problems, not surprisingly the water-related adverse health effects, diseases and outbreaks were identified as high priorities. Water and health were consequently put in the centre of the London Ministerial Conference. More than 40 countries of the WHO-EURO and the UN/ECE countries decided to establish an international instrument, binding in nature, which addresses the water management issues from the human health point of view[2].

Aims of the Protocol

The Water and Health Protocol to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, to be signed in London by the Ministers of Health and Environment, will provide a framework for taking effective measures for prevention, control and reduction of water-related diseases.

The scope of the Protocol will apply to surface freshwater, groundwater, estuaries, coastal waters, enclosed waters available for swimming, water in the course of abstraction, transport, treatment or supply, waste water throughout the course of collection, transport, treatment and discharge or reuse.

The main provisions of the Protocol aim for a holistic approach in combating water-related diseases. These concern:

- adequate supply of wholesome drinking water;
- adequate sanitation of a standard which sufficiently protects human health and the environment;
- effective protection of water resources; and
- protection from adverse health effects through use of recreational waters.

Essential partnerships

The Ministerial Conference in London will focus on actions in partnership. Prevention of water-related diseases by implementing the Protocol requires active participation and strong collabo-

ration by national and international agencies, governmental and intergovernmental bodies and the public at large.

Although not yet accepted and signed, several countries are planning to establish pilot projects for implementation of the provisions of the Protocol. This is a clear sign of the determination and will of the countries for action. If this determination is supported by financial institutions for those countries in greatest need, Europe will witness a significant improvement on water-related health.

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(1) This is the case in many countries of the European region of World Health Organisation.
(2) This is the first binding instrument, which was initiated by WHO and completed jointly with UN/ECE.

The Protocol on Water and Health and its parent Convention

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes was drawn up under the auspices the United Nations Economic Commission for Europe and entered into force on 6 October 1996. It aims at strengthening local, national and regional measures to protect and use transboundary waters in an ecologically sound way. Parties are particularly obliged to prevent, control and reduce the pollution by hazardous substances, nutrients, bacteria and viruses. The precautionary principle and the polluter-pays principle are the guiding principles to implement pollution control measures. This will protect water resources and soil, flora, fauna and landscape. Parties bordering the same transboundary waters will establish joint bodies, such as river commissions. They will jointly elaborate water-quality objectives, develop concerted action programmes, monitor and assess transboundary waters, set up warning systems and provide mutual assistance in critical situations. Parties are also required to protect human health and safety. These measures are further elaborated in the Protocol on water and health.

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Promotion of healthy transport

A European plan of action

We usually do not realise how much our daily transport activities affect our health. For the individual, choosing to cycle or walk for transport can bring major health benefits. Half an hour a day of brisk walking or cycling can halve the risk of developing heart disease, the most important cause of death (the equivalent effect of not smoking). This is valid for the majority of the population who do very little physical activity. Even if done in two or three shorter episodes, this amount of activity can also halve the risk of developing diabetes, reduce blood pressure (equivalent to the effect of taking anti-hypertension drugs) and improve functional capacity.

Health risks

Air pollutant levels inside a car, on the other hand, are higher than on sidewalks and car users breath more air pollutants than walkers, cyclists or people using public transport on the same road. Children exposed to noise can present learning disabilities and a large proportion of the European population is exposed to noise levels leading to annoyance, interference with speech communication and sleep disturbance.

Busy streets discourage children from walking or cycling to school or using streets to play, which interferes with their psycho-social development. Parents are increasingly driving them around, out of fear of road accidents or road violence, filling the streets with more cars, and ultimately raising the risk of accidents in a vicious circle.

Road accidents are a major cause of death, around 120 000 deaths a year in the 51 countries of the WHO European Region. The young are most affected, even though the introduction and enforcement of simple strategies, such as reduced speed limits, could dramatically lower that mortality toll.

A complex problem

Most of us are very concerned with some of the issues raised above, even if we have not yet appreciated the full extent of damage to health and the environment from current transport policies. How can we reduce this burden to health and well-being and still enjoy the benefits of transport? The roots of many of these problems are in the way land is being used, in choices of transport policies and also in the way individuals decide how to get access to goods and services. Solutions require concerted action by many players, from national governments and administrations to industry, local authorities, civil society and individuals. Existing examples of good practice to address parts of this complex problem can be built upon.

Adoption of the Charter

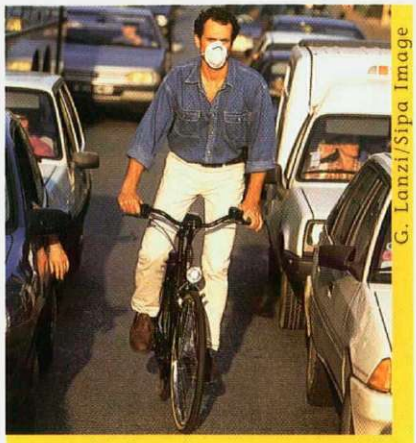
Countries of the WHO European Region have met several times during the past year to agree on a plan of action to make transport sustainable for health and the environment, focusing on what national governments and international organisations can do. The result is a Charter on transport, environment and health, which will be adopted by Ministers of Environment, of Health and of Transport at the London Conference on 16 June. Austria was the lead country and chaired the negotiations, while Malta and Denmark also hosted preparatory meetings, and numerous other countries were deeply involved in drafting this document.

along with NGOs active on transport, environment and health, international agencies and industry.

The Charter also contains health targets for air and noise pollution reduction, through better technologies and transport planning means, for road accident prevention and for the promotion of means of transport leading to health benefits, notably cycling, walking and related public transport.

Action plan contents

The action plan, which will help countries to reach those targets, involves commitments by member States and by international organisations. The key decisions are: to review national policies and increase collaboration among the main players in order to ensure health and environment benefits from transport policies; to inform and involve the public in those decisions; to ensure polluters pay for the burden they cause on others, and make available tools for the adequate estimation of the consequences and costs of transport on health; to raise the attractiveness of public transport and safe cycling and walking; to monitor the implementation of these decisions and progress towards healthy transport. Specific policies will be directed to take account of groups at extra risk of adverse transport effects, such as children or people living in areas where they are exposed to many risks from traffic (inner cities have greater air and noise pollution, more accident risks, and pose greater difficulties to walking or cycling than suburban areas).



G. Lanzi/Sipa Image

Our daily transport activities affect our health

The proposed activities are closely connected and co-ordinated with initiatives on transport and environment being developed by other agencies, to optimise use of resources and expertise.

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Freight traffic through the Alps

Beware of avalanches!

In mid February it snowed continuously for days in the Alpine region. Enormous masses of snow piled up on the mountainsides, triggering avalanches. Men and women had to be evacuated from their homes, and for several days entire villages were cut off from the rest of the world. Crisis committees raised the alarm.

Many roads were blocked off for safety reasons. On the St Gotthard route, which provides the fastest link between northern Europe and Italy, the risk of avalanches brought traffic to a virtual standstill. The motorway, which usually carries a steady flow of heavy goods traffic, was deserted. An eerie silence spread through the narrow valley, broken only by the dull rumbling of the avalanches. According to the measurement stations that produce automatic readings of pollution levels along the transit route, it would seem that values reached a record low. As in August 1987, when part of the route was flooded, pollution levels fell far below the limit values.

Extreme conditions are apparently needed in order to meet, if only for a short time, the clear and detailed objectives of the Alpine convention, in other words in order to "drastically reduce the emission of pollutants and pollution problems" and "reduce the volume and dangers of inter-Alpine and trans-Alpine traffic to a level which is not harmful". In ordinary circumstances, we are a long way from achieving such objectives. Every year more and more lorries transit through the narrow alpine valleys. Freight trains, on the other hand, which are much less harmful to the environment, continue to be largely under-used.

And yet it is well known that even without natural disasters, the ecosystem of the Alps, with its steep terrain, enormous temperature differences and short growing season, is extremely vulnerable. In the narrow valleys, the harmful effects of road freight traffic, such as noise, air pollution and erosion, are felt sooner and more severely than on the plain. The ecosystem of the Alps is rightly regarded as an early warning device. What the region is telling us now is that European transport policy is in urgent need of a radical rethink.

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Denser than ever, road traffic is threatening the ecologically vulnerable Alpine valleys

Climate change

What consequences for health?

Boulat Jobard/Sipa Image

There are indications that the frequency of extreme weather events may have increased

European temperature has increased by 0.8°C since 1890. An overall increase in average annual temperatures is projected for the next decades. Changes in the precipitation patterns have been observed, although precipitation trends show complicated patterns in time and space. Additionally, above Europe, the amount of ozone in the atmosphere fell by 5% between 1975 and 1995, allowing more UV-B radiation to enter the lower atmosphere and reach the earth's surface.

Hippocrates has already described the regional differences in climate and their relationship to states of health. Climate change is likely to have wide-ranging and serious health consequences for the European populations. Although human beings have a great capacity to adapt to varied climates, there are still some special vulnerable groups, such as refugees, children and the elderly, which are particularly sensitive to climate variability and change.

Rising temperatures

Warmer temperatures, altered patterns of precipitation and air masses directly affect human well-being. Outside the comfortable range of human tolerance, as temperature increases, thermal stress leads progressively to greater discomfort. During heat waves in cities in Greece, Germany and the Netherlands, death rates increased over 50% above normal baseline levels. Elderly people are the most vulnerable to the effects of thermal stress.

In cold and temperate locations, daily deaths increase as daily wintertime temperature decreases. However, this rate of increase appears to be considerably less steep than the relationship between mortality and increasing temperature in the summer. Social and behavioural adaptations to cold play an important role in preventing winter deaths in high latitude countries.

The spread and concentration of air pollutants are very dependent on prevailing weather conditions, air currents, temperature variations, humidity and precipitation. Large, slowly moving anticyclones may cover an area for several days and allow particles and gases to accumulate.

Floods

There are indications that the frequency of extreme weather events may have increased. Recent floods in Poland, the Czech Republic and Italy have caused hundreds of deaths. Little is known about other physical and psychosocial health effects of floods. Observations of the consequences of the floods in the Czech Republic have shown an increase of infectious diseases.

Most health effects are not directly related to climatic determinants but might be related to complex ecological changes, such as land-use changes, forced migration (due to sea level rise, for instance), material loss, loss of shelter and livelihoods. A change in the distribution of infectious agents and their carriers may be among the first signs of those ecological changes and synergisms.

Increase in parasites

Some vector organisms (anopheles, aedes, ticks) are dependent on climatic conditions, as are the life-cycle stages of the infecting parasite within the vector. There is some evidence that the distribution of some vectors has already changed within Europe. The distribution of ticks in Sweden has expanded between 1980 and 1994. Data show that changes in distribution and density over time are correlated with changes in seasonal daily minimum temperatures, within a complex set of ecological relationships. Ticks might transmit Lyme's disease and tick-borne encephalitis (TBE). An increase in incidence of Lyme's disease and TBE has been reported from some countries.

Climate directly influences the reproductive and biting rates of the malaria vector, anopheles. Temperature influences the development stages of the malaria agent (plasmodium) within the mosquito. Malaria is resurgent in Europe and is endemic in Azerbaijan, Tajikistan and Turkey. It is difficult to predict the future extension of malaria, as it depends on a lot of factors such as population sensitivity, control measures and health care systems preparedness.

The "food" vector

A seasonal pattern is often observed with cases of food-borne diseases, peaking in the summer months. Warmer springs and summers and warmer winters, in combination with inappropriate food behaviour, may contribute to the increase of the incidence of food-borne diseases.

Harmful effects of UV radiation

The effect of increased UV radiation on human health is well known. Harmful effects will be on the skin (e.g. skin cancer and photo-ageing), on the eyes (e.g. photokeratitis, acute solar retinopathy and cataract) and on the immune system, with an increased susceptibility to infection.

There is some evidence that the human population is exposed to some degree of climate change and increased ultraviolet irradiation, therefore prevention, mitigation and adaptation strategies are required to be implemented by all countries.

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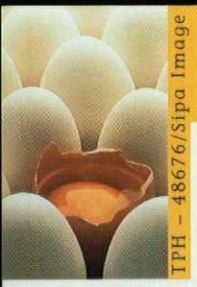
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Food safety: concerns...

There is a serious loss of confidence in food by European consumers, which needs to be rectified urgently. Detailed public surveys show that concern focuses on five areas:

- the microbiological safety of food (e.g. *Salmonella, Listeria, E.coli* O157:H7);
- the chemical safety of food (pesticides and heavy metal contamination)
- Bovine Spongiform Encephalopaties;
- genetically modified organisms;
- the nutritional quality of the diet.

It is indeed true that the food supply must not endanger consumer health through biological, chemical and other contaminants and it must be presented honestly. But nutrition is also of fundamental importance. It affects the metabolism and clearance of toxins, the development of cancers and the capacity to respond to infections as well as determining several other major public health problems, such as heart disease and strokes. In economic terms, public health analyses show that nutritional aspects of food quality and safety have a far greater economic and health impact than the first three concerns.

Consumers have the right to a good quality and safe food supply and government and food industry actions are constantly needed to ensure this.

Micronutrients deficiencies

Areas of endemic goitre (iodine deficiency) and iron deficiency are present in some eastern European countries. Other minor micronutrients deficiencies include vitamin A, vitamin C, vitamin D, calcium, riboflavin, vitamin B6 and thiamine and are present especially in central and eastern European countries as well as in some central Asian republics. The problem of folic acid deficiency exists in the United Kingdom, Denmark and Poland, but it is confined to pregnant women.

Biological contamination

Salmonellosis is one of the most important food-borne diseases. 1992 was the year in which the salmonellosis incidence reached its peak in most of the countries. From 1992 to 1996 the trend is decreasing or constant. This may be due to control measures implemented during recent years in many countries (e.g. Swedish model) or to a greater awareness of the salmonellosis risk among the general public (more careful and hygienic handling of foods, especially with raw meats and products containing raw or insufficiently heat-treated eggs).

While salmonellosis was at one time the principal cause of food-borne disease, there is nowadays a change in a number of countries. In the Netherlands the number of campylobacterios is about three times that for salmonellosis. The incidence of *Campylobacter enteritis*, with a predominance of single cases or small family outbreaks, has in-creased almost everywhere since 1991 and has now surpassed that for salmonellosis.

Escherichia coli O157:H7 also has attracted attention during recent years. Most of the reports originate from England and Wales. In 1996 outbreaks involving 300 and 100 patients were however reported by Germany and Sweden, respectively.

The private home is the place where most outbreaks occur (about 35%). Family or household outbreaks often occur when large quantities of foods were prepared too far in advance and were not stored cooled before being served. Beside restaurants and hotels, factory canteens, schools and hospitals are quite often sources of food-borne disease, especially smaller establishments with less trained personnel. "Insufficient refrigeration or cooling", "inadequate heat treatment" or "hot holding", "cross contamination" and "use of ingredients from unsafe sources" are the major causes.

Chemical contamination

Outbreaks due to chemical substances are rare events, apart from intoxications caused by the consumption of poisonous mushrooms in some eastern European countries.

Information on chemical food contamination in Europe is variable and usually not recorded in monitoring programmes. In western Europe contamination is thought to have been minimal in recent years. In central and eastern Europe, food contamination arises largely from industrial contamination of air, water and soil. Contamination of food items usually occurs in "hot spots" rather than contamination of food items throughout the whole country.


Clopet/Sipa Image

Salmonellosis is one of the most important food-borne diseases

Heavy metals

Decreases in lead intake over time have been reported for a number of western European countries, which no doubt is predominantly due to the switch to unleaded fuel but also reflects a decrease in the use of lead-soldered cans and decreased plumbosolvency in water supply. Pregnant women and nursing mothers are likely to be at greater risk to adverse effects of mercury, in particular methylmercury. This is particularly the case for mothers from coastal and fishing communities, which require special attention. In fact, high blood and hair concentrations of mercury have repeatedly been found in fishermen of Tyrrhenian and Madeira coastal villages.

Industrial chemicals and pesticides

In general, national data on residues in total diet studies show that mean intakes of PCBs, DDT, hexachlorobenzene, nitrate and malathion are very low and do not exceed the Acceptable Daily Intake (ADI) in any of the age-sex groups. However, individual intakes above the ADI for nitrate were found and as central and eastern Europe and countries of the former USSR do not have extensive data sets, this conclusion may not apply generally in a pan-European context.

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Facing new problems

Bovine Spongiform Encephalopathy (BSE) is one of a class of diseases called Transmissible Spongiform Encephalopaties (TSEs). TSEs are so named because they cause a spongy brain and can be transmitted to animals of the same or different species.

BSE came to the attention in the United Kingdom in 1986 with the appearance in cattle of a newly recognised form of neurological disease. Epidemiological studies suggested that the source of the disease was cattle feed prepared from carcasses of ruminants and that changes in the process of preparing cattle feed may have been a contributing risk factor. Between 1986 and 1996 approximately 160 000 cases of the disease were confirmed in the UK. BSE had also been reported from other European countries, where it occurred in native cattle (and this was related to importation of cattle feed from the UK) or in cattle imported from the UK.

Similar diseases in humans with sponge-like findings in the brain and with fatal neurological symptoms include Creutzfeldt-Jakob Disease (CJD). CJD occurs in a form associated with a hereditary predisposition and in a more common, sporadic form. A newly recognised variant form of CJD (V-CJD, affecting mainly young patients with a long duration of illness as compared to CJD) was, however, reported by the UK in 1996. Since then 36 (35 in the UK and 1 in France) definite and probable, all fatal cases of V-CJD had been identified. The temporal and geographical association with the BSE epidemic raised the possibility of a causal link. Strong evidence supporting this hypothesis has subsequently been accumulated. As the size of the human population exposed and susceptible to the BSE agent is not known, accurate prediction of the future number of V-CJD cases is, however, not possible.

Is nuclear power an acceptable risk?

Nuclear safety is aimed at protecting people and the environment against all the dangers and forms of pollution connected with nuclear activity, in particular by:

- ensuring safety during normal operation and limiting the discharge of radioactive effluents into the environment;
- preventing incidents and accidents; and
- limiting their impact.

It is therefore necessary to keep the nuclear reaction under control, cool the fuel and contain the radioactive materials at all times. The design safety of nuclear power plants is based on two principles:

- three successive impermeable barriers between the radioactive materials: the fuel canning, the reactor vessel insulation and the protective enclosure;
- several lines of defence to protect against technical failures and human error.

Radioprotection

The biological effects of ionising radiation are known as somatic effects when they occur in persons who have been exposed to radiation. They are genetic when they affect such persons' descendants. Radiation has two types of pathological effects:

- non-stochastic (non-random) effects, which always occur when the radiation dose received is equal to or exceeds a certain threshold (skin lesions, cataracts, etc);
- stochastic or random effects, which occur only in some individuals, on an apparently random basis. These include malignant diseases (cancers) and genetic effects. In this case, it is not possible to seek absolute protection and the objective is to keep the risk down to a level acceptable to both individuals and society - the ALARA (as low as reasonably achievable) approach.

The aims of radioprotection are therefore:

- to prevent the appearance of any non-stochastic effects;
- to restrict to an acceptable level the "damage" (based on the probability of occurrence and the seriousness of the consequences) that could produce stochastic effects.

The limits for exposure to ionising radiation are laid down in an EU directive (Directive of 13 May 1996).

Accidents

The international scale of accidents comprises seven levels:

- level 1: malfunctions - Tricastin, Drôme (France), 1987

Nuclear power's place in electricity generation

According to the International Atomic Energy Agency (IAEA), the ten leading nuclear power users in the world are as follows:

Country	*N.r of units*	*Total consumption Mwe*
United States	109	99784
France	56	58493
Japan	59	38875
Germany	21	22657
Russian Federation	29	19843
Canada	22	15755
Ukraine	15	12679
United Kingdom	12	11720
Sweden	10	10002
Republic of Korea	10	8170
Total	345 (79,8%)	297978
WORLD TOTAL	432	340347

Nuclear power's share in electricity generation in the countries of the European Union in 1993 and 2005

Country	*1993 (%)*	*2005 (%)*
Germany	29,7	24,6
Austria	0	0
Belgium	59	50,7
Denmark	0	0
Spain	35,3	29,1
Finland	32,4	20,5
France	77,7	75,7
Greece	0	0
Ireland	0	0
Italy	0	0
Luxembourg	0	0
Netherlands	4,8	5
Portugal	0	0
United Kingdom	26,7	18,9
Sweden	41,8	46,9

Source OECD, AEN 1994

- level 2: incidents - Barrel at Creys - Malville, Isère (France), 1987
- level 3: serious incidents - Bugey 5, Ain (France), 1984
- level 4: accidents involving no major off-site risks - Saint Laurent A2, Loire et Cher (France), 1980
- level 5: accidents involving off-site risks - Windscale (UK), 1987 (discharge of 740 terabecquerels of iodine 131, 126 people slightly contaminated, maximum dose 0.6 sieverts) -Three Mile Island (USA), 1979, partial meltdown of reactor core, serious contamination within containment, no discharges affecting the population or the environment
- level 6: serious accidents
- level 7: major accidents - Chernobyl (USSR), 1986

The risks

With regard to people living near to nuclear plants, a report by Mr.C.L.Birraux for the French Parliamentary Office for the Assessment of Technological Choices has detailed unusually high levels of leukaemia in the local population in the village of Seascale in the United Kingdom and in the Techa valley in Russia. Extremely rigorous studies conducted in France, the United States and Canada have not produced any findings of this kind. We are therefore justified in reassuring people who live near nuclear power plants.

Nuclear plants have the following effects on the environment which are not related to radioactivity:

- the raising of water temperatures, which can lead to the spread of blue-green algae;
- the problem of cooling towers with stacks that are 100 to 150 m high with base diameters of similar dimensions, which are sometimes noisy and can cause the formation of black ice in the surrounding area;
- the size of the pylons used for transmitting very high voltage electricity, which may induce electromagnetic effects in the surrounding area;
- noise pollution;
- the major, unresolved question of the long-term disposal of nuclear waste;
- the whole range of nuclear plants and electricity transmission systems, which mar landscapes.

There is no such thing as zero risk

If safety means a person or a group of people being protected from danger and not exposed to any risks, then there is no such thing as nuclear safety. To date, with the exception of the major accident at Chernobyl, the statistics on accidents and their effects and the safety measures taken in nuclear plants have shown the risks of the civilian use of nuclear power to be "acceptable". The authorities' great mistake has been to keep information about nuclear power in the dark for too long, hidden away within capable but secretive technocratic bodies - in a field where the apocalyptic spectre of nuclear weapons still hangs over us. Apart from this, there remains the haunting problem of the disposal of nuclear waste.

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Chernobyl 13 years on

On 26 April 1986, reactor no.4 in Chernobyl nuclear power station exploded. All the pressure tubes containing the fuel burst and the reactor's 2 000-tonne roof slab was thrown into a vertical position. As the reactor core had caved in, the fuel and graphite debris spread out on the concrete base slab, which was attacked by the melting uranium. The molten uranium, steel and lead formed a kind of sinister lava which spread through the nozzle pipes, establishing contact between the reactor and the lower reaches of the plant. Over 1.8 billion billion becquerels of various fission products were spread over a very wide area, while most of the fuel (96%) remained in the reactor and the immediate vicinity.

The causes of the accident

On the one hand, the graphite-moderated pressure-tube reactor with boiling light-water coolant was not protected by any containment and, on the other, several human errors occurred. These included breaches of safety rules (three automatic safety systems had been deliberately shut down) and errors concerning the controls on the reactor radioactivity, the release of the energy generated by the fuel and the containment of radioactive materials (following on from testing that had not been properly prepared).

The consequences

According to the official figures, 200 people at the site suffered serious irradiation and 32 died within three months of the explosion.

Unfortunately, although we have a fairly clear picture of the geographical distribution of the contamination, much less is known about the radiation doses received by the people affected (over one million individuals).

It is difficult to analyse the consequences, as the health care provided for those affected has not been systematic. It is regrettable that the SIEAD-APO-Chernobyl project (system of epidemiological information and assistance for medical decision-making) of the Council of Europe's EUR-OPA Major Hazards Agreement did not come to fruition. This epidemiological survey would also have made a significant contribution to the study of the biological effects of low doses of radiation. However, an associate European Centre, the TESEC (Associate European Technological Safety Centre), was set up in Kyiv under the Council of Europe's EUR-OPA Major Hazards Agreement.

Unusually high levels of thyroid cancer have been reported in Belarus, northern Ukraine and regions of Russia near to Chernobyl: 1 200 cases have been diagnosed, especially among young people aged under 15. The psychological impact on the population has been huge. The Chernobyl plant is due to be shut down in the year 2000.

May the sarcophagus of reactor block 4 in Chernobyl remain the only symbol of this terrible disaster.

Children's health and the environment

Children today live in an environment vastly different from that of a few generations ago. Economic development, increased urbanisation and the consequences of war in many European countries have added to the traditional environmental hazards, those problems associated with environmental pollution. Thus, while some traditional children's diseases such as diarrhoea, malnutrition and infectious diseases persist in Europe, environmentally-related illnesses such as asthma, respiratory illnesses due to environmental tobacco smoke (ETS), as well as mortality and morbidity due to injuries, are increasing. In addition, the apparent increase in childhood cancer in some European countries and the potential risks of endocrine-disrupting chemicals are among the emerging health threats that need careful vigilance. Children of lower socio-economic status are likely to suffer disproportionately from all these health threats as a consequence of living in highly polluted environments, poor quality housing, lower levels of education, and of restricted access to environmental and health care services.

Children's vulnerability

The concern for children's vulnerability to environmental health threats is based on several factors. Children receive greater exposures than adults do because they drink more water, eat more food and have higher breathing rates per unit of body weight. Because they are undergoing rapid growth and development, toxicant effects at specific times may have irreversible consequences. For example, if vital connections between nerve cells fail to form during brain development, there is high risk that the resulting neurobehavioral dysfunction will be permanent and irreversible. Also, because most children have more future years of life than adults, they have more time to develop any chronic disease that may be triggered by early environmental exposures.

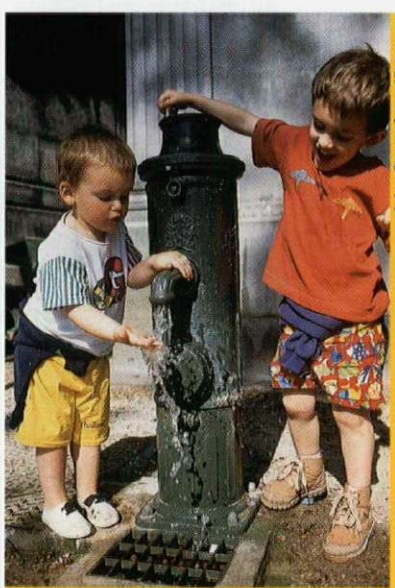
Public health threats

Asthma, injuries, and the effects of environmental tobacco smoke (ETS) are among the most significant public health threats to European children. Childhood asthma is increasingly prevalent in Europe, particularly in developed and industrialised countries. What causes asthma is not known, but several environmental factors, such as indoor air quality (particularly exposure to the house-dust mite) and ETS, have been linked with the increase in asthma. In addition, outdoor air pollutants such as particulates, sulphur dioxide and ozone can exacerbate asthma symptoms. ETS, especially smoking by the mother, is a known risk factor for asthma. ETS is also known to cause acute and chronic middle ear disease and is associated with sudden infant death syndrome (SIDS).

Injuries contribute to one-third of children's death under the age of 15 in Europe. The burden of deaths from injuries varies widely across the European region, with rates higher in central and eastern Europe and the Newly Independent States than in western Europe. If mortality rates were reduced to the average of the European Union, nearly 32 000 deaths (31 % of all deaths) in the age group 1 to 19 years would be prevented each year.

Potential for prevention

The variation in asthma and injury rates across Europe and the evidence of the role of certain environmental factors underline the potential for prevention. Public policies should seek to avoid preventable childhood diseases by preventing exposures to environmental agents and considering children's characteristics and susceptibilities in the development of environmental health legislation. Promoting citizen awareness and participation in policy-making through education and access to environmental information are important elements in achieving a safe environment for children. In this context, children are not only consumers with rights, but also citizens who can play an active role towards their own protection.



M. Gunther/Bios

In children, environmentally-related illnesses such as asthma are increasing

International awareness

Several international agreements have acknowledged children's vulnerabilities and have committed their signatories to protect children's health from the effects of a deteriorating environment. This year, European countries will address several of the environmental health threats to children through international and national action at the Third Ministerial Conference on Environment and Health to be held in London in June 1999. It is expected that a large international collaborative initiative will result under the guidance of WHO and other international organisations.

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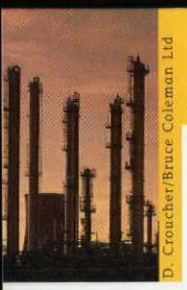
D. Croucher/Bruce Coleman Ltd

Using economics to advantage

In the eyes of the public, the economic sectors - for instance energy, transport and agriculture - are often seen as pursuing interests that conflict with environment and health. They are the originators of pollution and often devise economic arguments to oppose changes in their practice that could improve environment and health. This behaviour has led the public, as well as environment and health professionals, to view economic analysis negatively. However, these economic arguments are often inadequate and unconvincing from the point of view of many economists.

In fact, the economic rationale is bound to reflect as closely as possible the preferences of the population and thus to take much greater account of environment and health. If used by environment and health authorities, economic analysis can be turned into a powerful tool for supporting their policies.

Why use economics?

First, economics can help to make explicit the benefits of environmental health improvements and the costs of the impacts. This provides additional arguments to encourage decision-makers to integrate environment and health considerations in their policies.

Second, current prices rarely reflect the full environment and health costs of the production or consumption of goods and services. Therefore, producers and customers have no economic reason to reduce the impact they have on environment and health, as they do not pay prices that reflect this impact. Nor are they encouraged to take it into account in their investment decisions and lifestyle choices.

This could be corrected by reflecting as much as possible environment and health costs in the prices. Economic instruments such as environmental taxes or tradable permits are a promising solution. A first step in that direction is the removal of subsidies that support practices harmful to the environment and health. In most of the cases, however, it would be difficult to remove distortive subsidies immediately and charge the full amount of environment and health costs. Nevertheless, negotiating plans and timetable to do so progressively, is a strong signal to the economic actors. It modifies their anticipation of future prices, as they know they will have to pay in the future for the environment and health costs they will create. This drives them increasingly to design their long-term choices and strategies in an environment-friendly way.

Finally, the setting of new economic instruments is usually under the responsibility of the Ministry of Economy/Finance. It also implies negotiations with economic sectors. Therefore environment and health authorities will need to play a more pro-active role in order to advance the integration of environmental health in sectoral and economic policies. Success will depend on their ability to discuss and present economic arguments in support of environmental health considerations.

A promising initiative

The present situation is that many environment and health authorities have few skills in using economic arguments and that economic sectors very often continue to ignore environment and health considerations. At the Third European Conference on Environment and Health in London, the Ministers of Health and of the Environment of the WHO European Region will make clear their intention to develop their capacities to carry out economic analysis and to place this tool at the service of improved environmental health.

International organisations - OECD, UN/ECE, UNDP, UNEP, the World Bank and WHO - will also be invited to strengthen their co-operation in environment and health economics. In order to sustain the policy changes promoting environment and health, co-operative efforts will aim:

- to support the development of the capacities of the environment and health authorities to use economic analysis;
- to improve the focus on health outcomes in national or inter-country processes dealing with environment and health issues. This will include the contribution of health expertise in these processes and the use of economic arguments to greater advantage;
- to exchange information early in the planning process of their respective programmes that use economic tools for addressing environment and health;
- to further co-ordinate their current and future activities in support of environment and health.

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B. Jaubert/Sipa Image

The integration of environment and health considerations into sectoral policies is a priority

Health, environment and safety

Towards good practice in industry

Pollution of the environment by industry and other enterprises with a harmful impact on human health and environment, both inside and outside workplaces, remains a great concern in all European countries. Both work and environment pollution related diseases and injuries cause a significant economic and social burden to industry and national economies.

A great increase in the number of small and medium-size enterprises in the European region has made the assessment and control of the impact of industry on environment and health by public authorities difficult and expensive. Therefore, direct involvement of industry and other workplaces in assuring adequate and efficient environment and health management practice is essential and valuable complementary measure for protecting workers and public health.

Recently, it has been more and more emphasised that the development within a company of separate management systems for such aspects as clean production, product quality, health promotion and environment protection, is expensive and often unproductive. Instead, integrating management of various health issues faced by enterprises into one Health, Environment and Safety Management (HESM) system can provide companies with synergy and more effective implementation of all these aspects.

Essential combination

Development of good practice in health, environment and safety management in industry will be always based on an appropriate mix of technical contribution, expertise and knowledge of three disciplines: occupational health and safety, environmental health and health promotion at the workplace.

As defined by the 12th Session of the Joint ILO/WHO Committee on Occupational Health, held in 1995, the main focus in occupational health is now on three objectives: the maintenance and promotion of workers' health; the improvement of the working environment and work to become conducive to health and safety; and the development of work organisation and working cultures which promotes a positive social climate and may enhance productivity of the enterprise. Combining health promotion and occupational health activities may be more effective in maintaining or improving the working capacity of employees, rather than only protecting their health and safety against occupational hazards and health risks.

Each enterprise has a potential to affect ambient environment and public health and therefore there is always strong relation between good occupational and safety practice and the environment and environmental health management in enterprises, which should apply an integrated, preventive strategy to production processes and to products throughout their life-cycle.

Active involvement

Successful implementation of an integrated HESM system in industry and other enterprises will bring health, environmental, social and economic benefits, providing that active involvement of all stakeholders of the system (employers, employees, experts, local authorities) is ensured. It also requires that HESM be incorporated into the enterprise policy on development and management with a clear-cut commitment to implement. The national policy at government level should create a national supporting system by, for example, providing economic and social incentives for enterprises to implement good practice of HESM on one hand, and on the other to reduce opportunities for enterprises to externalise the costs of poor practice in HESM.

Draft policy guiding document

Recognising that environment and health are interlinked in many ways and the particular role of industry in protecting environment and human health, the senior governmental officials at the consultation on the development of National Environment and Health Action Plans, held in Dubrovnik on 21-23 October 1996, recommended development of international guidance on good practice in health, environment and safety management (GPHESM) for industry as an output of the Third Ministerial Conference on Environment and Health in London, 1999.

Chelnec/Sipa Image

Pollution caused by different industries with its harmful impact on health remains a great concern in Europe

The draft policy guiding document Towards good practice in health, environment and safety management in industrial and other enterprise was prepared by the government of Poland and the WHO European Programme on Occupational Health and presented to the Intergovernmental Consultation held in Jachranka, Poland, 25-26 September 1998. The representatives of the European countries, present at the consultation, gave full support to the concept presented and discussed principles and main elements of HESM. Special attention was drawn to the implementation of GPHESM by small and medium-size enterprises (SMEs). Investment in health, environment and safety in SMEs may significantly contribute to sustainable development in the European countries.

It is expected that the document, which will be presented by the government of Poland to the European Ministers of Health and of Environment at the Third European Conference on Environment and Health in London, 1999, will boost a new approach to improvement of health and environment management in industry and other workplaces in Europe.

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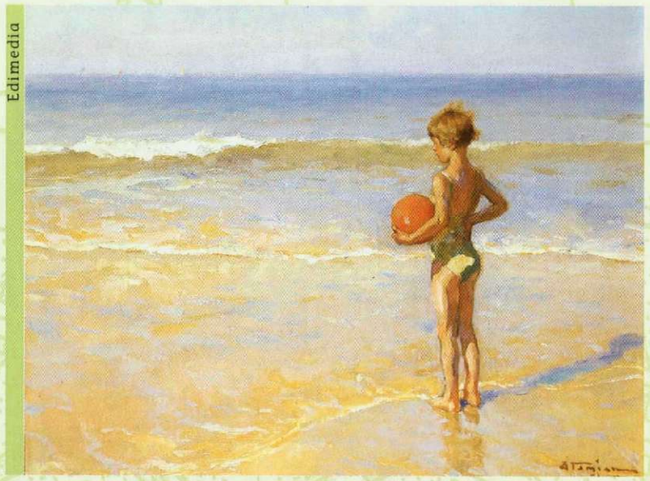
Delfino/Sunset

"Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."

(first principle of the Rio Declaration on environment and development)



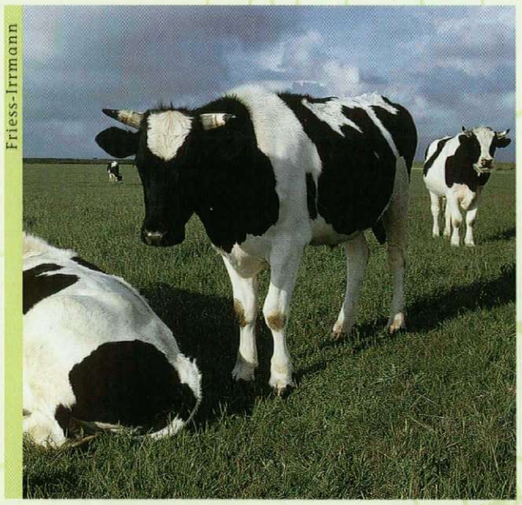
Edimedia

Health and development are intimately interconnected. Both insufficient development leading to poverty and inappropriate development resulting in overconsumption, coupled with an expanding world population, can result in severe environmental health problems in both developing and developed nations.

Picturesque/Sunset

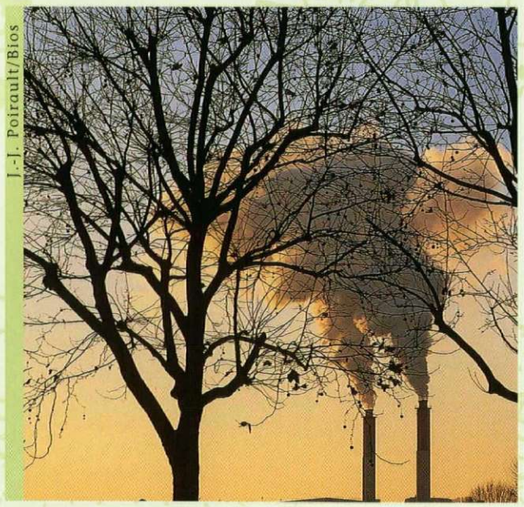
T. Zoccolan/Sipa Image

The linkage of health, environmental and socio-economic improvements requires intersectoral efforts.



Friess-Irrmann

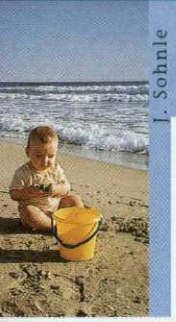
Such efforts, involving education, housing, public works and community groups, including businesses, schools and universities and religious, civic and cultural organisations, are aimed at enabling people in their communities to ensure sustainable development.



J.-J. Poirault/Bios

Particularly relevant is the inclusion of prevention programmes rather than relying solely on remediation and treatment.

Extract from Chapter 6 "Protecting and promoting human health", Agenda 21


J. Sohnle

The human right to a healthy environment

The Rio Declaration on Environment and Development adopted in June 1992 by the Heads of State and Government attending the Earth Summit opens by stating that "human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature".

This proclamation at universal level of a human right to a healthy environment echoes the provisions of a similar vein set out in most national constitutions drawn up over the last 30 years, for instance in Spain, Portugal, Greece and Poland. In Hungary, the constitution was amended in 1989 to establish a specific link between environmental protection and the right of all individual citizens to a healthy environment (Article 70 (D)). The enshrining of the right to a healthy environment derives from the fact that it combines the aspirations of society with the rights of the individual.


A. Bouchet/Pluriel

For the time being, the protection of the human right to a healthy environment can only be sought through applications concerning other individual rights

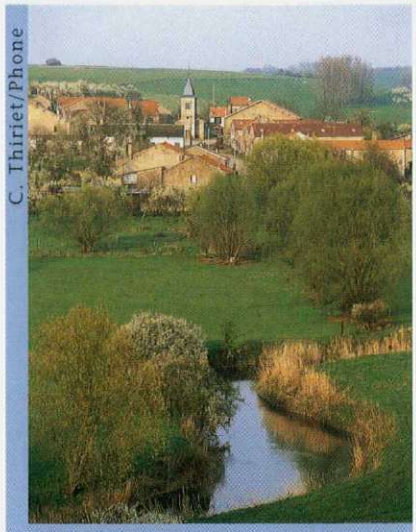
No specific convention yet

As demonstrated by the case-law of the European Court of Human Rights, in particular in the López Ostra and Guerra cases, appeals by individuals can help ensure the protection of the environment for entire communities. However, the European Convention on Human Rights, which reflects the era in which it was drafted, makes no direct and explicit reference to the human right to a healthy environment. For the time being, the protection of such a right can only be sought through applications concerning other individual rights, such as the provision prohibiting inhuman and degrading treatment or that protecting private and family life (see, for example, the case of Powell and Rayner v. the United Kingdom concerning noise levels in the vicinity of Heathrow airport). In other words, it is only when a breach of the right to a healthy environment coincides with that of an individually protected right that applications of this kind have any prospect of success. For the time being, the only convention-like human rights protection instrument that explicitly recognises the human right to a healthy environment is the African Charter of Human Rights. At European level, there is talk from time to time of concluding an additional protocol or another specific instrument on the matter - a step that would, indeed, appear to be justified.

One way or another, it seems that existing legal instruments will need to be amended and judicial thinking will have to evolve to enable the specific features of such a right to be taken into account. For instance, the sometimes very gradual or delayed nature of health-endangering damage to the environment suggests there is a need to allow - and this is still very difficult under positive law - the concept of "potential victims", corresponding to the notion of potential damage or injury.

Development of case-law

In terms of international law in general, the ruling of the International Court of Justice in 1997 on the apparent reduction in the quality of the drinking water from the Danube water table again demonstrated that judicial opinion is progressing much less quickly than the health risks and threats linked to the degradation of the environment. Experience shows, however, that the development of international case-law could make a great contribution to clarifying points that are still not clear enough, in particular the question of the substance and holders (individuals or groups) of the right to bring proceedings in defence of the human right to a healthy environment. The work of non-governmental organisations could well prove decisive in this area, too, in the years ahead.


C. Thiriet/Phone

Legal instruments will need to be amended and judicial thinking will have to evolve to enable the specific features of the human right to a healthy environment to be taken into account

Within the Council of Europe, the various initiatives of the political organs and the dynamism of the European Court of Human Rights could play a large part in strengthening a common concept of the combined protection of the environment and human rights.

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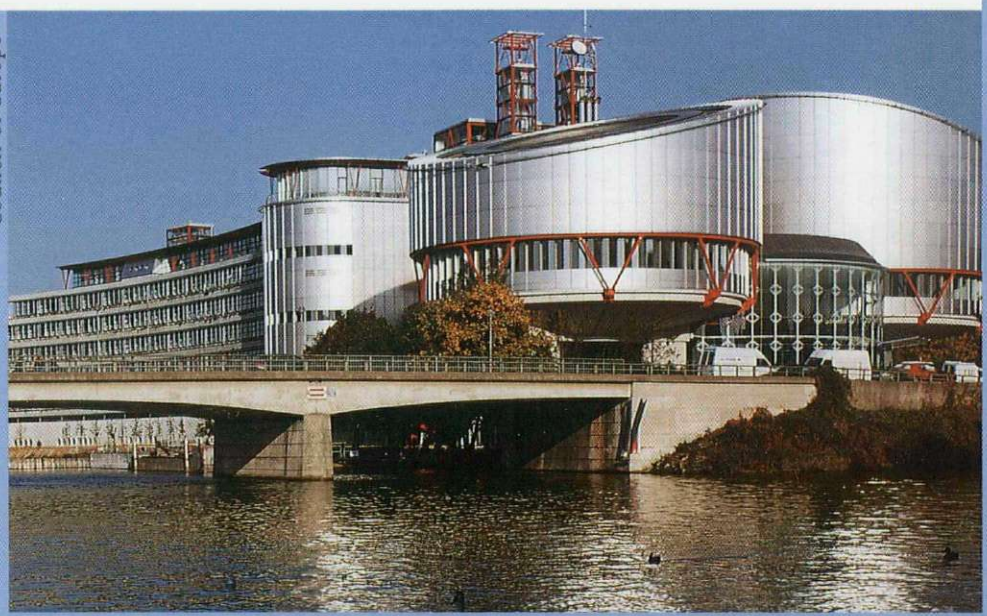
Case-law of the European Convention on Human Rights

Neither a right to a protected environment nor a right to health is explicitly guaranteed in the European Convention on Human Rights. However, through its evolving case-law on the convention, the European Court of Human Rights has developed a fundamental right to a healthy environment from other rights explicitly laid down in the convention, in particular everyone's right to respect for private and family life and the home (Article 8).



Council of Europe

The new Human Rights Building, Strasbourg, France

For example, in the López Ostra v. Spain case (judgement of 9 December 1994) regarding nuisance caused by a waste-treatment plant close to the applicant's home, the Court found that severe environmental pollution could affect people's well-being and prevent them from enjoying their homes in such a way as to harm private and family life. This principle doubly applies to nuisance potentially affecting the health of persons exposed to it, and here there is a positive obligation on the public authorities to take the necessary action against polluters in order to safeguard the rights laid down in Article 8 of the Convention.

In its judgement of 19 February 1998 in Guerra and Others v. Italy, the Court also inferred that the authorities have an obligation to provide persons affected, in this instance those living near a dangerous factory, with any information they had on the threat the factory posed for the local population. It is not impossible that one day the Court will decide that the right to life (Article 2 of the Convention) is breached in cases of extreme nuisance capable of inflicting serious damage on physical well-being or even causing death.

Council of Europe

Judges of the European Court of Human Rights, Strasbourg, France

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Intergovernmental organisations

Existing partnerships

The Earth Summit held in Rio de Janeiro in Brazil in June 1992 heralded a new approach to local, national and international planning for sustainable development. By adopting the principles of the Rio Declaration and Agenda 21, the world's leaders recognised the centrality of human beings and the importance of investing in improvements to people's health and their environment as a pre-requisite for sustainable development.

Indeed, if health is seen not just as the absence of disease, but also as a central goal of sustainable development, then the protection of the environment and the protection of health are mutually supportive. In fact, sustainable development only then becomes a reality if economic development does neither compromise the goal of environmental integrity nor the protection of human health. But although politicians and national planners have long viewed health and environment improvement as a social imperative, the economic costs of protecting and promoting health and environment were perceived as exceeding the subsequent health and environment benefits, and have frequently prevented forceful actions.

Challenges and actions

However, since the Rio Summit, commitment to securing human health and a healthy environment has become widespread, as evidenced by the process leading to the London Conference. Moreover, the development of national environmental health action plans is a clear proof of political will to give increased weight to health and environment concerns and progress towards sustainable development (see article on page 24).

Intergovernmental organisations have become increasingly involved in international co-operation for a healthy environment. Over the last several years, in fact, WHO Headquarters and Regional Offices have launched a major effort to support countries in developing national health and environmental action plans, and in incorporating health and environment concerns into national planning for sustainable development.

Moreover, major developments take place, which give a stronger health focus in local planning for sustainable development. For example, since Rio, the creation of a large number of local Agenda 21 initiatives, not only in cities, but also in villages and even on islands, developing and implementing their own action plans, many of which feature health and health-related objectives and activities, is a clear demonstration of progress towards sustainable development.

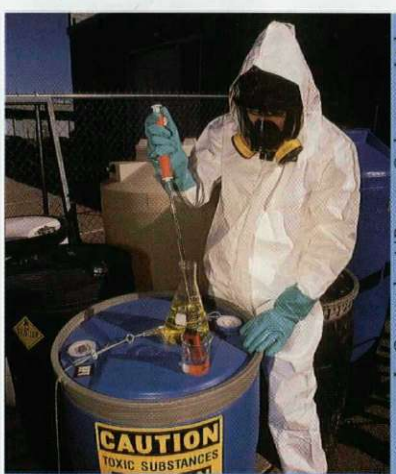
Many intergovernmental agencies are involved in health and environment activities in the context of supporting countries in sustainable development planning and implementation of Agenda 21.

Examples of co-operation

Several global institutional arrangements and inter-agency initiatives contribute to inter-sectoral approaches to health, environment and development issues. Some examples;

Water

The Global Water Partnership, dealing with integrated water resources management, and the Water Supply and Sanitation Collaborative Council, aiming at the acceleration of the provision of sustainable water supplies and sanitation and waste management services, bring together all major actors in the area of water, forming an alliance of professionals that address key water issues of crucial importance to the survival of mankind.



J. Cancalosi/Bruce Coleman Ltd

Risk assessment of a wide range of toxic chemicals is part of the International Programme of Chemical Safety

As part of global efforts related to water, WHO and UNEP have linked up for many years to monitor and assess, for example, the quality of fresh water in lakes and rivers globally within the UNEP Global Environmental Monitoring System - Water (GEMS).

WHO, FAO, and UNEP, later joined by UNCHS[1], are collaborating in reducing vector-borne diseases that can result from water resources development projects. Development policy adjustment, health impact assessment, field research to classify specific health risk factors in water resources development and to test the effectiveness of environmental management interventions, are important aspects of this inter-agency work supported by external experts in Environmental Management for Vector Control (PEEM).

Chemical substances

The International Programme of Chemical Safety (IPCS), a joint initiative of WHO, ILO[2] and UNEP, among others, carries out risk assessment of a wide range of toxic chemicals, including persistent organic pollutants (POPs) and endocrine-disrupting chemicals (EDCs).

Chemical safety is also being increased through the activities of the Inter-organisation Programme for the Sound Management of Chemicals (IOMC). This is a co-operative agreement established in 1995 between UNEP, ILO, FAO, WHO, UNIDO[3], UNITAR[4] and OECD which promotes co-ordination of the policies and activities pursued by the participating organisations, jointly or separately. IOMC's scientific and technical work is carried out through the existing structures of the participating organisations. Activities undertaken within its framework include risk reduction programmes, harmonisation of classification and labelling of chemicals, and information exchange on chemicals and chemical risks. Furthermore, carried out through inter-governmental processes and supported by IOMC agencies, including UNEP, FAO and WHO, legally binding agreements are being developed on Prior Informed Consent (PIC) and Persistent Organic Pollutants (POPs).


STF/Sunset

The Codex Alimentarius has developed an impressive body of food standards, guidelines and other recommendations for the protection of consumers from environmental hazards

Food

The Food and Agriculture Organisation (FAO) of the United Nations/WHO Codex Alimentarius Commission has developed an impressive body of food standards, guidelines, and other recommendations which include, *inter alia*, maximum limits on pesticides, contaminants and other hazards. While non-compulsory, the work of Codex has been widely accepted because it is based on sound scientific risk assessment. The Codex has become the basis for the international harmonisation that will serve to promote protection of consumers from environmental hazards, while facilitating international trade and food.

Climate change

In view of the highly inter-disciplinary nature of the relationship between climate change, the environment and human health, work on the Climate Agenda is being co-ordinated by an inter-agency committee in which more than six agencies and programmes participate, including WMO, UNEP, UNESCO, WHO, and the World Climate Programme. The focus of WHO's contribution to work on the climate agenda is geared towards studies of climate impact assessments and response strategies, including disease control services to reduce vulnerabilities.

Following on from the Habitat II Conference held in Istanbul in 1996, efforts by UNCHS have resulted in an open-ended Urban Forum to stimulate a broad-based dialogue and co-ordination of highly cross-sectoral issues related to health and environment in human settlements. Co-operation between UNEP and UNCHS on economically and environmentally sustainable strategies for cities entered a new era in January 1996 when the two agencies embarked upon a full partnership in the European Sustainable Cities & Towns Campaign. While aimed at sound environmental planning, it has linked up, where possible, with WHO's global Healthy Cities programme and the Model Communities programme of the International Council for Local Environmental Initiatives (ICLEI). These programmes all recognise the fundamental importance and central role that communities must play in improving urban environments by better integrating environmental, social, economic, health and land use planning considerations at the local level.

Public health

The Council of Europe, the European Commission and WHO, by joining the Health Promoting School project, acknowledge the importance of investing in the health of the young generation.

The European Commission, through its various Directorates-General, in particular, DG V/F and DG XXIV, and the European Parliament, through its Committee for the Environment, Public Health and Consumer Protection, have addressed a broad range of health and environment issues. Directives and decisions have been enacted for the protection of health and the environment of the Union's citizens. This primary and secondary legislation includes subjects such as quality of water intended for human consumption (Council Directive 98/83/EC), ambient air quality assessment and management (Council Directive 96/62/EC), and the ban on advertising and sponsorship of tobacco products (Council Directive 98/43/EC). The development of a new public health policy and corresponding programmes of the European Union, as a consequence of its expanded mandate on health, offers great opportunities to underline its commitment to the protection and promotion of health and the human environment.

While several other agencies, including UNDP, UNICEF, UNESCO, ILO, IAEA, UNIDO and the World Bank, are involved individually or as part of inter-agency initiatives in health and environment, WHO is the only agency whose specific role is to protect and promote health. Through its scientific, technical, and normative work and its strong country focus, in particular, the development of a broad range of guidelines and criteria covering environmental media and agents and its technical collaboration with countries and many agencies, progress is being made towards a healthy environment.

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(1) United Nations Centre for Human Settlements (Habitat)
(2) International Labour Office
(3) United Nations Industrial Development Organisation
(4) United Nations Institute for Training and Research

For information:

From a global point of view, the Commission on Sustainable Development (CSD) identified several areas where efforts on health and environment should be focused. These include:

- **incorporating health in sustainable development plans;**
- **establishing adequate structures for environmental health services at the local level;**
- **protecting fresh water resources;**
- **incorporating health into environmental impact assessment;**
- **health implications of climate change and depletion of the ozone layer;**
- **protecting the food supply from environmental hazards;**
- **extending the understanding of the cumulative effects of chemicals;**
- **environmental determinants of emerging and re-emerging diseases; and**
- **developing an effective and efficient environmental health information system.**


M. Gunther/Bios

Participation by NGOs and civ

There is increasing pressure from NGOs and representatives of other groups in civil society throughout Europe to participate in work on environment and health. For the London Conference of European Ministers of Environment and Health taking place in June 1999, the WHO has been breaking new ground by seeking an active engagement with such groups from the outset of the process.

Healthy Planet Forum

The WHO invited UNED/UK to act as the main co-ordinator for this process of engagement. UNED/UK is an umbrella group within the UK with members drawn from all sectors of civil society - business and trade unions, local government, academic institutions, environmental and development NGOs, women's groups and others. UNED/UK was therefore an appropriate link point for the WHO to select as its partner in the UK, working closely with the Chartered Institute of Environmental Health. It has taken the lead in organising the Healthy Planet Forum, the parallel meeting for NGOs and other groups from around Europe[1].

It was clear that there would also need to be a broad Europe-wide network drawing in similar groups and organisations across Europe in order for there to be a full engagement of civil society at a pan-European level. After wide consultations, a European Advisory Group was established to support the environment and health process with representatives from environment and health NGOs, trade unions, environment and health professionals, women's groups, parliamentarians and local government and other appropriate groups drawn from western, central and eastern Europe. The Ecoforum which played a similar role for the Aarhus conference was particularly helpful and active in mobilising its network of environmental NGOs in this process. So too was AMPED.

Members of the Advisory Group and other NGOs around Europe have been active throughout the process in interacting with the official process, bringing forward suggestions for action and implementation on all the subjects under discussion, commenting on official papers as they have emerged, and networking with a much wider range of interested bodies and groups throughout Europe.

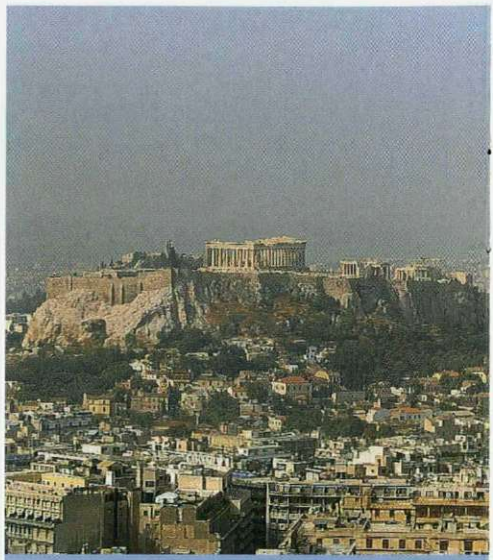
Urgent - action!

We welcome the way in which the ministerial meeting and the preparatory meetings leading up to it have opened their doors to participation and engagement by NGOs and other groupings. We are glad to have had the opportunity to contribute ideas and recommendations. We believe, however, that in several areas the official work and the ministerial declaration do not go far enough. Some of the conclusions are not adequate to the scale of the problems revealed by the analytical papers from the WHO and the European Environment Agency. In many areas the mechanisms and resources for implementation are not sufficiently defined. Some important subjects are not being addressed at all.

We underline in particular the following severe problems identified in the WHO overview report:

- the increasing prevalence of asthma, allergy and respiratory sensitivity, potentially linked with the environment;
- the re-emergence of a number of communicable diseases including tuberculosis, particularly in the NIS;
- the increase of foodborne disease including salmonellosis and campylobacteriosis in many parts of the region;
- continuing shortages of freshwater in some parts of the region, and re-emerging problems of microbiological hazards;
- indoor air quality problems throughout the region, and continuing problems of external atmospheric pollution by NO_x and fine particles;
- unacceptably high levels of road accidents throughout the region.

We believe that these and other problems of environment and health require much more urgent attention than they have so far been given, with clear commitment to specific targets and timetables for improving the problems, and commitment to mobilising the necessary resources at local, national, regional and global level.


Transport has

In the Healthy Planet Forum we expect to draw attention to these points. We shall urge the WHO and all the European member States participating in the conference to consider these issues further during the follow-up to the conference and its implementation. Much more political commitment is needed than we have seen so far if we are to make real progress on these crucial problems.

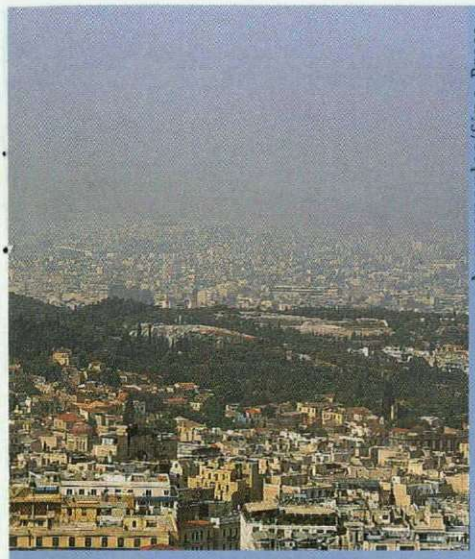
National and Local Programmes

We believe that National and Local Environmental and Health Programmes (NEHAPs and LEHAPs) ought to have a key role to play in integrating environment and health strategies at national level. In our experience, however, NEHAPs and LEHAPs have not so far been as effective as they ought to be. They have not analysed the connection between environment and health sufficiently thoroughly. They have not engaged a sufficiently wide range of the public and other groups in their preparation. They have not been given as much political priority and resources as they need in order to deal with the problems adequately.

Water and health

We welcome the Protocol on Environment and Health which Ministers are expected to adopt in London as an important step towards the improvement of the environment and of health.

il society


Argyropoulos/Sipa Press

an important impact on health, health and safety
Here, Athens and its pollution

We are urging all European states to sign the Protocol in London, to ratify it within 12 months, and to establish implementation programmes as soon as possible, with specific targets for improvements to be achieved by specified dates during the first decade of the next century. We are urging countries to identify clearly the resource requirements of these strategies. We are urging the international financial institutions and other sources of external finance to review the investment needs of the countries of central and eastern Europe to implement these strategies and to develop programmes to assist by drawing up plans by the end of 2000 to mobilise appropriate resources.

Transport, environment and health

We believe that transport has more impact on environment, health and safety than any other economic sector. We therefore support the objectives of the Charter which Ministers are expected to adopt in London as a first step. We consider that by itself the charter is no more than a statement of objectives and will not be strong enough to alter the powerful forces which are driving the development of transport in unsustainable directions. We therefore believe that it will be necessary to move on from the charter to the negotiation of a legally binding convention to promote sustainable transport solutions as soon as possible. We are urging WHO and UN/ECE to expedite work on exploring the possible elements of such a convention.

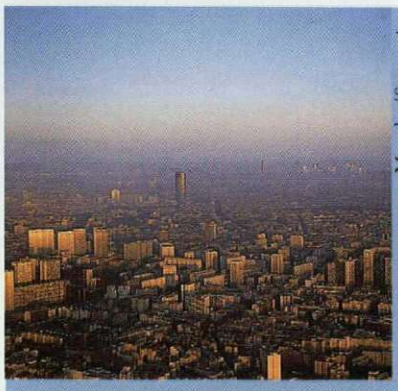
Children's health and the environment

We are deeply concerned about the worrying increase in childhood respiratory diseases throughout the region, and about other worrying trends in child and reproductive health in some parts of the region, several of which are linked to poor environmental conditions. In many regions with transitional economies, children are subject to severe contamination by a wide variety of potentially hazardous agents in the air, water, food, and soil and in the built environment. Radiation and reprotoxic chemicals have especially severely affected children and generations yet unborn.

We think it intolerable that the health of a new generation of children should be prejudiced from birth by poor environments created by their forebears. We insist that the highest priority should be given to correcting those adverse environmental factors that have the strongest influence on children's health. We want to see a strong action programme in this area with specific targets for improvement and regular monitoring of progress.

Other subjects

We have identified a number of other subjects not being dealt with by European Ministers in London this year - which are important - including the impact of chemicals and of radiation, and all the issues connected with food safety. We shall be organising parallel discussions on some of these issues at the Healthy Planet Forum, and urging Ministers to take further action on them either at the London conference or in subsequent follow-up work.


Moulu/Sunset

Paris, pollution scare

Finally there is the question of resources for implementation of environment and health programmes in member States, particularly in some of the eastern European countries where the problems are the greatest and the investment needed is correspondingly larger.

Environment and health problems throughout Europe are serious. Major political commitment and resource deployment is needed to tackle them. We are doing everything we can to highlight the scale and urgency of the issues. The time for action is now.

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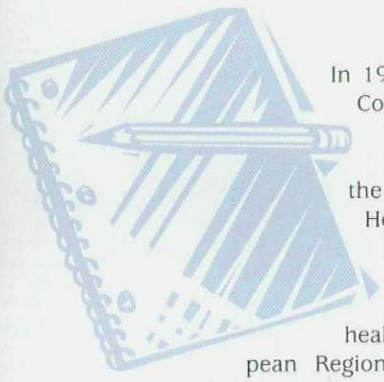
(1) It will take place in Central Hall Westminster in June alongside the official conference in the QEII Conference Centre next door.

National Action Plan

A tool for answers



In 1994, at the European Conference on Environment and Health, ministers endorsed the Environmental Health Action Plan for Europe (EHAPE) as a basis for improving environment and health across the European Region. They agreed that their countries would each prepare a National Environmental Health Action Plan (NEHAP) "by 1997" based on EHAPE. By the end of 1998, 41 countries had published NEHAPs and most of the remainder will do so by the London Conference.

WHO defines environmental health broadly. Therefore NEHAPs cover a wide range of issues including water and air quality, chemicals and wastes, housing, food, radiation, occupational health and safety, disasters and accidents.

Action on such a range of issues must involve partnerships, not only between the environment and health ministries but also with other stakeholders. These include other ministries and government agencies, local authorities, business and industry, NGOs and the public. Partnerships are important in developing a NEHAP and are essential for its implementation.

Aim of National Action Plans

By developing and implementing NEHAPs, governments recognise that environmental factors are important to health and well-being. By setting out nationally agreed priority actions for improving the environment, the quality of life and the health of the population and by identifying those responsible for delivering each action, a NEHAP provides a coherent framework for allocating resources and achieving improvements.

A NEHAP encourages the integration of environment and health concerns with other plans and commitments. Thus, in line with the first principle of the Rio Declaration, all countries link their NEHAPs to sustainable development; some co-ordinate national environmental action plans and NEHAPs; others emphasise actions to meet their commitments as members or potential members of the EU.

Problems and priorities vary between countries but, through their common format and goals, NEHAPs promote solidarity between countries. All countries are on the same road towards the same destination although they may have started from different places and some can move faster than others.

The future

Publishing a NEHAP is only a first stage: it is implementation that will deliver improvements. The London Conference paper "Implementation of NEHAPs in partnership" recognises that only countries can implement NEHAPs and that implementation requires action by a range of partners. In London ministers will be invited to commit their countries to act in this way. But all countries will face difficulties and are looking to the international organisations for help. These too must be part of the network of partners.

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What is a NEHAP?

It is a government statement of actions to improve environment and health. It:

- **provides an authoritative assessment of environment and health issues and identifies where improvement is needed;**
- **identifies impediments to improvement, actions to deal with them and sets targets and timetables;**
- **identifies the appropriate level for each action (international, national, regional, local) and the "actors" and "stakeholders";**
- **sets out the resources needed and how these will be obtained;**
- **considers capacity building;**
- **includes a strategy for implementation;**
- **includes a strategy to inform and involve the public and other stakeholders;**
- **includes procedures for monitoring, evaluating and reporting progress.**

The NEHAP process in Bulgaria

The Bulgarian Environmental Health Action Plan (BEHAP) was approved by the Council of Ministers on 29 June 1998. The document is in two parts: the first analyses the national environmental health situation, the second includes the EHAPE objectives for a healthy environment and the Bulgarian priorities, activities, milestones and authorities involved in its implementation.

An interministerial board to oversee and control BEHAP implementation made up of the 12 ministries is in charge of the implementation plan. The co-chairmen are the Minister of Health and the Minister of Environment and Waters.

The next step is the development of Local Environmental Health Action Plans (LEHAPs). Development of LEHAPs is going on at present and involves extensive consultation with municipalities and NGOs. Short guidelines for LEHAP elaboration have been prepared. The experience gained when developing the BEHAP and the WHO guidance have been taken into account.

One of the major political goals of the Bulgarian government is to achieve the standards and accession requirements of the European Union. The BEHAP is seen as a tool to attain this important goal.

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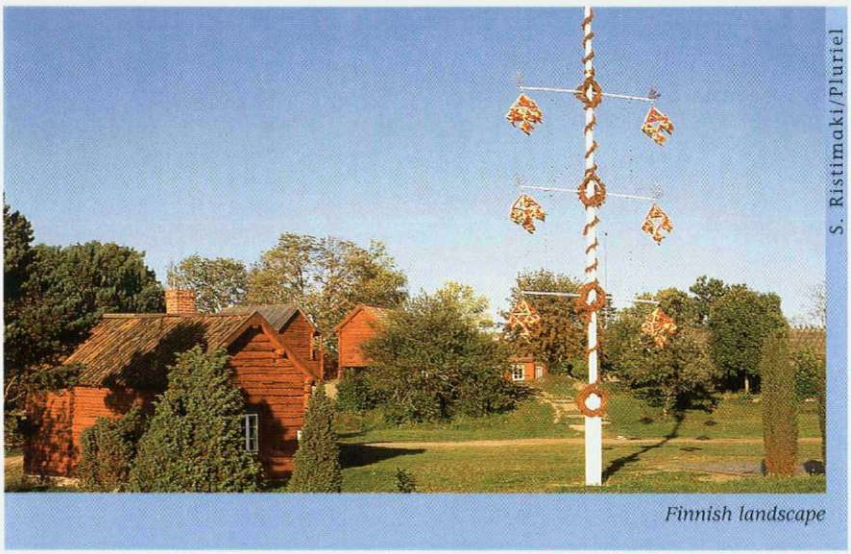
Local action

Local level activities and projects characterise environmental health in Europe. It involves public participation in the management of environmental health risks and calls for individual responsibility in the protection of the environment and participation in the promotion of a healthy environment. However, global environmental pollution, poverty, social exclusion, global crime and the resulting underworld economy make participation in or implementation of local projects sometimes difficult. European environmental health networks of local communities are needed to facilitate environmental health promotion.



S. Ristimaki/Pluriel

Finnish landscape

Local action plans

The quality of the environment, such as the quality of drinking water, food and air, the acoustic environment and safety of the environment, can be improved mainly in local communities. Even global processes, such as global warming, and their health impacts need to be tackled not only at international, but also at individual and local level. As the European environment and health process has moved from strategy development and planning to the implementation phase, the local level has become the level of implementation. Consequently, Local Environmental Health Action Plans (LEHAPs) are needed to identify the local problems and to set priorities.

Local environmental health services are arranged differently in each European country. In some countries they are run by the state and in others by local communities. LEHAPs can provide the means for community self-guidance in environmental health.

Contribution to Local Agenda 21

In Finland a LEHAP is a method for setting of local priorities, promoting environmental health and activating public participation in environmental health issues. It is a major health sector contribution to the local sustainable development project, Local Agenda 21. It involves all the relevant actors that play a role in environmental health issues. The environmental health sector has usually taken the initiative for preparing a LEHAP and is often leading the process.

A LEHAP has two elements: the analysis of the local environmental health situation, and the plan of actions. The environmental health professionals have usually carried out the situation analysis. Questionnaires have been very useful in exploring public opinion on the state of the environment and on the priority issues where improvement of the environment is required. The action plan is a more political document, which will usually be adopted by the local political bodies and implemented as part of local community implementation programmes and budgets.

The environmental health content of local sustainable development projects (LA21) has been relatively weak so far. A LEHAP brings professional and public opinions regarding the priority environmental health risks and options for their management to the local development projects, such as LA 21 and healthy city projects. Environmental health risks include social and economic dimensions such as unemployment, poverty and social exclusion, which are interwoven with the quality of the environment of individuals and families.

Public participation

Public participation has been one of the elements of LEHAPs. Citizens want to have an influence particularly on the development of their home environment and immediate surroundings, work, school and free-time environment. The quality of drinking water and safety of food are also rated very important, as is the prevention of accidents. The issues which have to be improved include outdoor and indoor air quality, traffic safety, and safety of schools and kindergartens.

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The case of Pieksämäki in Finland

Finnish local municipalities are preparing LEHAPs preferably as part of LA 21 projects. The provincial governments are assisting this work. The Pieksämäki region, which is used here as an example, started the preparation of LEHAP in 1997. The region consists of five municipalities, mostly rural areas, with 25 000 inhabitants. The environmental health authorities in Pieksämäki carried out situation analyses jointly with other sectors involved and used questionnaires to explore the public opinion. The project document describes the priority environmental health issues and how to maintain their high quality, such as the quality of drinking water. It also points out how to improve the quality of certain less developed activities, such as environmental health information systems and communication. The plan will be implemented as part of the overall municipal strategy.


B. Jaubert/Sipa Image

Current research priorities

At the Second European Conference on Environment and Health, held in Helsinki in 1994, European Ministers of Health and the Environment identified high-priority areas for research and recommended that the European Science Foundation (ESF) should work with the World Health Organisation's Regional Office for Europe (WHO-EURO) and the European Commission (EC) to identify future environment and health research needs.

Scientific consultation

A programme of scientific consultation was accordingly launched and, using a systematic approach, further research required to support the goals in the Helsinki Declaration on Action for Environment and Health in Europe was identified. Over 150 scientists from some 20 European countries and a wide range of disciplines, from neurobiology and toxicology to epidemiology and the social sciences, worked together in a series of workshops and field studies on pinpointing areas where further research is required to support the Declaration's goals. The results of these workshops and field reviews have been described in an integrated document "An environment for better health". This document depicted more than 80 detailed research recommendations, which were evaluated in a multidisciplinary ESF update meeting where 45 leading scientists drew up a shortlist of 24 priority issues.

Consensus Conference

Subsequently, policy-makers, scientists and representatives of non-governmental organisations and industry discussed this shortlist at a joint EC/ESF/WHO-EURO Consensus Conference and emphasised the need to understand better the relative risks and impacts of environmental hazards, in order to direct resources towards problems as efficiently as possible. Without this knowledge, there is a danger that legislation could misdirect resources towards problems that have little real effect on health.

Fields of research

The Consensus Conference highlighted three sets of strategic and specific research needs:

Overarching needs

- the development of environment and health indicators to be used to monitor, compare and prioritise environment and health benefits;
- health and environment geographical information systems to improve the comparability of environment and health data, develop better indicators and improve methods of data analysis;


Edimedia

Children playing on the beach - Charles Garabed Atamian - beginning 20th cent. A current research area is the quality of water

Cross-cutting issues

- risk assessment (exposure and effect assessment, quantitative risk characterisation, identification of genetic and non-genetic susceptibility and methods to assess oral and respiratory allergenicity);
- the environmental contribution to social variations in health;
- cognitive functions as mediators of environmental effects on health;

Specific research areas

- air quality (effect of particles and air pollution mix on health, ambient air and the role of biological contaminants in the indoor environment in the causation of allergies and other disorders);
- water quality and drinking water (identification of sources of waterborne pathogens on health and the development of quantitative methods for risk characterisation for infectious agents);
- environmental effects on cognitive functions;
- children and unintentional injuries (to define the most effective strategies for the prevention of unintentional injuries to children);
- climate change and stratospheric ozone depletion (improvement of the epidemiological and mechanistic science base and development of predictive methods for assessing the future health risks).

A common effort

In order to carry out the proposed programme, the Consensus Conference recommended that environment and health research should be integrated and co-ordinated throughout Europe and considered that the creation of an EC/ESF/WHO-EURO interagency collaboration would facilitate integration and co-ordination of the proposed research and the interfaces between research and policy-making. A joint effort, consisting of both international and national activities, will be needed to implement research programmes on the topics selected in a cost-effective manner, thus limiting the use of financial resources and ensuring an efficient and effective approach both to the prevention and to the reduction of health impacts from environmental factors in Europe.

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Citizens' environmental rights

The Aarhus Convention


Bertholdes/Pluriel

In the past 25 years citizens and environmental as well as consumer organisations have been successfully influencing (inter) governmental decision-making in the field of environmental health. A few examples can illustrate this.

Recent evolution

During the 1970s in a number of industrialised countries, public concern in respect of the health effects of increased UV-B radiation due to ozone-depletion by chlorfluroocarbons led to national and international action to reduce emissions of ozone-depleting substances. The practice of dumping low radioactive waste into the Atlantic Ocean by the Netherlands was abolished after intensive exposure by environmental organisations. Actions of this nature have also been affecting decisions by the private sector. In the absence of formal regulations, citizens and consumer organisations have played an important role in the decision by supermarkets not to use PVC packing materials for foodstuffs.

Better handling

The United Conference on Environment and Development (Rio de Janeiro, 1992) recognised this development. Heads of States and Governments of more than 180 countries and the European Communities adopted the Rio Declaration and Agenda 21. Principle 10 of the Declaration states *inter alia*: "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level". The chapter "Strengthening the role of major groups" of Agenda 21 sets outs ways and means for the involvement of actors, e.g. non-governmental organisations, local authorities, workers, farmers, scientists, business and industry, to achieve sustainable development.

Right of access to information

Never before so strong an emphasis had been laid on the responsibilities of all actors in society. Where in the past governments themselves sought to find the proper environmental solutions, Agenda 21 demands a participatory approach. Obviously all these actors are at the same time citizens, or more precisely, in the first instance, citizens. They have the right to live in a healthy environment but at the same time bear a shared responsibility for it. To bear this responsibility and to participate in environmental decision-making citizens need to have access to information.

Participatory democracy

To empower their citizens, governments of Europe and central Asia and the European Communities at the 4th Ministerial Conference "Environment for Europe" in Aarhus (Denmark), adopted on 25 June 1998 the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters and a large number of them signed it. The Convention, which covers environmental health as well, guarantees the rights of every person in the three fields it addresses, without discrimination as to citizenship, nationality or domicile and in the case of a legal person (*inter alia* NGOs) without discrimination as to where it has its registered seat or an effective centre of its activities.

The Convention gives the public broad opportunities to be informed and to request actively environmental information from public authorities, excluding confidential data. For a wide range of specific activities, not only those covered by environmental impact assessment-procedures, the public will be in a position to participate in the decision-making. The same applies to a large extent to decisions on environmental plans and programmes, and with a lesser degree of commitment to the preparation of policies. Provisions concerning access to justice form the necessary complement for citizens to ensure that their rights are not impaired. The Convention intends to support and fine-tune the democratic decision-making processes in the field of environment, not to replace them.


Lam/Pluriel

Consumer organisations encourage supermarkets not to use PVC packing materials for foodstuffs

Signatures and ratifications

By the end of 1998 an overwhelming majority of countries of Europe and central Asia (39), part of the UN Economic Commission for Europe which prepared the Convention, and the European Communities have signed up. However, the proof of the pudding is in the eating. An indication of the eagerness of governments to implement the Convention will be the speed by which they present the bill on the ratification of the Convention to their Parliaments. The discussion on Public Participation, Access to Information and Access to Justice in Environment and Health Matters at the London Conference on Health and Environment in June of this year offers governments an opportunity to confirm their readiness. Parliaments, on behalf of the public - their electorate - will then have to play a most crucial role in empowering citizens rapidly. The entry into force of the Convention early in the year 2000 should become the millennium mark.

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Protection of the Environment through

A new convention

On 16 November 1998, seven countries [1] signed the Council of Europe's Convention on the Protection of the Environment through Criminal Law, which opened for signature on 4 November 1998.

J.-L. Klein & M.-L. Hubert

Article 2 of the Convention provides for specific environmental offences, emphasising the protection of environmental media, i.e. of the air, the soil and water

A first!

The Convention is significant because it represents the first international convention to criminalise acts causing or likely to cause environment damage. Criminal law, a last resort solution, has long been considered as inappropriate in this field. The Basel Convention on the Control of Transboundary Movements of Wastes and their Disposal does require its signatories to take "appropriate measures in national law and also to impose sanctions". Other conventions, such as the Convention of the International Trade in Endangered Species (CITES), provide for sanctions against signatories that do not abide by the obligation in CITES. It is, however, current practice to impose administrative or civil law sanctions for such violations.

Following the adoption of Resolution No. 1 by the 17th Conference of European Ministers of Justice (June 1990, Istanbul), the Committee of Ministers of the Council of Europe established a new select committee of experts in 1991 under the name of Group of Specialists on the protection of the environment through criminal law (PC-S-EN). Subsequently, the Committee was transformed into a traditional committee of experts (PC-EN). In October 1991 it started its work and completed it in December 1995, holding seven plenary and ten working group meetings.

Serious environmental offences

The Convention requires under Article 2 signatories to criminalise various serious offences as follows:

- release of "substances or ionising radiation into air, soil, or water which causes death or serious injury to any person or creates a significant risk of causing death or serious injury";
- "unlawful" release of "substances or ionising radiation into air, soil, or water which causes or is likely to cause their lasting deterioration or death or serious injury to any person or substantial damage to protected monuments, other protected objects, property, animals, or plants";
- "unlawful disposal, treatment, storage, transport, export or import of hazardous waste, which causes or is likely to cause death or serious injury to any person or substantial damage to the quality of air, soil, water, animals or plants" and "unlawful operation of a plant in which a dangerous activity is carried out" presenting the same risk; and
- "unlawful manufacture, treatment, storage, use, transport, export or import of nuclear materials or other hazardous radioactive substances which causes or is likely to cause death or serious injury to any person or substantial damage to the quality of air, soil, water, animals or plants".

Article 2 thus provides for specific environmental offences, emphasising the protection of environmental media, i.e., of the air, the soil and water, the protection of human beings, protected monuments, other protected objects, property, animals, and plants from environmental dangers. While the first two offences are pollution offences, the latter primarily covers pre-stages where the illegal handling of dangerous installations and of specific dangerous substances (radioactive substances, hazardous waste) is likely to cause death or serious injury to persons or harm the environment.

Illegal conduct

Article 4 extends the scope of the Convention to a wide range of environment-related illegal conduct by a reference to "infringement of the law, an administrative regulation or a decision taken by a competent authority". Signatories can choose to impose criminal sanctions and/or measures, or administrative sanctions and/or measures. The latter can include administrative fines, but also confiscation and reinstatement of the environment. Other measures of a punitive nature may be the withdrawal of a permit, the prohibition to continue environmentally dangerous processes or an order to reduce the discharge of pollutants, professional disqualifications or even, in minor cases, a simple warning, the violation of which could lead to a fine.

Prosecutions and reparations

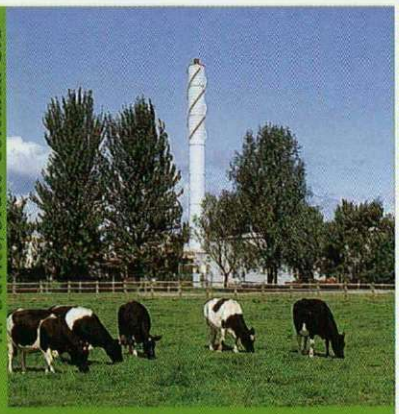
Under Article 6, signatories must impose imprisonment and pecuniary sanctions and may require violators to rehabilitate the environment. Article 7 provides for confiscation of profits. This provision is optional. Article 9 requires signatories to impose corporate liability, without excluding criminal proceedings against a natural person.

Criminal Law

An optional provision is that a signatory can require reinstatement of the environment within the frame of criminal proceedings, especially before the trial. The laws of some countries utilise different means of reparation, including the reinstatement of the environment, or the compensation of victims, before the prosecution of the offence or during the trial. By allowing perpetrators to undo the harm caused to the environment, the Convention clearly gives priority to the overriding interest of the protection of the environment. If the conditions of reinstatement are respected, criminal charges may be dropped, which is a serious incentive to polluters to reinstate the environment.

Recognition of the role of NGOs

A potentially important procedural right is that signatories, by way of a declaration to the Convention, can provide for the rights of environmental non-governmental organisations to participate in criminal proceedings (Article 11). Because global and national NGOs proactively try to protect the environment, they can be important actors in deciding to bring lawsuits and exert pressure on agencies and law enforcement to enforce environmental laws. In some countries, the right for environmental NGOs to participate does not exist. The principal reason to allow



A. Davies/Bruce Coleman Ltd

Article 4 extends the scope of the Convention to a wide range of environment-related illegal conduct

NGOs access to environmental proceedings is that criminal law in the environmental field protects interests of a highly collective nature. However, the fact that this provision was drafted as an opting-in clause, shows that the issue of permitting NGOs access to criminal proceedings remains controversial. Only a few countries have recognised such right.

It is hoped that the Convention will soon gather a sufficient number of ratifications to enter into force and that other Council of Europe member States or even non-members will join it.

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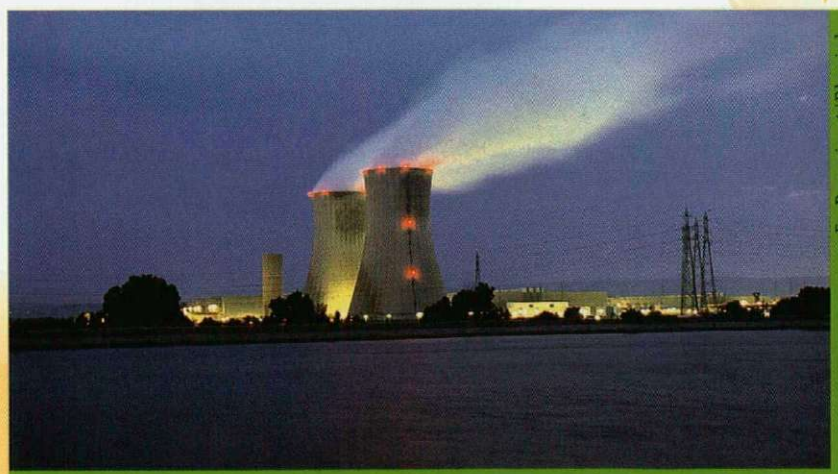
(1) Denmark, Finland, France, Germany, Greece, Iceland and Sweden



E. Poupinet/Pluriel

Article 11 provides for NGOs to participate in proceedings, for criminal law in the environmental field protects interests of a highly collective nature

New Red Book of European butterflies

Urgent need of a major conservation strategy

In 1997 the Council of Europe asked Dutch Butterfly Conservation (De Vlinderstichting) and British Butterfly Conservation to produce an overview of the status, trend and threat of all butterflies in Europe and data sheets were prepared for species assessed as threatened. The geographical scope was continent-wide and covered all countries within the Council of Europe. 576 butterfly species are known to occur in Europe and it is clear that the European countries have a big responsibility for these species, since an extinction in Europe means global extinction. Distribution and trend data were collected for each country through a network of over 50 national compilers.

The threat status was assessed by following the IUCN criteria based on estimates of rates of decline and extinction risk as well as rarity. The analysis showed that a total of 69 European species are threatened, comprising 17 threatened at a global level and 52 threatened at a European level.

Chief threats are from agricultural improvements, built developments, increasing use of herbicides and pesticides and abandonment of agricultural land and changing habitat management. The widespread loss and reduction in size of breeding habitats is also causing a growing threat from habitat isolation and fragmentation which is now affecting 83% of threatened species.

The status and overall diversity of European butterflies are under serious threat from widespread environmental change, especially from rapidly changing land-use over the continent and the intensification of agriculture and forestry. A major new initiative for conserving European butterflies is therefore needed urgently. The authors of this Red Book, Chris van Swaay and Martin Warren, recommend the steps which should be taken in each European state.

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INFOS

Ukrainian National Agency

The "Green Ukraine" Citizen Group of the National Ecological Centre of Ukraine was nominated as the National Agency of the Centre Naturopa in late 1996.

The Centre Naturopa's National Agency was presented on 126 July 1997, with the aim of acquainting the Ukrainian public with the Council of Europe's environmental policy, the role and functions of the Centre Naturopa and its National Agency in Ukraine.

A brochure on the Ukrainian National Agency was issued for wide circulation together with Centre Naturopa publications. These publications are disseminated either via regular mail or during conferences, seminars, workshops, etc. For instance, the brochure on "The Pan-European Ecological Network" was distributed to participants in the recent seminar on the national ecological network (January 1999). One thousand copies of the Ukrainian version of the "Biodiversity" brochure in the "Questions and Answers" series were published in 1998. The National Agency is currently working on Ukrainian versions of the brochures on "Tourism and environment" and "Agriculture and biodiversity".

The "Green Ukraine" Citizen Group is grateful to the Dutch Embassy in Ukraine for financial support given to the Centre Naturopa's Ukrainian National Agency.

Environmental events such as Earth Day and the International Day for Environmental Protection are used as opportunities to distribute the Centre Naturopa's publications.

In order to receive *Naturopa* or to obtain further information on the Centre Naturopa or the Council of Europe, please contact the National Agency for your country (see list opposite).

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The Council of Europe celebrates its 50th anniversary !

Created in 1949, just after the war, this intergovernmental organisation works towards a united Europe, based on liberty, democracy, human rights and the rule of law.

With its 41 member States, the Council of Europe is a privileged platform for international co-operation in many fields – education, culture, sport, youth, social and economic affairs, health – including environment and regional planning.

The aim of the Centre Naturopa, information and documentation centre on nature conservation in Europe, is to raise awareness among Europeans. At the origin of important information campaigns, it also produces several publications, including the magazine Naturopa.

Naturopa is published three times a year in five languages: English, French, German, Italian and Russian.

In order to receive Naturopa regularly, please contact the National Agency in your country (see addresses on pages 30-31).

Next issue's theme: ***Nature as heritage***

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