

# Local environmental health planning

## Guidance for local and national authorities



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*By*  
Ian D. MacArthur  
Chartered Institute of Environmental Health,  
London, United Kingdom



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# Foreword

*The concept of sustainable development was launched over 20 years ago, as the international community realized the absolute need to reorient economic development if it wanted a safe and healthy earth. Linked with the globalization of trade, major environmental threats, such as climate change, remind societies that they still have a long way to go to achieve sustainable development.*

*In the WHO European Region, ministers of health and of the environment have taken the issue very seriously. In most countries, they are leading forces in developing national policy documents that act as safeguards for all economic sectors, providing these sectors with signals and principles to use to develop their own strategies and policies for sustainable development. Notwithstanding this international commitment, national plans and programmes will be ineffective if they are not implemented. In most cases, implementation will have to take place at the local level and in association with communities.*

*This book describes the principles that should guide local planning for the environment and health through case studies that show how to integrate local policies in the national framework. It offers the basis for the development of consistent local policies in the area of environment and health and for the involvement of the community, which provides the grounds for sustainable development.*

*This book is expected to provide local authorities and local professionals with help in their daily work. Climate change will be*

*reduced if local energy policies are adapted. Sustainable development will be achieved if societies reduce the production of waste, stop leakages in water pipes and promote alternative modes of transportation. Finally, social cohesion can be achieved if governments listen to communities, particularly those facing the biggest problems. Through the development of local environment and health programmes, local authorities and professionals can ensure that their work contributes to these international goals. It is time for all to join forces to achieve this ambitious objective.*

*The WHO Regional Office for Europe is grateful to the Department for International Development in the United Kingdom for its two years' financial support for the project that led to this book. Finally, a word of thanks to Mr Ian MacArthur, who coordinated the development of this project and wrote this book. I hope it will provide readers with an inspiring experience.*

Marc Danzon  
*WHO Regional Director for Europe*

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# Acknowledgements

The development of this guidance and the elaboration of a series of local environmental health action plan (LEHAP) processes across Europe has been carried out with the assistance of a vast array of colleagues and friends, far too numerous to list here. Special mention and thanks are due to the people who have supported me in this project and who have performed most of the work in developing local planning processes and building local capacities for environment and health:

- in Bulgaria: Dr Ivan Zlatarov, Mr Lyudmil Ikonov, Dr Ivan Ivanov, Deputy Minister of the Environment Mariana Loukova, Ms Violeta Rioatchka, Ms Sylvia Stoyanova and Dr Maria Minkova;
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- in Latvia: Ms Spidola Lielmane, Ms Andris Urtans, Dr Signe Velina, Ms Gita Rūtina and Mr Victor Gorsanovs; and
- in Slovakia: Dr Ivan Ronvy, Mrs Katarina Halzlova, Dr Eleonora Fabianova, Dr Gejza Legen, Mr Kamil Vilinovic and Ms Viera Gazikova.

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Ian D. MacArthur

## Abbreviations

CCEE	countries of central and eastern Europe
CIEH	Chartered Institute of Environmental Health
CO <sub>2</sub>	carbon dioxide
EAP	Environmental Action Programme for Central and Eastern Europe
EC	European Commission
EMAS	Eco-Audit Management System
EU	European Union
GIS	geographical information system
LEAP	local environmental action plan
LEHAP	local environmental health action plan
NEAP	national environmental action programme
NEHAP	national environmental health action plan
NIS	newly independent states
NGO	nongovernmental organization
OECD	Organisation for Economic Co-operation and Development
UNCED	United Nations Conference on Environment and Development
UN/ECE	United Nations Economic Commission for Europe

# **Part 1**

# **Background**

# Introduction

We all must move down from the Summit and into the trenches where the real world actions and decisions are taken that will, in the final analysis, determine whether the vision of Rio will be fulfilled and the agreements reached there implemented.

- Maurice Strong, Secretary General, United Nations Commission on Environment and Development (*1*)

Action taken at the local level is now universally recognized as a requirement for the true achievement of global improvements in environmental health. Municipalities are the form of government not only closest to the population but also often the most effective at working in partnership with community stakeholders: a prerequisite for any initiative on environmental health action. In this sense, the process of local environmental health planning is in itself extremely important in developing a framework for decision-making.

This publication is intended to address both local and national policy-makers and professionals. It provides an analysis of existing local planning processes and initiatives in the WHO European Region, identifies their common features and describes how they interrelate with and support national environmental health action plans (NEHAPs). This book also provides guidance and options for the development of local environmental health action plans (LEHAPs), which give the levels of flexibility necessary to ensure that a bottom-up planning process can occur.

A number of international initiatives have led to local action on the environment and health. The most prominent of these is the framework that was provided following the United Nations Conference on Environment and Development – held in Rio de Janeiro, Brazil in 1992 and thus often called the Rio Earth Summit – when the United Nations Commission on Environment and Development proposed Agenda 21 as the blueprint for development for the 21<sup>st</sup> century. This gave birth to a large number of local Agenda 21 initiatives. Since 1992, more than 1300 local authorities in 31 countries around the world have responded to the local Agenda 21 mandate by establishing their own action plans (2). The WHO Healthy Cities and the United Nations Sustainable Cities movements have also spawned numerous similar initiatives across the globe. In the European Region, the development of NEHAPs has created a framework for the development of LEHAPs.

All of these local initiatives recognize the central role that communities must play in bringing about change. This implies a degree of decentralization. Indeed, a global trend towards decentralized government services, and greater emphasis on health and environment actions taken by the community, can now be observed. All of these initiatives focus on the development of participatory planning models.

Although born from different sectoral interests, many of these approaches adopt very similar principles and key methodologies. In truth, there is very little to separate them. They are fundamentally about improving the health and quality of life of the local population by involving the community in decision-making, and by integrating social, economic and environmental concerns into policy and action. The title attached to such initiatives – whether local Agenda 21, Healthy Cities, environmental protection or LEHAP – therefore has little relevance to the final outcome. This guidance has been written from this perspective.

## **Requirements for successful action on the environment and health**

### **Multisectoral approach, community participation**

Environmental health issues are by nature multisectoral. These issues are too complex to be left only to environment and health

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professionals, but too important to be managed and developed without them. Experience has shown that progress and success in addressing environmental health issues come only when all agencies, at all levels, work together.

Another essential element of the environmental health approach – community participation – can be extremely difficult to achieve, especially when, as in some countries in the European Region, democratic principles are only beginning to be developed. A deeper discussion on how public participation can be effectively achieved follows later, but this section highlights why community participation is valuable. It not only involves local people more deeply but also develops mutual understanding and respect among stakeholders, which can lead to greater local commitment and participation in solutions.

The development of participatory democracy is not advocated just because democracy is good. It is born out of a realization that many of the problems human beings face in environmental health at the beginning of the 21<sup>st</sup> century will only be solved when whole communities can understand them and act together for their solution. For example, an individual's choice to use public transport, instead of a personal car, will make very little difference to air quality in a city; only when a large proportion of the whole community changes its travelling habits will discernible change occur. This type of action can only be achieved through an informed, engaged and empowered community.

### **Municipal action, national commitment**

The planning processes that are used to develop policies and strategies on environment and health will inevitably vary, depending on the constitution and governance of each country, region and local authority. Local authorities throughout the European Region have different powers and responsibilities; there is no universal or correct model. Municipalities' local and democratic nature, however, coupled with their ability to influence and work with and through other local and regional agencies, means that they are the natural leaders for local environment and health planning.

Municipalities normally have wide roles that can encompass more than just the provision of environmental and health services. Often they operate programmes that seek to develop the local economy, including transportation, tourism and industry. This

provides local authorities with a sound basis upon which to integrate environment and health issues into their policies on and activities in other sectors.

Experience has shown that local environment and health planning processes succeed only when they have clear and unambiguous commitment and leadership from the highest political level in the country's government; this in turn creates and supports similar commitment at the highest levels in the local community. If national policy and legislation create a helpful framework, local authorities can have the tools, motivation and back-up for appropriate action.

While the whole planning process is built from the bottom up, feeding on grassroots perspectives, this concept clearly needs to operate within a system that is founded on serious high-level political commitment, and to have some practical results at the end of the day. No matter how hard they try, people on or near the front line are in no position to launch or sustain the process of environmental health planning. They lack the breadth and perspective needed to see the entire process through from start to finish, and they have a limited ability to begin bringing different agencies and organizations together. Additionally and inevitably, they can carry with them their own agendas, which can sometimes act as barriers to the planning process and the development of joint work.

## **Steps in the planning process**

The act of making a political commitment will mark the beginning of the planning process. This is merely a statement of commitment to the process, however, and not the means of addressing the more specific issues of particular environmental health problems.

This commitment can be demonstrated in a number of ways. Many municipalities have made and adopted their own charters for environmental health or mission statements for sustainable development. They have endorsed internationally agreed strategies or policies and then set out the mechanisms through which they intend to fulfil their objectives.

Working in partnership is widely agreed to be essential to effectively addressing environmental health issues. Environmental health is such an all encompassing subject that no single organization could possibly deal with all of its aspects effectively.

Environmental and health professionals, along with those working in social welfare and education, need to work with the economic sectors and other major groups in society such as nongovernmental organizations (NGOs), religious groups and ethnic minorities. All of these, and other appropriate stakeholders, need to be involved in the environmental health planning process, and each recognized as having an equal degree of commitment and responsibility to the process.

Falling into the hypocritical trap of not practising what one preaches is all too easy when dealing with environmental health issues. In this respect, municipal leaders must be seen to be putting their own houses in order in terms of environmental health performance.

This section discusses eight steps in the planning process:

1. raising awareness;
2. reviewing and managing municipal environmental health performance;
3. reviewing existing municipal policies affecting environmental health;
4. making and reporting a local situation analysis;
5. building effective public participation;
6. setting priorities for practicable action;
7. drafting the LEHAP; and
8. securing support from other levels.

### **Awareness**

First, it may be necessary to raise awareness and perhaps provide training for officers and employees of the municipality in the issues that are to be addressed under the environmental health planning process. As the process is adopted as a corporate policy, all employees of the municipality, particularly those who have to deal with members of the public, should be fully aware of, understand and be committed to the process.

### **Municipal environmental health performance**

Second, the municipality and the other principal partners need to review their own environmental health performance, and how their activities affect the environment and community. An internal management system can be introduced that:

- identifies the organization's major impact on the environment and community, actual and potential;
- can decide the organization's overall aims and values with respect to this impact;
- can commit the organization to action to implement the policy, with measurable targets for both activities and their results;
- specifies who will carry out the action, with what resources, over what time and how implementation and progress are to be monitored; and
- allows the progress to be independently assessed and reported to the public, and the policy and programme to be updated as needed.

This internal management system is similar to the European Union (EU) Eco-Management and Audit Scheme (EMAS) (<http://europa.eu.int/comm/environment/emas/>, accessed 13 February 2002), which enterprises use to address their environmental performance. Local authorities can use EMAS as a management tool to help set and progress towards achieving their own targets for environmental health performance; the process can be repeated at regular intervals.

### **Existing municipal policies**

Another element of the internal phase of local environmental health planning is the review of the existing municipal policies that affect the areas of environment and health. The planning process does not start from scratch. Many policies will already have been formulated and strategies implemented that will cut across the environmental health agenda.

These existing efforts need to be recognized and integrated into the new programme. Policies and strategies that need to be considered under the umbrella of environmental health planning include those on: land use planning, transport, economic development, housing services, tourism, welfare and health.

### **Situation analysis**

Before a strategy can be devised to improve environmental health for a community, it is necessary to have some idea of the major issues that need to be addressed. An analysis of the environmental health status of the community provides some of this information.

Many different agencies operating at the local level hold data related to environmental conditions and the health of the population that can be used in developing this situation analysis. Socio-economic factors are also relevant in this context. The process of environmental health planning may well bring the relevant data together for the first time, and can thus draw out hitherto unseen correlations and linkages. The report of the analysis can set environmental conditions against national and/or international norms, and then make comparisons.

Such a report can also provide an analysis of the health status of the population, containing all the usual and appropriate epidemiological data. It may also provide data on the various elements of the local environment, such as the quality of the air, water and soil; the levels of noise and radiation; and the status of the physical environment in terms of land use and green space.

The report of the situation analysis provides a major building block for the planning process. Once completed, it should be widely circulated among all the stakeholders and, through the major groups, to the general public.

The report provides those who have to make decisions on the final plan and its priorities with an objective, academic and scientific perspective. This is an essential component if cost-effective action is to be taken. This is only one perspective, however; decision-makers should also receive information on the local population's perceptions of environmental health problems in the locality. These may not always match the scientific assessment, and may highlight human and social problems that statistics and hard measurements cannot demonstrate. The decision-making process will contain a degree of value judgement that affect the level of priority a particular issue may attract.

### **Effective public participation**

Securing the community's views is the opening step in building effective public consultation and participation in the planning process. It should therefore be carried out effectively and in a way that builds trust and openness among the stakeholders and demonstrates the authorities' strong commitment to recognizing the community's perceived needs.

The prospect of developing a strategy to engage and communicate with the whole community can be daunting. This is particularly

true when the leaders of the process believe that contact has to be made with everybody. Such a strategy can be superficial, particularly if it becomes a case of contacting only the group of NGOs that is usually active in and in contact with the municipality. The community itself can be a major help in this process, as existing groups, structures and lines of communication can often be used to disseminate and receive information.

There are a number of methods for developing effective public engagement and participation, but no accepted model of good practice. Different approaches and methods will be needed. Depending on the people involved and the issue to be considered, a series of different techniques may need to be adopted. Some of these are described in Chapter 4.

Developing strategies for public consultation and participation is a major, complex and inevitably lengthy process. Methods and procedures will need to be reviewed and changed as the planning and implementation process moves forward. In all of this, however, the quick provision of meaningful feedback to those who have participated is of paramount importance. The people engaged in the process must see that it is making a difference, or they will begin to lose their enthusiasm for and commitment to it.

### **Priorities for practicable action**

Making decisions is the task of people who hold public office (politicians). It can often be difficult, and decision-makers can rarely keep all the people happy all the time. Nevertheless, making balanced and fair decisions is implicit in the responsibilities of public office. In this respect, local decision-makers need to consider both the hard, objective information and the soft, subjective information when contemplating the priorities for the improvement of the environment and health and the action that needs to be taken.

As noted above, these two advisory opinions often differ greatly. Both are valid, however, and clear vision, coupled with sharp analytical skills, is required to choose a progressive way forward. For instance, the technocratic community may believe that the pollution of water supplies with heavy metals is a major priority. As this issue is not easily apparent to members of the general public, they are unlikely to share this view. Dealing with the problems they perceive in their immediate surroundings, they

may consider litter, dog fouling or noise to be the issue that concerns them most. These perceptions should not be discounted just because they do not have a technical or scientific basis.

Of course, when balancing the weight of evidence presented with the options for action available, decision-makers need to consider other elements. The most important of these are the physical practicality of being able to do something about a problem and the financial and human resources that can be devoted to it. Action that is practical and measurable, and can make a difference simply and quickly will show that the plan is more than just words. This helps to sustain interest in and support for the plan. As to resources, one of the benefits of securing broad-based partnership is the possibility of developing jointly financed and staffed initiatives. This can widen the opportunities for action. Techniques and principles for priority setting are discussed in detail in Chapter 3.

### **Draft of a LEHAP**

The project team produces a first draft of the plan for a process of wide-ranging consultation with the public and all the relevant partners. Consulting the relevant national authorities – seeking their views on how the proposed plan fits with the national framework – may also be worth while.

Securing a high level of response to consultation exercises is difficult, and makes the planning process harder and longer. Nevertheless, it also increases the effectiveness of the final plan.

As with all planning processes, monitoring and revision mechanisms will allow progress to be measured and a degree of flexibility to be introduced. Planning processes are alive and organic. They are not one-off exercises; the successful ones are continuous, durable and sustainable.

### **Support from other levels**

Of course, all of this local work will count for very little unless national governments and international organizations facilitate and support the processes and resultant action. In addition, national frameworks provide inspiration and encouragement for local communities to begin their own planning processes. For example, most local Agenda 21 activity is taking place in countries with national campaigns or strategies. A recent survey (2) showed that 88% of local initiatives were taking place in countries where

national campaigns were either established or just starting. Support – in the forms of national guidance, technical resource centres, legislation and financial resources – can help communities to progress in their own activities.

# The environmental health approach

If the future of the human race is to be safeguarded, its manner of dealing with the environment must change drastically ... if the human race continues to ignore this fact, its improved health and well being will not be an attainable goal.

– *Our planet, our health* (3)

## International background

The concept that environmental conditions can affect health is relatively new. Nevertheless, it has become clear in recent years that health is central to the pressing concerns of the environment and development. Both the earliest and latest versions of the European policy for health for all adopted by WHO Member States (4,5) address environmental health conditions and management. In 1989, WHO held the First European Conference on Environment and Health, at which European ministers of health and the environment adopted the European Charter on Environment and Health (6). This was seen as the first major step towards the creation of national policies on environmental health.

Other international actions have also had a significant impact on this area of work. In 1992, the United Nations Conference on Environment and Development endorsed Agenda 21 (7): a vision for ensuring that development is carried out in a sustainable manner. The principles underlying the concepts of sustainability also serve to mould the way in which environmental health issues must be addressed. The WHO global strategy for environment and

health (8), produced in 1993, reflects the importance of the Rio Conference in dealing with environmental health.

Concerns about European environmental problems have received attention from others in the international community. The United Nations Economic Commission for Europe (UN/ECE) and the Organisation for Economic Co-operation and Development (OECD) have worked together to produce a broad strategy, an Environmental Action Programme for Central and Eastern Europe, which requires the production of individual national plans.

The most significant international event relating to environmental health planning took place in June 1994, when WHO held the Second European Conference on Environment and Health in Helsinki. This Conference sought to bring together some of the existing initiatives and reflect on how best to advance the various actions required. The Conference participants called for the creation of NEHAPs by 1997, which would integrate the work that had already been done on environmental protection and sustainable development with components related to health. The European environmental health action plan (9), which was adopted at the Helsinki Conference, recognized the need for improved environmental health services in countries as the foundation on which the delivery of effective environmental health policies could be built.

Five years after the Helsinki Conference, government ministers met again in London, at the Third Ministerial Conference on Environment and Health, to review progress and to set out an agenda for implementation, which included recognition of the local-level agenda. The London Conference was the biggest political event on environment and health ever held in Europe, attended by over 70 ministers of health, environment and transport from 54 countries. The next link in this chain of action and commitment is a conference planned for Budapest in 2004.

The theme of the London Conference was action in partnership. The participants made decisions on 11 topics, resulting in ([http://www.euro.who.int/aboutwho/Policy/20010825\\_2](http://www.euro.who.int/aboutwho/Policy/20010825_2), accessed 13 February 2002):

1. a legally binding Protocol on Water and Health
2. the Charter on Transport, Environment and Health (10)
3. a declaration that includes the above and addresses children's health and the environment, national action plans, public

participation, climate change, workplace health and safety, local projects, economics, a review of the last decade of environment and health in Europe and research priorities.

Several of these elements – particularly the issues of workplace health and safety and environmental management, the links between economy and environmental health, and transport problems – are of vital importance to local environmental health planning.

During the development and transition period between the Helsinki and London conferences, much was learned through the exchange of information and experience among WHO European Member States and through the development of pilot NEHAPs. The following are the principal lessons to be taken from this period.

## **Lessons learned**

The implementation of any national plan depends implicitly on the commitment of the responsible local authorities. This level of commitment can only be secured and sustained if local authorities have been involved in some way in the development of the national plans and strategies. Consulting, involving and working with other partners during national or local planning processes is time consuming, but pays a useful dividend in the plan's development and implementation. Finally, if conflicts and disagreements have been tackled during the planning process, they can be avoided or overcome during the implementation phase.

International and national plans, commitments and legal regulations must be supportive of the required action at local level, and vice versa. In this way, the tangible result of action close to the people can be understood as positive results of a participatory process of planning and implementation.

In political terms, the reforms that swept the countries of central and eastern Europe (CCEE) and the newly independent states (NIS) of the former USSR in the late 1980s and early 1990s, the economic changes now taking place and the prospect of EU membership have inevitably led to changes in governmental structures and institutions. In several countries, the so-called green movement and the environmental lobby were at the forefront of the pressure to change the former regimes. Only a few years, however, have brought the realization that the new reforms will not heal the

environmental damage that has been bequeathed to these countries. Even the many internationally funded capital investment programmes, aimed at producing specific solutions for particular problems, have not made a significant impact on the environmental health problems that the new governments in the eastern half of the European Region have inherited.

It has become apparent that long-term investment in the capacities and structures within countries is required before lasting changes can be made in the management of the environment. Many countries are therefore reviewing and restructuring their entire legal and institutional structures in relation to environmental health services. Many are developing new systems for environmental protection. Existing capacities and management traditions, however, do not always allow for radical reforms in the strategy and policies of national, regional and local authorities, and inevitably some environmental protection measures must wait.

The NEHAP concept has received a hearty welcome in the eastern half of the Region. The NEHAP process has given a strong impetus for reform and for addressing issues in a more effective way. It has in essence demonstrated how intersectoral work can be achieved.

A NEHAP is a government statement of action taken and intended. It should:

1. provide an authoritative assessment of the position on the most important environmental health issues in the country;
2. identify obstacles to improvement and options for action (including, where appropriate, research) to deal with the problems;
3. set targets and timetables for improving the current situation;
4. identify the most appropriate level for each action, and the key actors and stakeholders;
5. set out the resources needed for each option and indicate how they might be obtained;
6. consider the need for capacity building and training;
7. include a strategy for implementation;
8. include a communication strategy to inform and involve the public and all the stakeholders; and
9. include proposals for monitoring and evaluating and for reporting progress towards the targets set out in the NEHAP.

Because of its intersectoral and holistic nature, a NEHAP provides a mechanism for delivering the government's principal policy objectives. Many of the actions to be undertaken in pursuance of a NEHAP are beneficial to several interested parties and should be promoted in cooperation. A NEHAP is not separate from other policies, but should be an integral part of them. Implementation then becomes a win-win situation, reflecting the principle of partnership. When such mutually beneficial actions are implemented, what might have been a problem of competition for resources becomes a solution to meeting the aims of the interested parties (11).

The NEHAP movement, facilitated through the WHO conference process, has close links with and value in relation to EU policy on health and particularly the public health competence obtained through Article 152 of the Amsterdam Treaty. Many countries seeking membership of the EU are already using and developing NEHAPs and LEHAPs as a means to address the *acquis communautaire*.

## **The environmental health approach**

### **Background forces**

In its report to the Rio+5 Forum, WHO (12) highlighted a series of driving forces that create the conditions in which threats to environmental health can develop or be averted, and pointed out that these forces are often associated simultaneously with a number of health and environment issues. The report notes that government policies and programmes, which vary with the priorities and values of the government, change the direction or magnitude of the forces and can therefore either alleviate or exacerbate environmental health threats. It also notes the increasing recognition that elements of global pressures are outside the control of nation states.

The first set of driving forces identified relates to population. Essentially, it multiplies the environmental impact of human activities – particularly the consumption of natural resources and the production of wastes. In other words, the larger the number, the greater the impact on the environment. This is particularly relevant in view of the swelling populations of cities. The level of consumption per person, however, is also of fundamental importance, since it determines the degree of such impacts.

Closely linked to population growth is urbanization. The migration from rural to urban settings increases stress on the urban environment and the service infrastructures. Urban lifestyles bring many pressures and stresses to bear, and can bring about an unhealthy tension between the environmental, social and economic aspirations of a society.

Poverty and inequity are also identified as major driving forces, in their influence on environmental and living conditions. Inequity in general and the marginalization of minority groups in particular can lead to impoverished living environments for certain groups in society.

Technological or scientific developments may give rise to new environmental health hazards or provide the means of addressing current problems. Clearly these developments can influence consumption and production patterns, driving forces that can generate large-scale use of energy, water, land or other natural resources.

The final driving force – harmful environmental change – can occur at any stage of economic development. Nevertheless, it also creates resources and opportunities for improving the quality of living conditions.

### **Basic assertions**

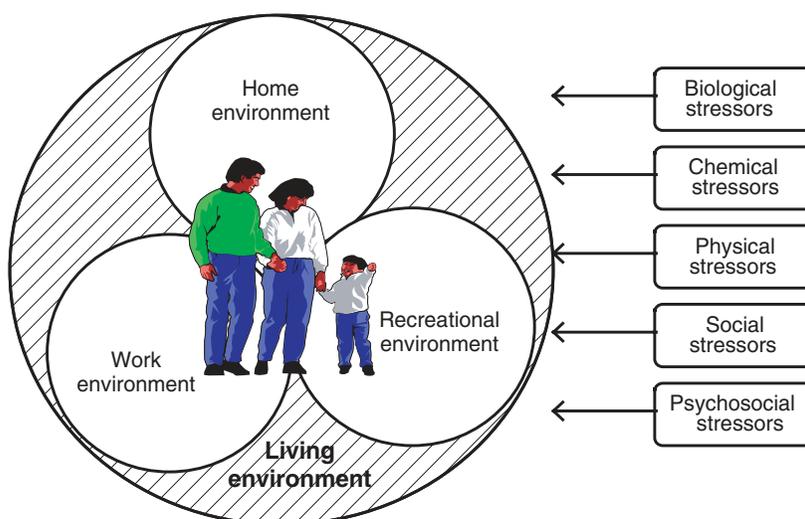
A widely ranging yet deeply focused perspective sees action for environmental health as a mechanism to address various problems in society. The environmental health approach rests on the following assertions.

The health of society is of crucial importance to everyone, now and in the future. Good environmental conditions promote good health and wellbeing. The problems that society faces at the start of the new millennium call for approaches that must recognize the complexity, the interrelated nature and the speed of life in the world today.

The creation of conditions that promote health depends on striking a balance between economic activity, the environment and the community itself. All public and commercial decisions inevitably disturb that balance. To preserve it and thus prevent degraded environments and, ultimately, poor health, such decisions need to be considered against a number of factors. The environmental health approach can provide the checks and balances required to ensure that the desired equilibrium is achieved and maintained.

The factors of concern to environmental health change continually. Nevertheless, they are contained within a matrix formed by the various types of exposure, the different environments in which human activity occurs and the categories of hazard to which a population is exposed (Fig. 1).

Fig. 1. Factors of concern to environmental health services



Source: MacArthur & Bonnefoy (13).

The environmental health approach was not designed, but developed organically. It has demonstrated that it can turn rhetoric into action, and it adds considerable value to the process of improving human health and quality of life.

### Seven founding principles

In a world in such constant and turbulent metamorphosis, some core values or principles should be retained as the touchstones for the development of policy and the implementation of strategy. All policy- and decision-makers – in all walks of life, in both the private and public sectors – can use the seven principles on which the environmental health approach is founded:

1. focus on people
2. redressing imbalances
3. cooperation and partnership
4. participatory democracy
5. putting safety first
6. international cooperation
7. sustainable futures.

Following these principles can ensure that a proposed policy or strategy will have a positive impact in creating supportive environments for health.

### **Focus on people**

The maintenance and improvement of the human condition is the primary goal of all environmental health action. Consideration should be given to the human and social aspects and impacts of any decision, policy or strategy.

### **Redressing imbalances**

The disadvantaged groups in society often live in the worst housing, with poor environmental conditions, work in the most dangerous occupations and have limited access to a wholesome and varied food supply. In short, they often live and work in the worst environments in a society.

Decisions, policies and strategies should allow everyone a fair opportunity to realize his or her full health potential. No one should be hindered in this effort. Decision-making processes should give special consideration to disadvantaged sectors of society.

### **Cooperation and partnership**

In recognition of the complexity and interrelated nature of the problems faced by society, cooperation and partnership among all relevant stakeholders clearly need to be intensified. Because isolated decisions and acts cannot normally solve problems of environmental health, cooperative and partnership approaches need to be applied across all sectors.

This approach has several implications. For example, a sector includes not only government agencies, but also all public and private organizations and interests that are active in the sector. Policy-makers, technical and service staff, and volunteers – at the

national and local levels – have actual or potential functions to perform.

The problems tackled are common ones, in which all participants have a role and interest. Different participants may play leading and supporting roles in action on different issues.

In addition, cooperation consists not only of ratifying proposals but also of participation in defining issues, prioritizing needs, collecting and interpreting information, shaping and evaluating alternatives, and building needed capabilities for implementation. Stable cooperative mechanisms should be established, nurtured and revised according to experience.

### **Participatory democracy**

Solving many current environmental health problems requires action from communities as a whole, rather than individuals. This is a major challenge to the traditional ways of addressing these issues.

Society has never been better informed or misinformed. The will and desire to participate in decision-making are growing; providing the public with information is no longer enough. Public participation provides common ownership of problems, allowing better cooperation and speedier redress. Public participation is best carried out at the local level.

As technical solutions to environmental health problems become less successful, social and ethical changes will be needed. These will only be achieved through individuals' and communities' direct participation in decision-making and action. This will inevitably lengthen decision-making and planning processes.

### **Putting safety first**

Environmental health action works in three time phases: to repair past damage, to control present risks and to prevent future problems. The emphasis given to each phase is determined by a complex formula of factors depending largely on an assessment of risks and the available resources. While the most pressing issues should be addressed first, within the environmental health approach emphasis should be given to addressing and so avoiding future problems.

Prevention is better (if not cheaper, then more morally acceptable) than cure. Precautionary approaches are needed in the development of policy to avoid future problems.

## **International cooperation**

Day by day, globalization is making the world smaller. Environmental health professionals have long recognized the fragility and proportions of the planet, and that contaminants in the environment do not respect national boundaries. Environmental health issues have a truly international character.

The professional world of environmental health is also small. The people comprising the community of professionals around the world, who dedicate their working lives to improving and protecting the places where people live for the common good, are much fewer than the people who exploit and deplete the world's resources in pursuit of wealth creation.

Nevertheless, the small size of the world's environmental health community brings great advantages. Professionals can and must communicate with ease. Although languages, heritages and cultures, and thus systems for environmental protection differ, the problems and approaches are shared. The commonwealth of international knowledge and experience can provide an irresistible resource for solving many of the perplexing problems in today's society.

International cooperation is therefore a key principle for environmental health and, despite the distraction of immediate surroundings and problems, should not be overlooked. Globalization and the information revolution have allowed broader communication than ever before, which provides opportunities for wider dialogues and partnerships. Environmental health professionals need to rise above superficial and feigned differences and recognize their common resolve to improve the human living environment.

## **Sustainable futures**

The final principle cuts across the previous six; it is the notion of sustainable development or sustainability. This concept, similarly to that of environmental health, not only encompasses certain issues but also requires particular ways of managing them. Three particularly important threads in the policy-making process relating to environmental health confirm the almost overlapping nature of environmental health and sustainable development:

1. policy integration: the bringing of environmental health considerations into all other areas of policy, tying together different policy fields and different government levels;

2. partnership: consultation with and the participation of all groups in society in the planning and implementation of policies for sustainable development; and
3. appropriate scale: the handling of policy at the level of government (from local to international) at which each environmental health issue occurs, with a bias towards or emphasis on the principle of subsidiarity.

# International frameworks, national plans and local action

## Agenda 21 and sustainable development

Before a description of the genesis and growth of the global Agenda 21 movement can be given, a discussion of the concept and meaning of the term *sustainable development* is probably necessary. People who frequently read such texts as this will find this process familiar, and for many it will cover knowledge that has long been presumed. Nevertheless, revisiting such assumptions and challenging personal perspectives are occasionally worth while.

For well over a decade now, the debate about economic progress locally, nationally and internationally has focused on sustainable development. This key term has a myriad definitions (such as that of Pearce et al. (14)). To many it has become an almost meaningless mantra that can fulfil any intent an advocate wishes. It is a flag behind which everyone can rally, a common aim that all sectors of society can agree is a good thing and a goal towards which to strive. It is also a term loaded with value judgements; what constitutes development may differ between individuals, sectors or even countries.

Defining sustainable development is in part a contradictory process. Definitions by nature and purpose set limits and barriers. When the term being defined attempts to encompass everything within the realm of human activity, both now and in the future, the source of confusion and the profusion of definitions is easy to see.

The rarely discussed commentary that follows a classic definition recognizes these phenomena. *Our common future* (15) – the

report of the World Commission on Environment and Development – defines development as sustainable when it: “meets the needs of the present generation without compromising the ability of future generations to meet their own needs”. The paragraphs that follow this much repeated prose recognize that the concept of sustainable development implies limits on environmental resources: not absolute limits, but those imposed by the present state of technology and social organization and by the ability of the biosphere to absorb the effects of human activities.

In fact, the term *sustainable development* ought not to attract too much debate. Development is normally a set of desirable aims and objectives for society. These undoubtedly include raising standards of living, but most people and most commentators on the subject would also now agree that development means more than rising real incomes or economic growth. Individuals and communities now understand the need also to emphasize quality-of-life issues: health, educational standards and general social wellbeing.

Sustainable development involves devising a social and economic system that ensures that these goals are pursued to advance the general quality of life. Achieving such a broad objective is both complex and difficult, and requires that some key issues be taken into account. Some of these points are summarized below.

### **Sustainable human development**

The maintenance and improvement of the human condition are at the centre of all action for sustainable development. The principle is the recognition that the main target of policies, strategies and actions is the wellbeing of the human race, and the factors in the social, economic and physical environment, however wide, that may affect it.

### **Valuing the environment**

The sustainable development approach relies on a significantly greater emphasis on environmental issues in policy-making and strategy implementation. Poor physical environments are increasingly linked with poor social and economic conditions. Environmental action can therefore have the added effect of addressing wider issues of quality of life, as well as the issues on the green agenda.

## **Equity**

Sustainable development places strong emphasis on providing for the needs of the least advantaged groups in society and the fair treatment of future generations.

As recognized earlier, the disadvantaged are often the people who live and work in the worst environments. They do not comprise a single group: different people are at a disadvantage in different contexts. For example, low-income households in northern countries may be at risk of poor health owing to damp and cold housing conditions, lack of fuel and/or inadequate nutrition.

WHO has recognized the importance of equity and the environment to health. Access to appropriate medical technology cannot offset the adverse effects of environmental degradation, and good health will remain out of reach unless the environments in which people live promote their health.

The reduction of inequalities requires equal access to public services and an uptake of services that relates to need. The provision of high-technology services to the population should not be restricted by social or economic disadvantage, and services should be sensitive to the needs of minority groups. To achieve this, disadvantaged groups will require special assistance and attention.

## **Extending the time frame**

The core value – recognizing the needs of future generations – requires policy-makers and their advisers to look beyond the next election towards the longer term. Long-term planning is required to ensure decision-makers keep the needs of future generations in mind while dealing with day-to-day problems.

## **Context and history of Agenda 21**

At the 1992 Rio Conference, more than 178 governments adopted Agenda 21 (7) – a programme of action for sustainable development worldwide, and the Rio Declaration on Environment and Development (<http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>, accessed 13 February 2002). These outcomes fulfilled a mandate given by the United Nations General Assembly when, in 1989, it called for a global meeting to devise integrated strategies that would halt and reverse the negative

impact of human behaviour on the physical environment and promote environmentally sustainable economic development in all countries.

The agreements finalized in Rio were negotiated over the previous two and a half years. While they lack the binding force of international law, the adoption of the text carries a strong moral obligation to ensure their full implementation.

Agenda 21 has been promoted as a blueprint for action to be taken globally into the 21<sup>st</sup> century, by governments, United Nations organizations, development agencies, NGOs, municipalities, commerce and industry, and independent sector groups in every area in which human activity affects the environment.

Global concern for these issues can be traced back to June 1972 when roughly 1200 delegates from about 130 countries met in Stockholm under the auspices of the United Nations Conference on the Human Environment. Countries from the developed and developing worlds met there to set out the rights of the global population to a healthy and productive environment. A series of meetings followed on people's rights to adequate food, sound housing, safe water and population control measures. Not until 1983, however, did the United Nations General Assembly establish the World Commission on Environment and Development to produce a global agenda for change. This Commission, chaired by Gro Harlem Brundtland (now WHO Director-General), was asked to propose long-term environmental strategies for achieving sustainable development for 2000 and beyond. The Commission's report, *Our common future* (15), was submitted to the General Assembly in 1987 and served as the bedrock for the 1992 Earth Summit.

One of the major outcomes of the Rio process was the establishment of the United Nations Commission on Sustainable Development. The Commission has met yearly since 1992 to review progress and consider sectoral and emerging issues, and to produce guidance. Five years after the Earth Summit, a United Nations General Assembly Special Session was held to conduct a comprehensive review of the process. While recognizing that progress had been made in some areas, particularly forests, fresh water and transport, the agreed text from the Special Session concluded that the global environment continued to deteriorate, and that significant environmental problems remained deeply embedded in the socioeconomic fabric of countries in all regions. Nevertheless, an

ambitious programme of activities for the Commission on Sustainable Development was mapped out for the next five years, to 2002.

### **Principles of the Rio Declaration**

To obtain a clear picture of the issues that emerge from Agenda 21, one should read it in conjunction with the Rio Declaration on Environment and Development. The Rio Declaration sets out some 27 principles that underpin and inform the Agenda 21 approach. Many of them are relevant and familiar to people working in the fields of environment and health, particularly at the local level. For the sake of brevity, this section discusses only the four principles most relevant to local environment and health planning processes.

Principle 1 of the Declaration is the cornerstone of the whole subject: “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 principle reaffirms the human roots of the sustainable development movement and places people’s practical needs at its heart. Nevertheless, this is probably the principle that has been most lost to sight since its inception. In the race to pursue environmental issues, many who have taken up the challenge of Agenda 21 have failed to grasp the human nature of the objectives and the problems presented.

Principle 3 introduces the concept of equity: “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations”. This introduces the need to recognize the requirements of all sections of communities and adds the further dimension of looking beyond the traditional time horizon, at the needs of the next and future generations.

Principle 10 sets out some key statements on the governance and decision-making mechanisms for sustainable development:

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

This language poses major challenges to many governments around the world. In Europe, the UN/ECE Convention on Environmental Information and Decision-making (16) – often called the Aarhus Convention – has incorporated a large part of this principle. Clearly it has repercussions for those engaged in local environment and health planning processes, and how they communicate and engage with various community stakeholders.

Principle 22 of the Rio Declaration further emphasizes this point by addressing the needs of indigenous people and local communities:

Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

This principle provides one of the platforms outlined in the Declaration that further cement the intersectoral approach: the recognition of global dimensions and the need to take precautions in drawing up plans and development programmes.

## **Agenda 21**

The text of Agenda 21 (7) runs to 40 chapters, set out in 4 main sections: social and economic dimensions, conservation and management of resources for development, strengthening the role of major groups and the means of implementation.

The first section, on social and economic perspectives, discusses several areas relevant to those working in the field of environment and health, particularly: poverty, consumption patterns, demographics, human settlements and human health. Chapter 6 deals with a wide range of health issues, and provides a clear mandate for the health sector to play a curative and preventive role in working towards sustainable development. Most of the information in this chapter was based on *Our planet, our health* (3), which was specifically produced to feed into the process of implementing the agreements made at the Earth Summit.

Chapter 6 of Agenda 21 highlights needs for primary health care in rural areas, the control of communicable diseases, the protection of vulnerable groups, the urban health challenge, and

environmental hazards and pollution as the principal areas for action. In each area, the text explores the basis for action, objectives, suggested activities and means of implementation.

In the third section of Agenda 21 (7), which deals with the roles to be played by major groups, Chapter 28 highlights the key position of local authorities and municipalities in the movement towards sustainable development:

Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social, and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and subnational policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development.

The pre-eminent role given to local government in the promotion and delivery of grassroots action for sustainable development is key to the local environmental health agenda. The whole sustainable development movement depends on the bottom-up approach, with local priorities building upwards to national strategies rather than national authorities dictating what needs to be done locally. This is the keynote for the future: the recognition of local and cultural diversity, facilitating national and international frameworks.

### **Local Agenda 21 in practice**

Local governments have demonstrated a deep commitment to the implementation of Agenda 21. Since 1991, more than 1800 local governments in 64 countries have established processes to engage with their communities to implement Agenda 21 at the local level (2). In addition, local authorities and their communities have assumed new responsibilities for global environmental problems, such as climate change, forest destruction and water pollution. They have established their own international programmes, in the context of international conventions, to address these challenges. For example, 164 cities in 34 countries – accounting for 4% of global carbon dioxide (CO<sub>2</sub>) emissions – have joined a Cities for

Climate Protection campaign to reduce their greenhouse gas emissions by as much as 20%.

National governments and the United Nations system have recognized the growing role of local governments in the implementation of Agenda 21. Nevertheless, this recognition has not always been accompanied by discussion of the ability of local governments and communities to implement their local Agenda 21 action plans or other responsibilities for sustainable development.

Over the past ten years, local governments in more than 60 countries have received increased responsibilities for environmental protection and social programmes as a result of national-level deregulation, decentralization and so-called downloading of traditional national- or state-level responsibilities (2). The institutional and financial capacity of local governments to fulfil these mandates, and the effects of rapid decentralization on the capacities of the public sector worldwide to implement sustainable development have not been sufficiently reviewed.

The International Council for Local Environmental Initiatives analysed local governments' implementation of Agenda 21 during the period 1992–1996. It concluded that local government action has the greatest effects in the areas of institutional development, public participation and improved management systems. In thousands of cities and towns, individual projects to determine best practices have produced concrete, positive effects on specific areas of management. Few local governments, however, have yet demonstrated their capacity to achieve dramatic improvements in social and environmental trends, except in certain key areas of local responsibility, such as the management of solid waste or control of water pollution. This conclusion highlights the importance of the following critical issues to the successful, worldwide implementation of Agenda 21.

During the past five years, local governments' strategies and projects for sustainable development have in general been isolated from overall municipal budgeting, local development planning, land use control and economic development activities. As a result, strategies such as those for local action on Agenda 21 have resulted in significant changes in urban development trends in only a limited number of cases.

During the same period, many national governments have downloaded their responsibilities for environmental protection

and social development to local governments in order to address national fiscal problems. This has rarely been accompanied by powers to generate new revenue or transfers of revenue that had traditionally been available for these tasks. The resulting increase in financial burdens on local governments is undermining their ability to implement local Agenda 21 strategies.

At the same time, reduced or poor national-level regulation of economic activities is weakening the ability of local governments to hold local businesses and other institutions (including themselves) accountable for the negative environmental and social effects of their activities.

National, subnational and local governments continue to maintain policies, subsidies and fiscal frameworks that inhibit the efficient development, control and use of resources at the local level.

Transnational corporations and multilateral development institutions have minimal incentives to accept accountability for and express commitment to local development strategies. Local governments have limited control over the properties, resource efficiencies and packaging of the consumer products that are sold, used and disposed of within their jurisdictions.

## **Healthy Cities project**

The WHO Healthy Cities project is a long-term international development project that aims to place health high on the agenda of decision-makers in the cities of Europe and to promote comprehensive local strategies for health and sustainable development based on the principles and objectives of the strategy for health for all for the 21<sup>st</sup> century (5) and local Agenda 21. Ultimately, the Healthy Cities project seeks to enhance the physical, mental, social and environmental wellbeing of the people who live and work in cities (17).

Launched by the WHO Regional Office for Europe, the Healthy Cities project has spawned numerous initiatives around the world, providing a catalyst for many positive changes in urban management. Major cities, urban neighbourhoods and even islands, villages and schools have taken up the theme. By focusing on health – a non-controversial objective – communities are able to build the foundations of cooperation between different interest groups. This

can then lead to other improvements in aspects of urban life – such as transport, housing and employment prospects – that affect health.

Literally thousands of cities worldwide have joined the Healthy Cities movement under the auspices of WHO. In short, Healthy Cities has caught the imagination of city managers across the world. Although the movement began in industrialized Europe, it has now spread to all parts of the world, appealing as much to developing and transition countries as much as it does to the richer nations (18).

Healthy Cities projects promote innovation and change in local health policy, advocating new approaches to securing public health improvement. They are intended to provide leadership through mechanisms that recognize and mediate between the interests of different groups in the community. According to WHO guidance (19), Healthy Cities projects have six characteristics in common.

1. They are based on a commitment to health. They affirm the holistic nature of health, recognizing the interaction between its physical, mental, social and spiritual dimensions. They also recognize that the cooperative efforts of individuals and groups in cities can promote health.
2. They require political decision-making for public health. City governments' programmes on housing, environment, education and social and other services strongly influence the state of health in cities. Healthy Cities projects strengthen the contribution of such programmes to health by influencing the political decisions of city councils.
3. They generate intersectoral action: the process through which organizations working outside the health sector change their activities so that they contribute more to health. Urban planning that supports physical fitness by providing ample green space for recreation in the city is an example of intersectoral action. Healthy Cities projects create organizational mechanisms through which city departments and other bodies come together to negotiate their contribution to such action.
4. Healthy Cities projects emphasize community participation. People participate in health through their lifestyle choices, their use of health services, their views on health issues and their

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work in community groups. Healthy Cities projects promote more active roles for people in all of these areas. They provide means by which people can exert a direct influence on project decisions and, through the project, on the activities of city departments and other organizations.

5. They work through processes of innovation. Intersectoral action requires a constant search for new ideas and methods. The success of Healthy Cities projects depends on their ability to create opportunities for innovation within a climate that supports change. Projects do this by spreading knowledge of new methods, creating incentives and recognizing the achievements of people who experiment with new policies and programmes.
6. The outcome is healthy public policy. Healthy Cities projects' success is reflected in the degree to which policies that create settings conducive to health are in effect throughout the city administration. Projects achieve their goals when homes, schools, workplaces and other parts of the urban environment become healthier settings in which to live. Political decisions, intersectoral action, community participation and innovation promoted through Healthy Cities projects work together to achieve healthy public policy.

The European Healthy Cities project is in its third phase (1998–2002). About 1100 cities and towns are linked with 26 national and several regional and thematic Healthy Cities networks in Europe. The strategic objectives of the third phase cover five main areas (17):

- accelerating the adoption and implementation of policies and integrated strategic plans at the city level based on the strategy for health for all for the 21<sup>st</sup> century (5) and local Agenda 21;
- promoting recognition of and political commitment to strengthening the local action component in national and subnational health policies;
- strengthening national and subnational, as well as subregional and pan-European systems to support networking and capacity building for healthy cities through out Europe;
- engaging all 51 Member States of the WHO European Region in the Healthy Cities movement; and

- expanding strategic links with the sectors and organizations that can influence urban development, and cooperating with other WHO regions.

Members of the Healthy Cities movement show a growing understanding and acceptance of the unbreakable link between human health and sustainable development (20). The Healthy Cities project has developed strong links with the European Sustainable Cities and Towns Campaign, and it continues to work with the Council of European Municipalities and Regions, the United Towns Organisation and EUROCITIES (21). Further, with a range of partners, it has produced a series of publications drawing out the links, in theory and practice, between sustainable development and the Healthy Cities approach (Table 1).

Table 1. Comparison of principles and processes for planning for health and sustainable urban development from health for all and local Agenda 21

<b>Principles and processes</b>	<b>Health for all</b>	<b>Local Agenda 21</b>
<b>Principles</b>		
Equity	Yes	Yes
Sustainability	Implicit	Yes
Health promotion	Yes	(Health)
Intersectoral action	Yes	Yes
Community involvement	Yes	Yes
Supportive environment	Yes	Yes
International action	Yes	Yes
<b>Processes</b>		
Consideration of existing planning frameworks	Yes	Yes
Analysis of health, environment and social conditions	Yes	Yes
Public consultation on priorities	Yes	Yes
Structures for intersectoral involvement	Yes	Implicit
Vision	Yes	Yes
Long-term action plan with targets	Yes	Yes
Monitoring and evaluation	Yes	Yes

Source: Price & Tsouros (22).

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Establishing and running a Healthy Cities project requires a strong commitment, a high level of determination and a degree of vision. In common with other local political planning processes, it develops through a series of stages, which continually seek to build support and engage more and more sectors of society in the development of the project. This approach has been highly successful, and continues to attract more and more cities to the European and national networks.

### **Environmental protection and local plans**

In April 1993, the environment ministers from all across Europe agreed on a broad strategy for tackling environmental problems that was called the Environmental Action Programme for Central and Eastern Europe (EAP) (23). It outlines a multistep process in which national governments can set environmental priorities and take appropriate action to improve environmental conditions in central and eastern Europe. EAP emphasizes the importance of identifying priority actions on the basis of environmental threats to the health of human beings and of local ecosystems, and the need to identify a range of actions to reduce these threats. Further, EAP emphasizes strategies to prevent pollution and conserve resources that require modest expenditure while achieving substantial environmental improvements.

National environmental action programmes (NEAPs) have largely concentrated on green or ecological issues, and rarely make more than a passing reference to public health issues. Normally they are made without broad consultation or partnership with agencies or ministries outside the environmental sector. As a result, NEAPs tend to serve the interests and work programmes of environment ministries, rather than a broader agenda. (EAP and NEAPs are further discussed on pp. 82–85).

Nevertheless, a more expansive view could be taken, particularly at the local level where intersectoral work can be done more easily. The recent guidance on local environmental action plans (LEAPs) (24), demonstrates how similar the approaches can be. Very often, all that is needed in the development of a LEAP is the introduction of some health aspects, data and information. Health professionals' participation in the formulation and implementation of LEAPs is essential.

## NEHAPs and the local agenda

We [the ministers of the environment and of health of the European Member States of WHO and the members of the European Commission (EC) responsible for environment and health] commit our respective health and environment departments to developing jointly, not later than 1997, action plans on health and the environment, working with and through competent authorities or inviting them to draw up such action plans where appropriate and legally or constitutionally required. These plans should be integrated in or closely linked with both environmental action programmes and with health planning processes, and specifically the action plans required by the UNCED follow-up and the Environment for Europe process. We will intensify cooperation with other governmental authorities, such as those responsible for agriculture, energy, industry, transport and tourism, in order to integrate environment and health issues into their existing policies, as an important step towards sustainability.

We are convinced that there is a pressing need for a more comprehensive, integrated approach to creating healthy and ecologically sound local communities and for a much better understanding of the interplay of the many factors contributing to their wellbeing. We will act in response to UNCED's call for countries "to develop plans for priority actions based on cooperative planning by the various levels of government, nongovernmental organizations and local communities.

– Helsinki Declaration on Environment and Health (9)

A NEHAP defines the national framework but, in accordance with the principle of subsidiarity, its successful implementation requires most action to be taken at the local level (11). This may be achieved in a variety of ways; the formal development of LEHAPs is one. Another is to use existing systems and plans, such as those for local development. Within existing systems, local authorities' implementation of the NEHAP may give additional impetus to their work on local Agenda 21 issues and in the Healthy Cities network (although NEHAPs address some problems that are rural, rather than urban). The integration of plans and initiatives at the local level will bring benefits similar to those from integration of plans at the national level, and many components of a NEHAP may be carried through under the auspices of another plan: these are other examples of a win-win situation.

Whatever its nature, the local plan developed is likely to have similar principles, general approach and methodology to those of a NEHAP, but to address fewer significant issues. Local authorities can ensure that the general public and all other interested parties are involved in the process of developing and implementing environmental health action in their areas. The central government and its agencies need to support action being taken at the local level, particularly through setting up the planning process, preparing reports on environmental health status, selecting priorities and applying to national and international donors for project funds.

Some local authorities and agencies face practical difficulties arising from a lack of experience in using environmental health methodologies and public communication techniques. They must build capacity in these areas if they are to take successful environmental health action.

Some measures or actions are specific to a particular area and performed most appropriately by a local body. The funding of such local work by central or local funds, or some combination of them, is crucial to successful implementation. Because limited financial resources are the principal impediment to implementation, clear criteria are essential for setting funding priorities at the local level and to ensure managers' commitment to and continuing political support for implementation. The latter requires local politicians, interest groups and the public in the relevant area to be convinced of the merits of the NEHAP. Seed money from the central government can indicate the seriousness of its commitment. Alternatively, successful implementation of a pilot project may attract funds from a variety of sources for wider implementation. Projects work best when they have an achievable scale and involve local people in all aspects, so that they can contribute to the resulting improvements.

In the light of the above-mentioned process and following further endorsement by the European Environment and Health Committee, the WHO Regional Office for Europe began to address the implementation of NEHAPs at the local level. It was proposed that a pilot project be developed to assist countries in developing local agendas for implementing their NEHAPs. This guidance is one of the principal products of that process.

The main objective of this project, undertaken by WHO and supported by the Know How Fund of the Department for International Development in the United Kingdom, was to use the

experience and expertise of a small group of countries (Bulgaria, Kyrgyzstan, Latvia and Slovakia), which were already setting out to implement their NEHAPs, to develop assistance and options for action that other countries could use to deal with problems in implementing their own NEHAPs. Building on the experiences of existing local environmental health plans, Healthy Cities initiatives and local Agenda 21 programmes in a sample of European countries, the project aimed:

- to make an analysis of existing local plans and initiatives in the WHO European Region, to identify what features they shared and how they interrelated with and supported NEHAPs; and
- based on this analysis, to produce guidelines providing options for the development of LEHAPs that give the necessary levels of flexibility to ensure that a bottom-up planning process can occur.

Annexes 1 and 2 list the coordinators or contact points in the participating countries and the participants at a meeting held to review the process, respectively.

The project also utilized the work that the Regional Office had already completed to develop the institutional tool-kit to assist environmental health services. The publications on policy options (13), training and professional development (25,26), and the evaluation of environmental health services were used to assist countries directly with the implementation of their NEHAPs at the local level. The series of pamphlets for local authorities produced by the Regional Office was also of great value in this process.

## **Bringing it all together**

As stated at the outset, the names or ideologies attached to a certain local planning process matter little when the intended outcomes are broadly the same. As demonstrated by Price & Tsouros (22), broadly similar principles underpin the local Agenda 21 and Healthy Cities approaches. Both the LEHAP and the environmental protection approaches also urge participants to adopt such principles. All four hope to improve health and the quality of life for all members of society in a way that does not harm the environment and that looks beyond the needs and demands of the current generation. They also use similar planning processes (Table 2).

Table 2. Comparison of planning processes for local Agenda 21, Healthy Cities, environmental protection and LEHAPs

Local Agenda 21: 6 key elements (27)	Healthy Cities: 20 steps (19)	Environmental protection plans: 5 phases (25)	LEHAP: 10 stages (28)
<ol style="list-style-type: none"> <li>1. Managing and improving local authorities' sustainability performance</li> <li>2. Integrating sustainable development issues into local authorities' practices</li> <li>3. Raising awareness and educating the wider community and the general public</li> <li>4. Consulting and involving the wider community and the general public</li> <li>5. Working with others</li> <li>6. Measuring, monitoring and reporting</li> </ol>	<ol style="list-style-type: none"> <li>1. Building a support group</li> <li>2. Understanding ideas</li> <li>3. Knowing the city</li> <li>4. Finding financing</li> <li>5. Decoding organization</li> <li>6. Preparing a proposal</li> <li>7. Getting approval</li> <li>8. Appointing a committee</li> <li>9. Analysing the environment</li> <li>10. Defining project work</li> <li>11. Setting up an office</li> <li>12. Planning a strategy</li> <li>13. Building capacity</li> <li>14. Establishing accountability</li> <li>15. Increasing health awareness</li> <li>16. Advocating strategic planning</li> <li>17. Mobilizing intersectoral action</li> <li>18. Encouraging community participation</li> <li>19. Promoting innovation</li> <li>20. Securing healthy public policy</li> </ol>	<ol style="list-style-type: none"> <li>1. Getting started</li> <li>2. Assessing environmental issues and setting priorities</li> <li>3. Developing an environmental action plan</li> <li>4. Implementing actions</li> <li>5. Monitoring and evaluating results</li> </ol>	<ol style="list-style-type: none"> <li>1. Initial preparatory work</li> <li>2. Gaining political commitment</li> <li>3. Gathering partners</li> <li>4. Practising what one preaches</li> <li>5. Analysing environmental health status</li> <li>6. Gauging the public's perceptions</li> <li>7. Setting priorities and making decisions</li> <li>8. Widespread consultation on the draft plan</li> <li>9. Reviewing, amending, publishing the LEHAP</li> <li>10. Monitoring, review and revision throughout implementation</li> </ol>

Although each process is set out differently in Table 2, in practice the various stages show a great deal of similarity. While some initially concentrate more on process than action, they all result in sustainable planning systems that can deliver consensus-building mechanisms for improving living environments and lifestyles. All recognize the importance of gaining widespread support for the process, and seek both to engage directly with members of the community and to work with a range of stakeholders or partners.

On a practical level, this demonstrates that local planning for environmental health can be multilayered and -faceted. Each process provides a different dimension of a broadly similar theme. This implies that they overlap, so to run them concurrently would be to reinvent the wheel. No one approach is pre-eminent; each should be considered for its suitability to address the needs of the community, and elements from each can be mixed.

Historically, the local Agenda 21 approach has focused on environmental issues and as a result has often overlooked the human or health aspects. This tendency can also be found in environmental protection approaches. Similarly, the Healthy Cities approach can sometimes concentrate too much on health promotion, to the detriment of broader social, economic and environmental aspects. The LEHAP process is not well enough established, or tried and tested, for any strong conclusions to be drawn about its emphasis, although it faces the danger of being perceived as a service plan rather than as a community process. Nevertheless, as the LEHAP process attempts to span environmental and health aspects, it may provide an impetus to put health into environmental plans and the environment into health projects.

In determining the type of process that could be used for planning, consideration may need to be given to the political acceptability of and cachet associated with the particular project. The existence of a national framework and/or funding mechanisms may also determine the decision on which planning process is most appealing and appropriate. In certain cases, if funding is available for both health and environment planning, it may be possible to run two projects that complement each other, rather than overlap.

## **Part 2**

# **Local environmental health planning**

# The LEHAP planning process

Fig. 2 shows the relationships between the ten stages in developing a LEHAP. A summary of the participants in and content of each stage is given in Table 4 (pp. 78–79).

## **Initial preparatory work**

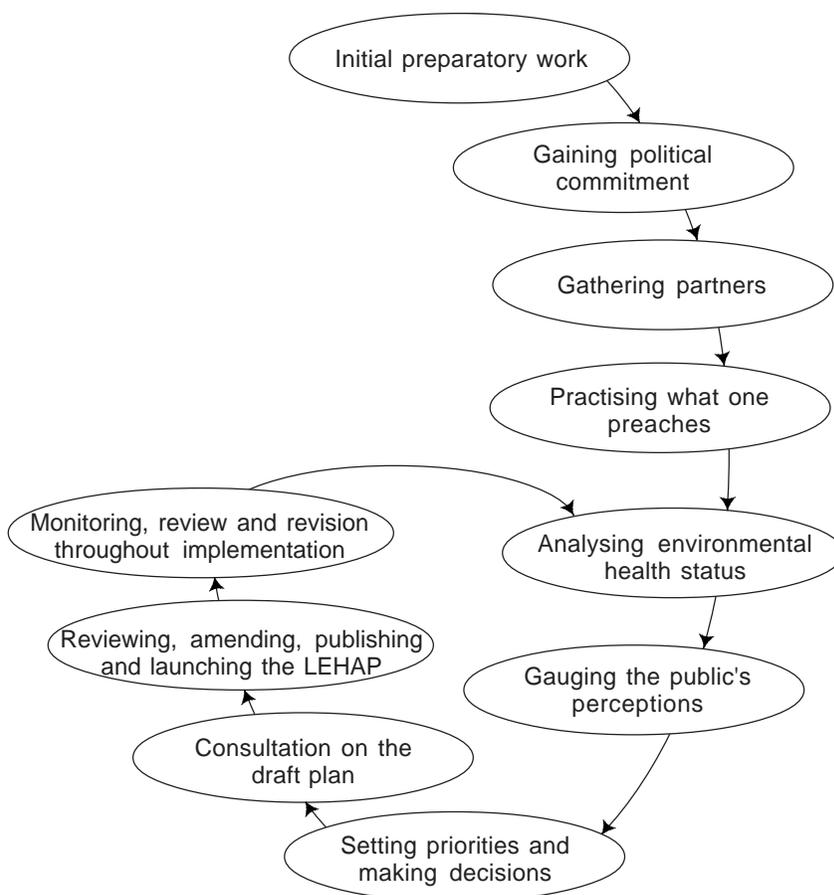
Initially, a small group of committed professionals needs to come together to discuss and prepare the ground for the planning process. The group needs to have a basic level of information before making any approach to the political level. To secure political support, it must have some idea of the planning process, the time scales involved and, most importantly, the costs in financial and human resources. The group should also spell out the anticipated benefits of and the added value associated with the planning process.

The group may be able to feed from examples in other parts of the country or in other countries. It may be able to secure support through the regional and national governments, or seek international endorsement for the proposed municipal activities. All of this undoubtedly helps the presentation of any proposed planning process to decision-making politicians.

## **Gaining political commitment**

Communities need a driving force if they are to develop. This force may take the forms of supportive facilitation or active leadership.

Fig. 2. The ten stages of the LEHAP process



The leading organization in any community is normally the municipality or local authority: the politically constituted body that is seen to have both the mandate and the overview necessary to deliver community-wide projects and plans.

Local environmental health planning relies heavily on local authorities and the roles that they can play and develop. Municipalities often have the main responsibility for ensuring healthy living environments, but they can only achieve this by working in partnership with other tiers of government, NGOs, community-based organizations, the private sector and so on. Right across

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Europe, the traditional service roles of all such stakeholders have rapidly changed in recent years. The causes have been fiscal constraints, constitutional and legal reforms, scarcity of resources, globalization of economies, liberalization of markets, ecological concerns, changing social attitudes and demographic pressures (29). As a result, communities have seen the need to adopt a partnership approach to service provision and planning.

Local authorities are central to local environmental health planning because they often (30):

- operate the economic, social and environmental infrastructure;
- oversee planning processes;
- establish local policies and regulations;
- determine parameters for economic development;
- are important vehicles in the development and implementation of local, regional and national policies; and
- work in a democratic manner.

While local authorities provide the focus for leadership at the local level, they may require a degree of direction or inspiration. In this sense, leadership for – not of – the local environmental health planning process may come from the national level. This need not necessarily mean the national government. For example, while national legislation in Hungary requires local authorities to prepare local environmental programmes in line with the national environmental protection programme, it was through the national Healthy Cities network that comprehensive guidance was produced to assist municipalities and others in developing LEHAPs (31).

This guidance comprises a comprehensive, step-by-step manual for a LEHAP process that is appropriate to the legal, social and economic conditions in Hungary, and demonstrates a strong level of leadership to local communities in their environmental health planning activities. In this way, a solid framework has been built that local authorities and communities can use to develop plans that address their needs and aspirations.

### **Statement of commitment**

Local political leadership and commitment are important for anyone who has to develop and manage a local planning process. This gives action legitimacy and can enable wider access for greater

levels of participation. At the beginning of the process, a decree or proclamation from the recognized leader of the local community – perhaps the mayor or governor – may be needed to set out terms of reference of the planning process and his or her support for it. The message should be signed, dated and widely distributed through various media to advise the community of the seriousness of and the commitment to be given to the programme. Such a statement could be included in the final planning documentation, as the preface or foreword to the main report. Box. 1 gives a sample political statement as foreword.

Box 1. Sample foreword supporting the planning process

**Message from the Mayor, Any Town Municipality**

The care of the environment has always been one of the municipality's major priorities. The environmental strategy is an important part of the framework of our policy. Today, we are moving into new areas of partnership with the community and industry on environmental health issues, towards a programme for the 21<sup>st</sup> century – an Agenda 21, as set out at the United Nations Conference on Environment and Development, held in Rio de Janeiro, Brazil in 1992.

The Any Town Environment Forum has already shown how communication and information sharing can raise awareness about our environment and the challenges facing all sections of our community. This report on the state of the environment is an important part of that working in partnership. It gives information but also raises questions that can be resolved by all interested groups working together. It is part of the wider Agenda 21 programme for local councils, about which there is more to come. Finally, it is about us, the citizens of Any Town, and where we live.

**Mr/Ms Any Body, Mayor**

**Date**

To show partnership and commitment through leadership, it may also be possible to obtain several such statements from the various partners and stakeholders involved in the project. This can help to build a wide consensus and legitimacy for the project. It can reflect and express commitment to national or even international agreements, charters or protocols, and can set out a list of policy principles to follow.

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## Choice of location

Choosing the location of the project within the organizational hierarchy of the authority is an important task. It influences the organizational structure and the administrative mechanisms of the project. It determines relationships with politicians, organizations working as partners in the project and community groups. It also indicates who owns the project (19).

As leadership is so important, guidance materials (32,33) often recommend that the secretariat or the executive for the planning process should be located close to the main political or executive power of the municipality: that is, in the mayor or other chief executive's office. This places the subject at the heart of the decision-making body, provides good access to politicians and other decision-makers, and can help facilitate intersectoral action across the local authority. It demonstrates to both internal and external partners the municipality's seriousness about the programme and its desire to lead the process from the highest level. It also shows that the issues that must be considered in developing a LEHAP will require a unified corporate response. The development and final elaboration of the plan are likely to involve all aspects of the local authority's activities and jurisdiction, from direct services to financial and budget readjustments. Being at the corporate centre makes it much easier to call on the time and resources of others. It also confirms that the issues are common and action of mutual benefit, and part of the whole organization's corporate objectives.

Many local environment and health planning processes nevertheless occur lower in the hierarchy. Decision-makers often see the responsibility for overseeing environmental health planning as a technical task that is best undertaken within a health or environment department. While technical departments' expertise and participation are required to develop and implement any plan, this approach tends to perpetuate and reinforce professional and departmental jealousies and isolation.

Such an approach creates two major potential pitfalls. First, the planning process and the resulting plan are likely to favour the originating department's needs and desires, and can easily turn into a wish list to bolster its work. This puts the plan in danger of becoming a departmental service plan rather than a cross-authority project that has all parties' endorsement. Second, the other partners,

both within and outside the authority, are unlikely to invest heavily in a plan that they view as not truly corporate and as benefiting others at their expense. The key message here is that leadership is needed that creates a cooperative environment and treats the major partners as equals.

A third and practical approach to siting the executive leadership role is to use an outside party to deliver the planning process. Two of the participants of the LEHAP project (undertaken by WHO and supported by the Know How Fund) used this approach to good effect. In both Varna, Bulgaria and Bishkek, Kyrgyzstan, independent contractors or third parties were employed to facilitate the LEHAP process.

Using this approach removes any possible claims of bias in the development of the plan, and can engender good intersectoral work. It may even facilitate greater acceptance of the process by external partners and, if well managed, will lead to an open and positive dialogue with NGOs and community groups. An external project office may also be useful when there is more than one leading partner. For example, a municipality and a regional government department may wish to collaborate in developing the plan for a particular project. In these circumstances it may be best to form or contract a project office to work between the two organizations.

Beyond the planning stage, however, this type of arrangement needs to be reviewed. The management and implementation of the project may require a very different approach to that of the initial phase.

Again, strong corporate commitment to the LEHAP process by both politicians and officers of the municipality is an essential starting point. A clear statement of the authority's commitment provides the momentum needed to forward initiatives within the authority and puts environmental health issues on the agenda of other organizations in the locality.

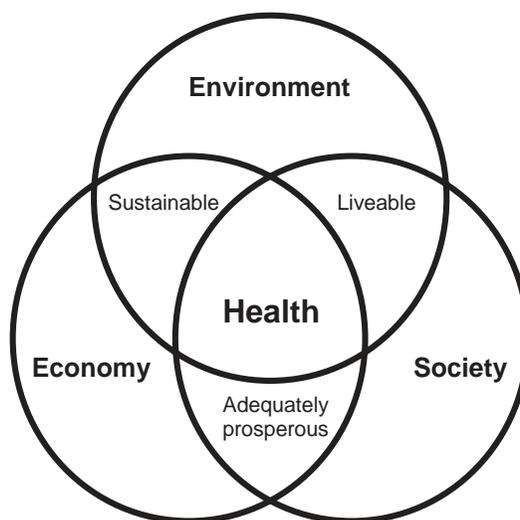
## **Gathering partners**

In practical terms, once political commitment has been secured, the next stage is to gather a range of partners, from both the municipality and the wider community, to form a steering committee. This group can take many different forms, but it needs to be a manageable

size (with no more than, say, 15 people), to be chaired by a leading community representative (normally the mayor or vice-mayor) and to have sufficient delegated powers and resources to develop the plan.

The idea that partnerships are essential to addressing environmental health issues effectively is now well established and widely accepted. In many respects, health is not a natural product, but the result of an interaction and balance between society, economy and environmental pressures and driving forces (Fig. 3).

Fig. 3. A healthy and sustainable community



Source: Hancock (34).

To facilitate a planning process that recognizes this model, the committee must comprise a group of stakeholders that can represent the entire spectrum of community aspirations and pressures. If the final outcome of the planning process is to be a workable and achievable plan, it needs to reflect the views of that community and be developed through consensus. Clearly, environment and health professionals, along with those working in social welfare and education, must work hand in hand with the economic sectors and other major groups in society, such as NGOs, religious groups and ethnic minorities. The major groups of any society as identified in Agenda 21 (7) are: women, children and young people, indigenous

people, NGOs, local authorities, trade unions, business and industry, academia and farmers. This is clearly an indicative and not a prescriptive list, but it shows the variety and range of views that the LEHAP planning process should consider.

The process of building an intersectoral approach, which recognizes all facets of a community, helps in both making and implementing a LEHAP. Many of the actions necessary to bring the plan to life will need whole communities to act or change the ways in which they live or consume. As experience in all large towns and cities teaches, changing human behaviour, without the resources of mass-marketing campaigns, can be extremely difficult and would be almost impossible if members and leaders of the community were not involved in the decision-making and priority-setting processes. Their involvement provides a means of testing the feasibility and practicality of a proposed solution, and they are a conduit for communicating and carrying the proposal into the heart of the community.

*Partners* is a loose term referring to those in society who have a major influence on environmental health issues. The following list of organizations, initially drawn up in the preparation of the LEHAP for the city of Bishkek, is an example:

1. state or public health organizations and agencies;
2. state environmental protection organizations and agencies;
3. organizations and agencies responsible for: housing provision, transport, occupational health and safety, the supply and treatment of drinking-water, the treatment of wastewater, and the collection and disposal of solid industrial and domestic wastes;
4. organizations and agencies representing particular sectors: commerce and business, industry, trade unions, agriculture and energy;
5. NGOs addressing environmental health issues;
6. community groups active in the locality;
7. relevant departments or faculties in universities and schools;
8. relevant international agencies active in the locality;
9. neighbouring local authorities or municipalities; and
10. the mass media.

While all these sectors cannot be represented on any committee or steering group, all need to be seen as potential contributors to or partners in the project.

Some of the less obvious partners in developing local plans deserve special discussion. First, depending on the nature of the governance of the country, the involvement of state or regional government representatives may seem unusual for a plan dealing with local issues. Any local plan, however, must fit within a hierarchy of other policies, plans and laws, and it is in everyone's interest to ensure that the local plan sits comfortably within national and regional frameworks, while recognizing local needs and desires. This is the key benefit of developing a LEHAP within the framework of a NEHAP. The latter not only provides a point of reference for LEHAP development but also should provide a strong foundation and network on which the local plan can develop.

Second, while the plan must have geographical limits, probably the borders of the municipal jurisdiction, the process should be able to work outside them. Municipalities must frequently work with their neighbours to address cross-border issues such as pollution, transport and planning policies, and the planning process needs to recognize these. In fact, the coordination required may have to take place at the international level. For example, the cities of Ruse, Bulgaria and Giurgiu, Romania cooperate on local plans because they sit on opposite sides of the Danube. Involving neighbouring local authorities in the planning process can also inspire them to develop their own LEHAPs. A municipality developing a LEHAP can set an example for its neighbours, highlighting the benefits of the planning process, and can enter into joint planning activities on cross-border issues.

Finally, some may see the involvement of the mass media as unwarranted and taking openness too far. Experience from the WHO/Know How Fund project, however, has shown that involving media representatives in the project from the outset and in their own right – as contributors to and not reporters of the process – can bring great benefits. People working in the press and electronic media have valuable insights into public perception and opinion, and can use a number of techniques to assist in selling any messages that need to be put across. Leading members of the mass media are normally extremely well connected and have a strong understanding of the community and its problems. Further, if they are strongly connected with the project, the media are more likely to support it.

The partners that need to be brought together will vary from city to city, town to town and village to village. Unfortunately, no prescriptive list can be provided.

A final issue to bear in mind is that assembling a group of partners can be difficult under certain conditions. Examples include problems with bringing together a suitably diverse and representative group in rural communities, and (as shown by experience from the WHO/Know How Fund project) with finding representatives of the general public and communities to participate, particularly in countries where democracy is new. In such cases, methods worth considering may include utilizing existing bodies that have established connections with members of the public, such as established community councils, or paying people to participate. This second option needs to be given careful consideration, as it can begin to undermine the process.

## **Practising what one preaches**

### **Reviewing existing policies**

Everyone involved in the process should realize from the outset that his or her commitment to developing a LEHAP will have wider and deeper repercussions than merely producing a printed document. It implies a serious commitment to reviewing and changing the way in which the municipality operates and implements its own policies. It calls for a strong and authority-wide determination to practise what it preaches about health, development and the environment. Indeed, it may identify a number of conflicts of interest that will need to be resolved. Converting commitment into action is probably the hardest single element of the LEHAP process; it can be easily overlooked, but inaction ultimately undermines the process and the final plan.

Municipalities are under increasing pressure to act on issues of environmental health and sustainable development. Nevertheless, there are tensions between the objectives of the different priorities and departments of a municipality. Economic development officers, town planners and environment and health workers do not normally share a common agenda and historically have not worked well together. The LEHAP planning process needs to address and, whenever possible, resolve these tensions.

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One of the starting points is to form a cross-departmental group or committee to work through the various threads of existing policy, to determine their impact on environmental health and sustainable development. Committees could be set up to represent both officers and elected members with special responsibilities for this area of work. These groups or committees should be established under the LEHAP steering committee, and should be suitably serviced and resourced. They will need to receive a clear mandate from the top of the organization. Group members need to feel that their work is central to the running of the municipality and the LEHAP, not a peripheral activity with little or no bearing on the operation of the services or policy of the municipality. To facilitate this, the chief executive's or mayor's office could lead or facilitate the coordination of the groups (35).

Reviewing all municipal policies historically, in order to produce a comprehensive action plan for environmental health across a whole community, certainly sounds daunting. Once an interdepartmental working group has been established, however, a rolling programme can be set up to review all policies and strategies for their impact on environmental health and sustainable development issues.

### **Factors to consider and possible benefits to reap**

The group reviewing policies and strategies can usefully consider factors that affect the environmental, social and economic framework discussed earlier (see Fig. 3). As to the environment, wherever possible policies should seek (36):

- to use energy, water and other natural resources efficiently and with care;
- to minimize waste; then to reuse or recover it through recycling, composting or energy recovery; and finally to dispose sustainably of what is left;
- to limit pollution to levels that do not damage natural systems; and
- to value and protect the diversity of nature.

As to social factors, wherever possible policies should seek (36):

- to create or enhance places, spaces and buildings that work, wear and look well;

- to make settlements human in scale;
- to value and protect diversity and local distinctiveness and strengthen local community and cultural identity;
- to protect human health and amenities through safe, clean pleasant environments;
- to emphasize prevention, as well as care, in health services;
- to ensure access to good food, water, housing and fuel at reasonable cost;
- to meet local needs locally;
- to maximize everyone's access to the skills and knowledge needed to play a full part in society; and
- to empower all sections of the community to participate in decision-making and to consider the social and community aspects of decisions.

As to economic factors, wherever possible policies should seek (36):

- to create a vibrant local economy that gives satisfying and rewarding work without damaging the local, national or global environment;
- to value unpaid work;
- to encourage necessary access to facilities, services, goods and other people in ways that make less use of cars and minimize effects on the environment; and
- to make opportunities for culture, leisure and recreation readily available to all.

Each locality needs to review its own policies in its own way. The points listed above are not intended as a strait-jacket or rigid blueprint, since action must relate to local issues and resources. They can be used as a prompt or check-list for the review process, particularly to avoid the danger of a narrowly environmental focus (31).

A LEHAP is unlikely to be the first or only plan developed by a municipality, and compromises will be required to fit in with the suite of existing strategies and plans. The municipality may already have plans, strategies and programmes on, for example, physical development, economic development, health, the environment, energy, housing, transport, biodiversity and social issues. The LEHAP framework provides a means to begin to integrate work on

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some of these issues, and to investigate the links between different sectoral plans. Thus, the process of developing the LEHAP can have as significant an impact as the final document itself. It may even demonstrate hitherto unseen links, highlight duplicated work and activities and point towards cost savings. It may also show where gaps exist and new resources need to be directed.

### **Improving the municipality's environmental performance**

Another part of municipalities' practising what they preach is implementing an environmental management system to ensure that their own activities are in line with their stated aims.

An environmental management system is a tool that helps municipalities to make progress towards their own targets for environmental performance. The municipality chooses the targets, but they should reflect the standards that it demands from others. The municipality should: produce an action plan that addresses and sets targets for the significant environmental effects of the organization, monitor its progress towards achieving the targets and periodically publish a statement about its progress. It could seek external verification of its performance and seek accreditation to a national scheme if one exists, such as the EU's EMAS (<http://europa.eu.int/comm/environment/emas/>, accessed 13 February 2002).

Using such a management system allows the municipality to affect the environment in two ways. It can have direct effects on, for example, paper use, council transport and the heating of council offices. It can also affect the environmental impact of people using local authority services: service effects on, for example, the energy efficiency of municipal housing and the disposal of domestic refuse.

The management process should be repeated at intervals of one or more years, to ensure that municipal policies and practices become progressively more sustainable. The main steps taken in each round are:

- setting the corporate objectives for environment and sustainability issues;
- reviewing the council's activities to identify and assess their significant direct or service effects of the on the environment;

- setting objectives and targets for improvement;
- designing programmes to achieve these targets;
- identifying indicators to monitor both progress of the implementation of these programmes and progress towards sustainability; and
- monitoring the indicators and management of the programme.

One of the most significant characteristics of the environmental management system is its potential to mobilize all departments of the municipality to identify and begin to address their direct and service effects on the environment and health, and to help different professions and specialists take account of the environmental health dimension of their work. It provides a mechanism for an integrated approach to solving environmental problems, which can facilitate the functional or problem-led approach required to tackle many environmental health issues (37).

One of the key ways in which a municipality can simultaneously practise what it preaches and begin to influence the surrounding community is through its purchasing policies. Municipalities and local authorities can have a major impact on environment and health through the products and services they purchase. Often a municipality is the largest employer and consumer in any one locality. One should not therefore underestimate its potential impact. Almost every service or type of goods that a municipality purchases has some kind of environmental health implication, and these considerations need to be brought into the purchasing process. When making contracts for goods or services, municipalities can require suppliers to meet conditions on the environmental health impact associated with the product or services. Thus, the municipality no longer looks just for the lowest price or the best value for money in making a decision but also at the environmental health impact of the goods or services. This in turn forces manufacturers and service providers to begin to think about their production processes and the sources of their raw materials (38).

The crux of the issues surrounding policy integration and aligning municipal policies and practices to respect environmental health lies in the fact that municipalities are often responsible for both economic development and environmental health protection. They fulfil both of these functions for the benefit of their communities. Many believe that these duties conflict, because economic

wellbeing depends on consumption, which requires resource use, which potentially causes environmental health damage. If this were always true, sustainable development would be a contradiction in terms. A rising material standard of living does not necessarily mean more consumption. In the context of local economic development, sustainable development means at least reducing current levels of energy and resource consumption and of waste production in order not to damage the natural systems on which future generations will rely to provide safe and healthy living conditions. Development can be made sustainable without sacrificing human welfare if care is taken to choose the correct types of development.

Greening the local economy is not justified only on environmental grounds. Environmental constraints are undoubtedly a potential threat to the commercial viability of businesses that do not understand and anticipate them. They also create opportunities for enormous expansion and prosperity in other industries. Environmental markets are now developing all across Europe.

Improving the quality of local environmental health and the sustainability of all local businesses and shifting the emphasis towards sustainability are increasingly important ways for a municipality to ensure the continuing economic health of its area. Five aims might act as the basis for an integrated approach to environmental and economic strategies (39):

1. to help local businesses reduce their effects on the environment and health;
2. to encourage a move towards a more sustainable mix of businesses in the area;
3. specifically to foster the development of an environmental industry in the area;
4. to protect environmental health in ways that do not threaten jobs; and
5. to seek business opportunities through environmental health protection and enhancement.

### **Analysing environmental health status (providing an objective assessment)**

Once the principles of the LEHAP approach have been agreed and the constitutional and institutional arrangements have been

completed, the first stage in the development of the plan can begin. The fundamental reason for developing a LEHAP is to provide a reasoned basis for taking action with limited resources. It should provide clues to the main priorities and actions that can make the greatest impact on environmental health.

Before any decisions can be made on the action needed to improve environmental health, however, planners need to understand the environmental conditions prevailing in the locality at the outset of the planning process. An analysis of the environmental health profile of the area has to be made to provide such an understanding.

The interrelationship between the environment and health is not simple. There can be no simple formula or methodology to determine the impact on community health of the inevitable mix of environmental pressures and stresses present in every community. This means that setting environmental health priorities is a complex balancing process. The precautionary and preventive nature of environmental health approaches further complicates this task. If environmental health actions work, no adverse effects can be measured. Unfortunately, the effort needed to maintain the absence of effect is almost impossible to quantify; this hinders processes of priority setting and resource allocation.

Nevertheless, to begin these processes, a report on the state of environmental health should be produced. It should provide, as objectively as possible, a review of the various environmental stresses present in the community and their supposed impact on human health and wellbeing. Some indications of priority actions may emerge from this.

Reporting on the state of the environment has been popular among national governments and some of the more progressive cities in Europe for some time, and at least since the Rio Conference and the publication of Agenda 21 (7), which calls for such reporting in Chapter 40. The reports normally analyse the main environmental stressors or vectors and provide hard scientific monitoring data, which are normally compared to national or international standards and norms. Environmental performance is gauged and priority areas are identified from the results. Issues commonly included in reports on the state of the environment include the following, which fall into three groups (Table 3).

Table 3. Issues included  
in state-of-the-environment reports, by category

Category	Issues
Media and resources	Air quality Climate change Fish resources Forest resources Nature and biodiversity Ozone layer Soil and land resources Waste Water resources
Cross-cutting concerns	Acidification Hazards and accidents Health Noise Radiation Toxic substances
Spatial systems	Coastal and marine areas Urban settlements

Source: Cookbook for SoE reporting (40).

Not all the information listed in Table 3 would be relevant at the local level, but it nevertheless shows what sort of areas could be covered. Some reports also consider the effects of different sectors of the community, such as agriculture, energy and manufacturing. While some of the better reports may include health, it rarely receives sufficient attention or detailed coverage to give an effective overview of environmental health. Normally, a health profile also has to be produced to complete the picture.

In the Healthy Cities movement, making a city health profile is a key element in creating a city health plan (41). It is an invaluable tool for every participant in the project. It provides a lively, scientifically based account of health in the city; it can stimulate public interest and political commitment, and it can identify targets for the future and monitor progress towards them.

According to the WHO Healthy Cities project, a city's health profile is a quantitative and qualitative description of the health of the citizens and the factors that influence it. The profile identifies

problems, proposes areas for improvement and stimulates action. As its main objectives, the city health profile should (41):

1. summarize health information relevant to the city;
2. identify health problems in the city, factors that affect health and suggested areas for action to improve it;
3. stimulate health changes in the city and intersectoral action;
4. set targets for achievement related to health;
5. identify needs for new data on indicators of health;
6. inform the public, politicians, professionals and policy-makers about matters that affect health, in an easily understandable form;
7. make health and its determinants visible; and
8. record the local community's views on health issues in the city.

While this description of a healthy city profile provides for all things, it probably goes beyond what is initially required for the LEHAP initial assessment of the relationship between environment and health.

What is fundamentally required at this stage is strong epidemiological information that can be analysed with and against environmental data. This process may turn up more questions than answers, but, if the information is reliable, it may begin to highlight areas of concern. This is a task for professionals: the scientific and the academic communities involved in developing the plan.

Correlation and associations between different factors may be difficult to prove, but new understandings and links may emerge from data comparison. Presenting environmental information alongside health data, even without proving or developing associations, can prove to be a powerful tool. To mark the Third Ministerial Conference on Environment and Health in June 1999, a report (42) was published that placed environment and health data on London side by side, occasionally using a geographic information system (GIS) to illustrate trends and patterns. While no correlation was drawn out or proved in the report, it provided a stark illustration of the state of London's environmental health.

The challenge of producing an environmental health profile for a locality may seem extremely onerous at the start. It may be less difficult, however, if tackled as a team effort. Beginning from scratch – with a completely new survey and analysis of health and

environmental conditions – is very rarely necessary. Environmental and health profiles for the municipality may already exist, and collating the information may be all that is needed. If such profiles are not to hand, health and environmental authorities almost certainly hold sufficient data to begin compilation of an environmental health profile. This is certainly the case in the CCEE and NIS, where systems of environmental and epidemiological control relied principally on monitoring, measurement and data collection. While not all the figures will be completely up to date, they will nevertheless provide good baseline information, and may even indicate trends if compared to previous information.

The first step should be to survey completely the existing data, which can be compiled into a report on the state of environmental health. Very often, when first developing such plans, professionals feel an impulse to commission new research and to buy new monitoring and laboratory equipment. This approach not only severely delays the beginning of the planning process but also can be extremely expensive, and diverts resources to measuring rather than addressing issues. Particular gaps may appear in the information that is collected, and new information may have to be sought. Professionals should decide to do more monitoring only after fully and thoroughly auditing existing information sources. Several different sources of information can be available, from state agencies to NGOs. Indeed, involving a wide group of agencies and individuals to contribute to the baseline study helps to build support and interest in the process.

When complete, the report on the state of environmental health is a principal building-block for the LEHAP process, and should be widely circulated to all stakeholders and made available to the general public. Such reports are increasingly published electronically on the Internet, allowing greater access to the reports and a greater degree of flexibility in the methodology of reporting.

### **Gauging the public's perceptions**

The report should provide a strong analytical perspective on the major issues in the environment that affect the health and wellbeing of the population. This is essential if cost-effective action is to be taken. As mentioned above, information must also be gathered on the environmental health problems in the locality as perceived by

the local population. The population's view may not always match professionals' scientific assessment, and may highlight human and social problems that statistics and hard measurements cannot demonstrate. The decision-making process needs to contain a degree of value judgement to use in determining the level of priority a particular issue may attract.

This is the opening step in building effective public consultation and participation in the planning process, and should therefore be taken effectively and in a way that builds trust and openness among the participants, and demonstrates a strong commitment to meeting the community's perceived needs.

Direct engagement with the general public to aid decision-making is a new approach to many municipalities and public authorities, especially in parts of the CCEE and NIS. It is a huge leap to go from an undemocratic society to a system of representative democracy and then to begin dialogue in a form of participatory democracy. Raising the prospect of this sort of approach needs to be handled carefully in this type of community, as both elected politicians and the public need to feel comfortable with it.

No one would suggest that creating the correct environment for meaningful community participation is easy. Experience has shown that it is normally difficult and lengthy; although the body of experience is growing, it is still a largely uncharted area, where definite answers are hard to find. Nevertheless, these reservations should not prevent the LEHAP steering committee from taking the first step. Community participation will offer real benefits to the process. Close working relationships between authorities and communities are always better than each side working alone or, worse, against each other. Further, a two-way process can utilize resources more effectively and bring added value.

The initial stages and the planning of community involvement are extremely important. Failure to establish sound principles and rules for engagement at the outset inevitably creates tensions and suspicions at a later stage. Good ground rules are essential in the important early stages of establishing procedures for engagement. A few that should be considered include:

1. partnership, as the LEHAP process thrives only on shared objectives, mutually agreed goals and mutual beneficial action: on stakeholders' working together rather than separately;

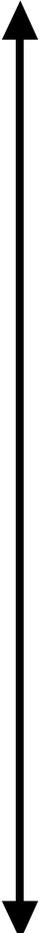
2. openness and accessibility, as information and ideas need to be openly available to all, and the people and groups involved should be accessible by all;
3. honesty, as LEHAP participants must clearly communicate what can and what cannot be achieved, to avoid raising unrealistic expectations;
4. relevance, as the process should start with the community's own interests and concerns, skills, knowledge and experience, making links between these and broader concerns;
5. achievement, as the process must contain action that is achievable in the short as well as the long term, to sustain interest and involvement;
6. learning from experience, as the way forward is unknown and participants can learn from their mistakes; and
7. commitment, as the process must include clear, sincere and durable commitment to public participation (43).

As mentioned above, the prospect of developing a strategy to engage and communicate with the whole community can be daunting, particularly if one believes that contact has to be made with everybody. A strategy can also be superficial, if it involves merely contacting the normal group of NGOs that is usually active in the areas and in contact with the local authority. The community itself can be a major help in this process, as existing groups, structures and lines of communication can often be used to disseminate and receive information.

As a starting point, the steering committee can use normal and established external contacts to broker introductions to other elements of civil society, and so develop a wider constituency of interest. A number of mechanisms can be used to communicate the project to the general public, including media contacts and/or participants, and the cascading of information through other communication networks. In addition, people need to be eased into the process. Many attempts at community participation have failed because members of the public are either uncomfortable with the consultation process or are not confident about dealing with the subject matter. Encouragement and a degree of training may help to ensure a productive consultation process. The committee may also consider consulting and engaging with the local community on its own terms. From this starting point the onus and emphasis can be reversed, leading to a strong and more equal relationship.

*Community participation* and *community involvement* comprise umbrella terms for many different practices. In particular, one should recognize the different levels of participation (44); these vary with the levels of control exercised by the lead organization, as shown in Fig. 4.

Fig. 4. Partnership and control in community participation

Level of control	Role of community	Example
 High	To control	The organization asks the community to identify the problem and to make all key decisions on goals and means. It is willing to help the community at each step to accomplish its goals.
	To exercise delegated authority	The organization identifies and presents a problem to the community, defining limits and asking the community to make a series of decisions that can be embodied in a plan that it will accept.
	To plan jointly	The organization presents a tentative plan, subject to change and open to change from those affected. The organization expects to change the plan at least slightly and perhaps more subsequently.
	To advise	The organization presents a plan and invites questions. It is prepared to change the plan only if absolutely necessary.
	To be consulted	The organization tries to promote a plan, seeking to develop support to facilitate its acceptance or win sufficient sanction for plan so that administrative compliance can be expected.
	To receive information	The organization makes plan and announces it. The community is convened for informal purposes, and its compliance is expected.
	Low	None

Source: adapted from McCarthy & Ferguson (42) and Brager & Specht (45).

Many local planning processes call for increased community participation. The challenge for many will be to develop community acceptance and new forms of engagement to move further up the ladder. New and innovative mechanisms are required to enable LEHAP participants to move beyond more passive forms of consultation and providing information, and to engender involvement and empowerment.

Consulting the community on environmental health issues should be an essential and critical stage in developing the LEHAP. It can be undertaken at the same time and in parallel to the stage of making the perhaps more objective report on the state of environmental health. The fundamental objective is to establish what environmental health issues raise concern in community members and what they think needs to be done, while ensuring that they are aware of the process that has been established to deal with these issues.

## **Methods**

While a number of methods can be used for developing effective public engagement and participation, none is an accepted model of good practice. Different approaches and methods are needed, depending on the people involved and the issue to be considered, and it may be necessary to adopt a series of different techniques. These include the use of fora, focus groups, questionnaires and opinion polls and surveys.

If a forum is to be effective, it needs very clear terms of reference and a small number of participants. Working procedures need to be creative and free, and the use of an experienced facilitator helps bring the best out of the group. Fora should be given a set deadline for completing their work and reporting.

Focus groups can be a valuable complement to a forum. They can consider particular specific issues in a smaller, more dynamic group and report back to the forum.

If questionnaires are used, great care needs to be taken in drafting the questions to ensure that the replies received are meaningful. The steering committee should bear in mind that resources will be needed to carry out the collation and analysis of the responses. Experience shows that questionnaires are often most useful in smaller areas and communities and where the topics under discussion are well focused. The committee may consider providing

some form of incentive for members of the public to return the questionnaire.

Opinion polls and surveys can be very effective and provide a high response rate, especially if local people manage them. Again, relevant questions and effective interpretation are crucial if surveys are to be a valuable method of establishing the community's priorities. They can be administered in a number of different ways and through various third parties. In one example, schoolchildren carried a written questionnaire to their parents and grandparents. As saying no to a child often proves difficult, a response rate of almost 100% was achieved.

In a recent study, the Regional Environment Center for Central and Eastern Europe noted that, although the texts of NEHAPs made limited provision for public participation, the public is evidently more active in the process of local implementation and particularly in LEHAP development (46). In addition, the success of public participation in the LEHAP process can depend directly on the practice of public participation in NEHAP preparation and the influence of public comments on the final version of the text, especially in the part that determines public participation and access to information.

Another specific feature of the LEHAP process is that it is associated closely with the Healthy Cities project in most of the CCEE, and coordinating the two helps to facilitate both. From feedback obtained on local environmental health planning processes, the Regional Environmental Centre report makes a number of general observations on public involvement in the LEHAP process (46).

1. High levels of public participation have been secured through the LEHAP model. National (NEHAP) and international (Healthy Cities) frameworks assist in this process.
2. Some processes are more transparent than others, yet all seem to be making progress in the correct direction and utilizing various forms of the mass media.
3. The initiation of public participatory processes has led to further and sustained public participation in other areas.
4. Involvement within LEHAP processes has not been limited to NGOs but has included members of the general public. In some circumstances, both have assisted in implementation as well as development.

5. Where LEAPs have been developed, beginning a public dialogue on environmental health issues has been easy.
6. In some towns and cities, innovative mechanisms for public participation have been developed, including direct access and discussion between members of the public and elected officials.
7. Attitudes and responses to public comments on the draft plan vary. This part of the process appears to be less open than the earlier stages. In most cases, the public takes little or no part in the final decision to adopt the completed LEHAP. Thorough involvement throughout the earlier stages of its development, however, should make this point less significant.

Developing strategies for public consultation and participation is a major, complex and inevitably lengthy process. Methods and procedures need review and revision as the planning and implementation process moves forward. In all of this, providing quick and meaningful feedback to those who have participated is of paramount importance. The people engaged in the process must see it making a difference, or they will begin to lose their enthusiasm and commitment.

### **Setting priorities and making decisions**

Once the technical and scientific information has been produced and digested and the public's views have been recorded, decisions are needed on the action part of the plan. The combination of issues presented and their proposed solutions always exceeds the resources available to address them. Decisions must therefore set priorities and allocate resources to make the best impact on health and the quality of life.

The set of problems identified and their complexity and severity may vary considerably, depending on the size of the community, the features of and the external pressures placed on the environment, and the traditional values and the make-up of society. As discussed above, not every objective can be attained immediately, usually owing to limitations on time and budgets. Accomplishing some objectives entails a number of tasks of varying size, complexity, cost and duration, so these matters should be clarified before the problems are given their priorities. Determining these priorities is undoubtedly one of the most difficult parts of the LEHAP

development process, in which considering the favourable or unfavourable effects of intervention is vital (29).

### **Problems in decision-making and measurement**

Environmental health problems rarely have simple solutions, and the physical or financial resources that might be desirable for solving them are rarely available. Indeed, all environmental health problems have been described as complex (47). Most people would agree that the politician's task – to strike a balance between the scientific and public assessments of priority issues – is nearly impossible. Because one perspective is purely subjective and the other scientifically subjective, they are likely to indicate different issues and priorities. The value systems, the reference time scales, the monitoring equipment – all mean that the two assessments will reach different conclusions, each highlighting issues to which the other is blind owing to prejudice or the lack of appropriate viewing aids or equipment.

To further compound the problem, the evaluation of environmental impact on health is now well recognized to be an inexact science at best. So many compounding and synergistic factors contribute to ill health and poor quality of life that identifying environmental factors' contribution becomes almost impossible. Indeed, even measuring health can be extremely difficult, and it normally involves using illness or disease as a surrogate indicator. This practice fails to capture the more positive aspects of health, outside the range of absence of disease, and the beneficial effects of good environments to human wellbeing.

Moreover, health outcomes depend not only on the environments in which people live, work and play but also a whole range of individual characteristics: age, gender, social class, etc. Starting from this perspective, multilevel approaches can provide simultaneous analyses of individuals and their ecologies. In using this model, the key consideration is whether analysis can distinguish between observed differences due to individual characteristics at one level and those resulting from the physical environment of an area, the structures in the community that deliver health and people's mobility (48).

A preoccupation with statistics has characterized the overall approach to the principles and methods of epidemiological research. Users of this approach compare data over time, subject

them to hypotheses and then interpret the findings. This scientific inference is therefore prone to using a degree of subjectivity. Presenting statistical information may have the administrative objective of guiding practical action, but it cannot be the only element in the decision-making process. A decision of this sort should not only consider the statistical information but also quantify the costs and benefits – including the social and political ones – associated with each possible action.

The linkage of environment and health data offers potential benefits for decision-makers, but it also poses risks if not carried out carefully. Presumptions, misinterpretations, inconsistencies and inaccuracies can all lead to faulty interpretations of relationships. In addition, most correlations between environment and health issues take comparatively long periods of time to determine. This means that new links are unlikely to be established during the development of a LEHAP.

Methods suitable for linking environmental and health data must meet two criteria. First, they must be simple, inexpensive to implement and operable with available data, thus allowing rapid assessment. Second, they must produce statistically valid and scientifically credible results if they are to be used as a basis for action. This means they should be unbiased and sensitive to the variations in the data at hand (46).

A GIS can be very effective in comparing data sets. The manipulation of data into powerful graphic representation allows for a high level of interpretation and visual impact. A GIS is only a tool, however, and a potentially expensive one at that. It should not be viewed as a panacea for the interpretation and presentation of the data collected.

### **Considerations in setting priorities**

Several attempts have been made to produce criteria to guide decision-making on priorities. Guidance from Hungary (29) suggests that priority should be given to action on an identified environmental problem if:

- the problem has very significant effects on the environment or environmental health; and
- immediate or urgent intervention is necessary to avoid irreparable damage.

The guidance goes on to suggest that either no clear-cut ranking can be made or, while the importance of one or two problems may be obvious, ranking the rest can be difficult.

In determining further priorities and ranking tasks, three factors may need consideration. The first is values exceeding environmental quality cut-offs. How often and to what extent do pollution levels exceed specified permitted values? The second is the nature and extent of deviation from the norms and indices for the environmental condition. These indicators also show quality of life and environmental health conditions. The third factor is the number of people or size of the area affected by the environmental problem or conflicts. Divergent evaluations should be made for problems that carry serious risk but affect only a few people or a small area and those that are relatively less severe but affect a large segment of the population or a sizeable area.

Relative risk analysis is a more comprehensive method that categorizes risks according to their impact on health, the ecosystem or the standard of living. The selection of appropriate criteria and the determination of the magnitude of the risks enable a more comprehensive ranking of problems. The formation of this priority list requires a larger amount of information and knowledge, however, and thus inevitably involves relying on experts and professionals.

The Environmental Health Action Plan for Europe (49) divides different types of action into three groups to help set priorities. Action in group one addresses the basic requirements for environmental health. It aims at preventing or mitigating conditions whose environmental causes are well established and that can give rise to widespread and often acute health effects. Group-two action concerns the prevention and control of medium- and long-term environmental hazards. Causal relationships for these hazards may be more difficult to establish at existing levels of environmental exposure, but their potential for adverse effects on health is recognized. Group-three action concerns the promotion of human wellbeing and mental health, rather than the prevention of disease; the perception of the environment as unpleasant imposes stress on the affected population.

The Plan proposes that group-one action is the most important and should therefore be taken first; group-two action, less important and therefore not such a high priority; and group-three, almost an optional extra. Many find this approach too simple, but it serves

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a purpose by laying out priorities and the underlying reasoning in a straightforward and uncomplicated manner that all can understand.

The United Kingdom NEHAP (50) uses the three-group approach, and considers that an essential prerequisite to determining the action to take and committing a country or locality to it is to identify:

- the actual or potential hazards to health in the environment
- the effects that they may have on health
- the degree of priority with which each should be addressed
- the relative costs and benefits of action
- where resources are constrained, the most cost-effective action.

Expanding on this approach, the planning for action on environmental hazards needs to focus first on the identification and recognition of the hazards and their associated risks to public health. As has been demonstrated, this is not always a straightforward task, although a growing body of evidence is now available on a number of links between health and the environment. In such circumstances, the process of prioritization takes the available evidence and builds on it, reflecting local circumstances, the extent and severity of the health effect, and the resources available to reduce or remove the hazard.

Clearly, where environmental conditions present a serious hazard to public health, the ideal objective is the complete removal of the hazard. In some cases, this will not be possible, and the priority then will be to reduce the risk and to plan eventually to remove it, if this is technically possible.

As LEHAPs are developed, implemented and moved forward, priority setting becomes an iterative process. Environmental health conditions are monitored as changes occur, and scientific understanding is gained and developed. Then priorities change and are updated to reflect the impact of earlier action and the need to address other or new risks.

As part of the LEHAP process in Varna, Bulgaria (a partner in the WHO/Know How Fund project), a unique methodology was developed to confront the decision-making problems presented in considering a report on the state of the environment and health and on the public's perceptions. Annex 3 presents a full report of the

Varna methodology, which attempts to track the main public health concerns and environmental stressors – with weighted ratios to signify public concern, among other things – through to three main priorities.

This approach, designed by the people of Varna, created a very large agenda to be tackled and demonstrated wonderfully well the vast and interconnected nature of environmental health issues. It therefore fell into the trap of attempting to deal with too many issues at once. While the result of this can be that no issue is dealt with effectively, this danger was averted by a subsequent level of priority filtration. This filtration distinguished between priority areas for action, such as noncommunicable diseases, and what was essentially an overarching policy, such as the commitment to act and to address the needs of the most vulnerable.

### **Considerations in making decisions**

At the end of the day, no matter what methodologies are used to bring about significant correlation between environment and health or what schemes are used to compare one risk to another, the ultimate decision will be political. As there are very few black-or-white answers in environmental health, decision-making inevitably includes a degree of subjectivity and needs to strike a balance. Tough political choices must be made.

Of course, a number of other issues need to be considered in decisions on what actions should take priority. These include the legality, economics, capacity-building factors, practicality, time scales, measurability and visibility of the various options.

Any proposed action should be within the legal competence of those who are identified to undertake it. In some countries, municipalities and NGOs have few or minor legislative powers or legal rights to act. This can severely hinder the planning process and severely diminishes the value of the LEHAP. Nevertheless, the LEHAP can be used to highlight gaps and legislative needs. In such cases, a report to the Government needs to be made on the need for legislative powers, and the LEHAP can then be used as a lobbying tool. In any event, actions that are illegal should not be proposed or designed.

No organization, particularly one in the public sector, will ever claim to have enough money. Diminished budgets necessitate careful planning to achieve the best value for money. In one

respect, the LEHAP planning process is a mechanism to identify where resources can be put to best use. Again, projects and actions stemming from the LEHAP process need adequate financing and support throughout the duration of the project. Failure to ensure this will only lead to increased frustration and disillusionment with the process. Avoiding the creation of unrealistic expectations is vital in all of this work.

If an element of the municipal budget can be set aside for LEHAP projects on a yearly basis, action will need to be planned within those constraints. In addition, planners may form partnerships with other bodies that hold budgets, to share resources and work on implementation together. The LEHAP can also be used to raise funds from external, national or international organizations. The framework of the LEHAP provides a strong mechanism for securing support for community-wide priority projects. This type of proposal will attract greater interest than a bid from an individual institution or organization because it has been through a rigorous process of testing and planning and has resulted in an agreed series of priorities.

Planners must also consider how the LEHAP can generate sustainable funding streams. The careful and considerate use of taxation and the development of suitable fiscal instruments need to be considered as part of the entire package to ensure continued support and funding of the LEHAP process. The LEHAP must not be seen as a first stage in developing a wish list for funding, but as a living process that can become self sufficient.

Finally, not all the actions contained in a LEHAP necessarily cost money to implement or achieve. Indeed, planners should consciously build into it a significant number of elements and actions that cost nothing but good will and personal effort.

Not all localities and municipalities have access to the best or necessary technical expertise. This is particularly true for isolated and rural communities. Plans need to be able to reflect the technical capabilities of the personnel available in the community, and should build into their proposals and budgets provisions for any external assistance needed. Assistance from national centres of excellence, the academic community and international agencies should all be considered.

When deciding on the action that should be taken to address environmental health issues, communities can very easily be too

ambitious and plan the best bespoke solution possible. Many have created grandiose plans that were simply not achievable. The LEHAP steering committee should guard against this type of dream planning. While it may win short-term political capital, in the medium to longer term plans viewed as unrealistic and impractical will be extremely detrimental to the whole process. The key message is: to keep it real.

Another common weakness of environmental health planning is to plan too far into the future. Clearly, the concept of sustainable development requires planners to consider distant times and to think beyond the needs of the current generation. When the LEHAP relies on the participation of various partners and the public, however, sustaining interest can be difficult if the results will not appear for years. Planning for the short as well as the medium and long term is therefore necessary. A LEHAP should include a number of actions that can be achieved in, say, 12 to 18 months. In this way, participants can begin to see progress and be encouraged to participate further.

Linked to short time scales is the need for the action to be tangible and measurable. Many of the outcomes of environmental health action can be hard to measure, especially if the action results in the reduction or the elimination of certain phenomena. Taking action to create a non-event is difficult to become excited about. Certain actions should therefore be created that provide discernible change that can be measured over time. The section on the monitoring of the LEHAP discusses this issue further.

Finally, the action needs to be visible to the public. To become a living and vibrant document that will be sustained over time, the LEHAP needs to garner and maintain public support. One way of achieving this is to include a series of actions that members of the public can see and appreciate for themselves. The LEHAP should not become a redundant service plan or a series of aspirational statements that remain within the municipality; to succeed, it must become a living process that is visible to and resonates within the community it serves.

## **Consultation on the draft plan**

Once the actions have been chosen, the steering committee should distribute the draft to as many community stakeholders as possible.

The committee should also send it to national and neighbouring authorities to ensure that the proposals fit within any national framework and do not create too many pressures on neighbouring municipalities and communities.

The draft plan should be written in a way that encourages contributions and comments. It should avoid a prescriptive style, which conveys the feeling that the plan is already carved in stone and that the consultation process will bring only minor changes. Typically, the first public draft will contain:

1. information on the process of developing the plan
2. the purpose of the consultation period
3. a description of the main issues to be considered
4. a list of the various partners involved
5. some options for addressing the issues raised
6. the indicators proposed to measure progress
7. the proposed targets and time scales.

Allowing enough time for the formulation of responses is vital. Organizations, as well as individuals, may wish to make comments on the draft. As such responses are normally collated from a number of different perspectives, a reasonable length of time may be needed for the draft to circulate, for people to comment and then for the responses to be collated. A consultation period of at least three months is therefore advisable. The length will obviously vary with the nature and length of the draft plan, and the time of year in which the consultation period falls, as more time is needed during holiday periods.

Wide consultation undoubtedly brings benefits: it improves the document, prepares people for action and makes the actions and processes more workable. Nevertheless, the consultation process also makes the planning process more difficult and certainly longer.

### **Increasing the effectiveness of consultation**

A number of steps can be taken to increase the effectiveness of consultation. These can include:

- at the outset, securing the support of the mass media (the local press, television and radio) to inform the general public about the proposed plan and the consultation process;

- providing in the budget for the printing of sufficient copies of the draft (although publishing the draft in a high-quality format is not necessary);
- using new technology, such as publishing the draft on the Internet and arranging to accept comments through e-mail;
- running a number of community-based consultation workshops to supplement the consultation process (which can be best managed by community groups or by NGOs with the input of the municipality); and
- to assist people in formulating their responses, highlighting some key comments in the draft or including a form in the consultation document that respondents can fill in as appropriate and return.

Pre-paid postage may also be considered as an option to secure a high level of response.

The steering committee should consider all comments received during the consultation period. Depending on the level of response, some form of analysis of the types of comments received may help to indicate where the main areas for action lie. The committee should consider amending the plan in areas where strong and widely supported comments have been made.

Where long and detailed comments have been submitted, replying to the points raised – setting out the rationale for taking action or not – may be worth while. This will ensure that the most interested parties continue to feel part of the process.

Once the LEHAP is complete, it should be published, launched and made available to the public. A press conference may be a suitable event for the launch.

## **Monitoring, review and revision throughout implementation**

Evaluating the implementation of the LEHAP is a crucial element in the management cycle of policy, planning, implementation and evaluation. The evaluation element closes the loop and can drive the process forward (see Fig. 2, p. 42). Despite the imperfections in its methodology, evaluation is the only way to learn what benefits the planned actions may be providing and at what cost to society. The project steering committee should be responsible for overseeing and monitoring the implementation of the LEHAP.

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The primary reasons for evaluating environmental health actions are (51):

1. to draw on experience to improve overall service delivery and impact;
2. to improve the efficiency of services and projects;
3. to determine the relevance, adequacy, effectiveness and impact of goals, objectives and services;
4. to describe expenditure on environmental health action to political leaders and communities;
5. to recognize and respond to public needs and wants;
6. to prioritize research, planning, decisions and action for the future; and
7. to find allies in other agencies, services or sectors.

Environmental health actions are particularly hard to evaluate through traditional methods. Several years ago a WHO working group identified many of these difficulties (52). The main barriers to effective evaluation are the following (52).

- Environmental health action tries to produce a non-event; how can a non-event be proved to be the result of an action?
- Several different sectors, such as agencies and industries concerned with health, the environment and agriculture, take action.
- Environmental health action must work to address issues from the past, the present and the future.
- Environmental and health effects have many weak and indirect links; long latency periods are usually associated with diseases known to have environmental causes.
- Identifying the community to receive environmental health action is not always easy, so determining the relevance and adequacy of the action is difficult.
- Unreliable information limits long-term comparisons.

Despite these problems, some attempts at monitoring and evaluating the LEHAP are required, particularly to ensure that the project remains dynamic. First, a protocol must be established, setting out the timing and frequency of any monitoring and evaluation procedures. After the project has run for, say, 12 months,

it may be worth while to review it and to revise timings and progress accordingly. Much will depend upon the types of action that have been planned and the rate at which progress can be achieved.

As mentioned above, before evaluation starts – in fact, during the determination of priority actions – data and indicators that can demonstrate progress should be selected.

### **Indicators for evaluation**

Indicators are often used as surrogates for measuring a parameter of interest because practical difficulties prevent its exact measurement. For example, no one has yet found a suitable measure for the quality of life, so people use a range of indicators that give clues and suggestions as to how it is developing. This being understood, many still assume that indicators are an accurate reflection of events, even though they cannot provide the whole picture. Indicators are useful if they can be used to show changes over time, and changes in different situations in different populations at the same time.

Indicators can be a principal evaluation tool to help decision-makers establish whether their programmes are working. Three major applications for indicators have been identified: decision-making, communication and follow-up to policy.

Indicators support decision-making and comparisons by giving information about problems or the efficiency and effectiveness of attempted solutions. Decisions about the priority of services, sequence of activities and allocation of resources are often based on the changes in a series of indicators.

Municipalities engaged in the LEHAP process need to communicate effectively with all their partners and stakeholders. Indicators are critical for productive communication because their use in a consistent framework for measurement promotes a common understanding.

Indicators are also used to determine how well goals are being met and policies are being followed. Performance indicators are increasingly being used to monitor implementation.

Evaluators should seek a set of qualities in indicators. No single indicator can possess them all. Evaluators commonly use suites of indicators to counteract the limitations of any one single indicator. Indicators should be valid, internally and externally reliable, specific, sensitive and relevant.

A valid indicator accurately measures what it is supposed to measure. This may sound self-evident, but is worth stating, particularly in view of the doubts about the accuracy of results obtained from old and un-calibrated measuring equipment.

An indicator is internally reliable when its use allows different people in similar circumstances to make the same inferences. External reliability demands that evaluators draw the same conclusions from an indicator, irrespective of the size or location of the population examined. In other words, the indicators need to be amenable to general use.

An indicator is specific if its value remains stable when the other data in the same context change: in other words, if it reflects only the parameter in question. The indicator must change when the parameter changes, and must remain constant as the parameter does. This is one of the most difficult properties to ensure, mostly because so many factors (such as socioeconomic conditions) interact and are thus difficult to separate.

An indicator is sensitive if small fluctuations in the indicator reflect small fluctuations in the parameter.

Indicators are said to be relevant if they relate to the appropriate data or the phenomenon studied. Relevance is a property not as much of one indicator as of a group of indicators within a given framework.

Evaluators should consider all these factors when selecting indicators for assessing the LEHAP.

Evaluations of progress can be conducted internally or externally. If internally, an external audit of the final report may be of value to provide a clear and unbiased view of how things have developed. The results of evaluations should be published and publicized, and a subsequent action programme should be produced to address the issues that have been raised.

If operated effectively and without prejudice, the evaluation process should allow the participants to celebrate the LEHAP's successes and maintain its momentum for future and more direct action.

## **Summary**

Table 4 summarizes the ten stages in developing a LEHAP.

Table 4. Summary of the LEHAP planning process

Stage	Participants	What they do
1. Initial preparatory work	A small team of committed professionals from a range of backgrounds within the municipality	The team builds up a range of information and evidence on the need for a LEHAP approach, the resources that will be needed and the potential benefits.
2. Gaining political commitment	The team, the highest democratically elected official for the area and perhaps also regional officials and national ministries	The team secures a political statement setting out the core values of and political commitment to environmental health protection and the LEHAP process. Regional and national support can also be useful.
3. Gathering partners	The political leader of the LEHAP process and a wide range of partners	To build a committed partnership with a wide range of agencies and interest groups, the political leader of the LEHAP process invites a wide range of partners – both individually and as representatives of organizations – to participate. This group is formally constituted as the steering committee for the LEHAP project.
4. Practising what one preaches	Leaders, all staff of the municipality and all partners committed to the LEHAP process	The participants thoroughly review, from an environmental health perspective, all the municipality's policies and practices and develop a programme of action to ensure that these have a limited negative impact on environmental health issues.
5. Analysing environmental health status	Broad group of professionals in the scientific and academic community	This group brings together existing information and data on the environment of and health in the region, making connections and correlations between environment and health, and identifying gaps in data, information and knowledge.

6. Gauging the public's perceptions	LEHAP steering committee, with particular assistance from NGOs, the mass media, schools and the general public	The committee collects information on the general public's perceptions of the major environmental health issues and hazards and of how these could be resolved. The committee can use a number of means, including the direct consultation of the public through questionnaires, workshops, meetings, focus groups, etc.
7. Setting priorities and making decisions	LEHAP steering committee, with a heavy focus on the political representatives	The committee has to make decisions – considering the subjective and the objective views of the community – that set priorities for action. The resulting proposed action needs to be legal, affordable, technically possible, practical, aimed at both the short and long term, measurable and visible.
8. Consultation on the draft plan	LEHAP steering committee	The committee oversees the development of the consultation process. It undertakes widespread consultation with the general population and the agencies that will be affected by the LEHAP. Some key questions may be drawn out and highlighted during the consultation period.
9. Reviewing, amending, publishing and launching the LEHAP	LEHAP steering committee and leading politicians	The committee considers the significant responses to the draft, and amends it accordingly where reasonable and practical. The committee launches the LEHAP publicly, to give it visibility and to increase interest in and pressure for its implementation.
10. Monitoring, review and revision throughout implementation	LEHAP steering committee and all identified partners and actors	As all the identified partners and actors implement the LEHAP, the steering committee both continuously and periodically monitors the progress made, reviews the mechanisms being used and revises the LEHAP in the light of the changing environmental health conditions or public perceptions. Periodic reviews will involve greater analysis and reviews of action against targets.

## **Part 3**

# **The national–local relationship**

## National perspectives

The ultimate responsibility for protecting the environment and improving the population's health lies mainly at the national level. This responsibility cannot be completely abdicated, even though action may be taken at various other levels. This implies that national governments must establish suitable frameworks and mechanisms to support regional and local organizations and agencies. If action is to be effective, national authorities cannot place the responsibility for environmental health issues at the local level without providing the means for action, in terms of legislation, fiscal and collaborative powers. A complex balance of capacities and responsibilities is required. As noted earlier, 88% of local Agenda 21 initiatives take place within the framework of a national plan or programme (2). There is no reason to suppose that the development dynamics of LEHAPs should be any different. Indeed, responsibility for giving impetus to LEHAPs rests even more heavily on the national level, as the NEHAP movement is not nearly as well known or publicized as Agenda 21.

Environmental health is traditionally a municipal responsibility in Europe (53). It finds its roots as a service in the municipal provision of water, waste management and housing during the Industrial Revolution. Several models for environmental health subsidiarity exist in the European Region, and many are in different stages of transition. Particularly in the CCEE and NIS, there are pressures to decentralize or, perhaps more accurately, to democratize local services. Sanitary-epidemiological (sanepid) systems, in

which single stations carry out both public health and environmental health functions, still exist in these countries. Traditionally, these stations have been centrally directed and funded. Since the development of market economies, sanepid services have undergone some surprisingly tentative and minor reforms, although the desire is growing to make local units more autonomous and locally responsive and accountable.

## **National environmental action programmes (NEAPs)**

The goal of common principles for environmental protection in Europe has led to the development of the Environmental Action Programme for Central and Eastern Europe (EAP) (23) (<http://www1.oecd.org/env/eap/eaptf/eap.htm>, accessed 13 February 2002). Adopted by the participants of the second ministerial conference of the “Environment for Europe” process, which was held in Lucerne in 1993, EAP articulates the methodology for creating strategic environmental priorities at the national level.

The main goal of EAP is to help the CCEE find realistic, efficient and cost-effective methods of improving the environment. Setting environmental priorities, assessing risks and involving the public in environmental decision-making are the foundation of a proper strategy for environmental protection. Such a strategy can determine investments and propose measures for accomplishing social and environmental objectives in the most efficient manner.

EAP proposes a methodology that may help to accomplish this goal. The main obstacles facing the CCEE are the lack of financial resources and institutional background. EAP therefore proposes to concentrate on the following activities:

- environmental policy, which includes setting priorities, identifying tools and measures of effective environmental management and involving the public in environmental decision-making;
- strengthening institutions, to increase efficiency in environmental administrations, and to improve environmental monitoring and control and the enforcement of environmental regulations; and
- environmental investments that address immediate local and regional problems and identify long-term sustainable solutions.

EAP provides recommendations and guidelines on the rational allocation of limited financial resources. It stresses the importance of building consensus while planning environmental and economic development. These plans, coupled with policy, investment and institutional reform, can maximize the efficiency of environment-related spending. Only such an integrated approach to environmental protection can maximize the use of natural resources.

In addition to increasing efficiency, EAP stresses the public's participation in environmental policy development and implementation. It pays attention to the role of different units of the state administration (especially on the national level) and to that of business. Active public participation is required in both the development and implementation of national environmental policies.

### **From EAP to NEAP**

EAP is not a final document with specified objectives that countries must precisely follow and implement. It is an instrument or methodology that countries can use to draft viable plans for environmental protection. The role of the EAP methodology is also to show that environmental planning can be a creative and mobilizing tool of environmental policy; countries should use it when writing NEAPs. If successfully implemented, the NEAP can then provide a comprehensive framework for environmental policy, institutional strengthening and investments. The process of creating an NEAP in line with the EAP methodology has several significant features.

1. Each country should prepare its own environmental protection programme, based on the state of its environment and its priorities (which reflect its levels of economic, social and political development).
2. Countries are expected to design their own systems of environmental monitoring, information dissemination, comprehensive environmental legislation and public administration, including inspection to supervise the implementation of the programme and adequate technology to carry it out.
3. Countries should draft their NEAPs to ensure the use of a combination of regulatory (command-and-control) instruments and economic tools (market incentives), which have not been properly balanced in the Region before.

4. The drafting the NEAP should be coordinated from above, usually by the environment ministry and (if established) its specialized environmental policy department. Combining international, national and regional aspects of environmental protection is usually helpful.
5. The ministry should draft the NEAP in close cooperation with government authorities responsible for other sectors of the country's development (economy, industry, finance, transport, agriculture, etc.). This makes the NEAP, not the environment ministry's document, but a programme of the whole government (cabinet). This approach provides an opportunity to integrate environmental requirements with other aspects of the country's development, particularly social and economic ones, which may lead to initiating work towards sustainable development.
6. Public participation in drafting and implementing the NEAP should include representatives of not only businesses but also academia and NGOs. They should play a responsible role in all stages of the NEAP's development and implementation.
7. Information on the environment and the development of the NEAP document should be widely available. Free access is a precondition for the successful implementation of environmental policy.

### **Real meaning of the NEAP process**

The NEAP should not be either another concept document that demonstrates the country's ability to write policy papers or intended to mobilize donors' financial support for the country. The goal of the planning process is to develop a comprehensive programme to reduce pollution and improve the environment at the lowest cost. The process should lead the country from drafting vague strategic concepts to implementing the problem-oriented programmes designed to achieve particular goals within a certain time and with a certain budget. An NEAP should also encourage the efficient use of available financial and human resources, and strengthen the capacities of public administrations, polluters and NGOs to deal with the environment. Although an NEAP should be very specific, it should also contribute to the implementation of sustainable environmental policies.

According to the principles of EAP, a country must use its own financial and human resources in the process of drafting an NEAP. The environmental goals identified in the NEAP should be tied to the sustainable development of the economy, thereby introducing market mechanisms and integrated economic planning to environmental protection. Developing the NEAP is a significant step towards an efficient environmental protection programme.

The NEAP process does more than integrate economic information with environmental activities. It encourages an open and democratic procedure in selecting targets and choosing objectives in environmental protection. The process can encourage the country consciously to adopt principles of sustainable development while implementing a viable plan to solve the most urgent environmental problems.

# Institutional development

## Effective decentralization

The decentralization of administrative and political responsibility is taking place at differing rates throughout Europe, either as part of planned reforms or as a result of increasing regionalization in countries. This process has emphasized assigning responsibility for environmental health management to local government.

Decentralization takes two principal forms. First, in partial (vertical) decentralization, central authorities strengthen their regional or local implementation offices. While the primary responsibility does not change significantly, the degree of activity at the local and regional levels increases. The second form is full decentralization, in which both activity and responsibility are transferred to the regional or local level. Unfortunately, this transference of full or major responsibility does not always include the supporting mechanisms and infrastructures necessary to ensure effective operation at the local level.

To ensure the provision of effective environmental health services, both forms of decentralization require institutional support to be available at the national level (13). For example, partial decentralization needs to be balanced and effectively controlled. Options for ensuring this include establishing:

- an institutional framework at the national level that sets guidance and controls that permit decentralized services to make informed decisions; or

- comprehensive prescriptive guidance and supporting infrastructures that enable the local level to provide services adaptable to the needs of the population.

Full decentralization, however, requires the establishment of national-level supporting infrastructures; the options for these are arrangements:

- for the provision of technical support by a centre of excellence;
- for the provision of a legal foundation and support for the establishment of decentralized institutions;
- to ensure financial support for decentralized responsibilities;
- for institutions to provide training and education for service providers; and
- for the provision of support for decentralized work by research institutions.

### **Basic structures for regional services**

The regional administration of environmental health services varies widely across Europe, as does the definition of what constitutes a regional authority. For the purposes of this book, a regional authority is a controlling body that is responsible for a geographical area smaller than the country as a whole yet larger than the areas covered by municipalities or communes. This regional area contains several municipalities or communes. Although each country differs in its approach to organizing regional services, basic structures can be identified. They vary according to the type of control over the activities of the regional administration that the central government retains: direct, partial or indirect control.

As discussed above, municipalities form the base unit of local government throughout the European Region. Municipalities or communes are formed upon a different basis than the majority of regional government agencies and services. They are normally removed from direct control by the central government and, as local democratic bodies, can claim to represent the desires of their communities. The status, functions and capabilities of municipalities vary tremendously within the Region, largely depending on their legal status and responsibilities, and their financial and other resources.

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Normally, the centralized approach to local and regional services has no formal mechanism for intersectoral work prior to the delivery of the services. Individual ministries have their networks of regional and subregional offices, which are not necessarily linked to any other ministry's regional office. In addition, there are no established links between regional and municipal services. In terms of environmental health, only through ad hoc arrangements at the regional level do services for health and the environment meet to discuss matters of mutual interest.

Decentralized systems of control over local government are mainly found in parts of western Europe. In such systems, a framework of legislation and statutory guidance controls relationships between levels; this framework is flexible enough to be tailored to the individual needs of a region or locality.

Partially decentralized systems rely on both local democracy and state control, and can be found in several countries of western and southern Europe. They rely on the use of a prefect appointed by the central government, who guides and influences the work of the local tiers of government to ensure that local decisions and policies follow its thinking.

Both the fully and partially decentralized systems have advantages and disadvantages. They have been developed over centuries of experience with local government and have evolved through various social changes and needs. Obviously, a system that is satisfactory for one country does not necessarily suit the needs of another. Nevertheless, the basic frameworks described here may give the people charged with reforming services some guiding principles for adaptation and adoption.

Several factors at the regional and local levels should be considered in reforming the environmental health service. The processes of decentralization under way in many parts of Europe need to be managed and tailored to the needs of the communities that local authorities are to serve. Whether to decentralize is therefore the first question to consider. Many countries, particularly the CCEE, are now formally committed to this course through their change from centralized to market economies. Nevertheless, highlighting the advantages and disadvantages of the various systems that can be used is worth while. Second, consideration needs to be given to choosing what services are to be provided at what level: local or regional. Such decisions should not be taken

lightly; their full consequences should be realized. Third, providing supporting mechanisms and financial systems for regional and local authorities is vital to the authorities' effective operation.

The processes of decentralization offer many options for the delivery of environmental health services. To be effective, environmental health services must clearly be adaptable to the needs and desires of populations, as these may vary considerably within a country: not only between city and rural communities but also between differing cultural and social groups within those communities. In this respect, the localization of services can have distinct advantages for the public they serve. Improving services, however, has not always been the motive for desiring to decentralize. Too often, responsibility has been delegated to lower government levels to reduce national burdens, but without the necessary supporting mechanisms in place. This causes a net reduction in the capacity of the services. In some countries, the desire for rapid change has caused decentralization to be carried out too quickly. This results in ineffective institutional arrangements.

Again, decentralization must be balanced and controlled to ensure the provision of effective environmental health services. Table 5 lists four options for suggested action to create effective and responsive environmental health services at the local level, with their advantages and disadvantages (13). To implement national policies on environmental health, governments may (13):

1. provide individual regional and local offices of the environment ministry, dealing only with issues relating to the environment;
2. provide regional government offices that contain personnel of all relevant ministries, with coordination by a regional governor or prefect and dealing with relevant issues in all sectors;
3. use municipalities and communes, acting within the framework of national guidelines and legislation; or
4. use a mixture of municipalities and regional offices, with the former responsible for local concerns and the latter, for strategic national issues.

This list is by no means prescriptive or comprehensive, but indicates the types of issue that need to be considered.

Table 5. Options for decentralization  
of environmental health services

<b>Options</b>	<b>Advantages</b>	<b>Disadvantages</b>
Regional and local offices of environment ministry	Strong central control of policy	No intersectoral work No local decision-making Unresponsive to local needs and concerns No local public accountability
Regional offices of all relevant ministries	Intersectoral work Elements of local decision-making Responsiveness to local needs and concerns	No local public accountability Inability to change policy to reflect local conditions
Municipalities and communes	Local decision-making and priority setting Community accountability and involvement Intersectoral work Adaptability	Policy fragmentation Lack of standardization/consistency Variation in profiles and capacities Lack of independence
Mixture of municipalities and regional offices	Balance between local independence and central control Dealing with issues at appropriate levels Responsiveness to local needs and concerns	Possible confusion in the public about the division of responsibilities

Source: MacArthur & Bonnefoy (13).

## Supportive action at the national level

The central government can take a number of actions to help support municipalities and other local agencies in developing local environmental health action.

The first step is to produce a NEHAP that recognizes the role and capacity of local authorities and others to assist in its implementation. Very often, it is drafted using a bottom-up approach, in which the following could be the principal stages of preparation: the government (54):

- invites regional and local authorities and other interested parties to make their proposals for a plan;
- integrates the various proposals into a coherent draft national plan (or designates an agency to do so);
- publishes or releases the draft for comment by all interested parties; and
- takes account of comments in a definitive NEHAP and takes any constitutional steps necessary for its approval.

If developed with the full involvement of local partners, the NEHAP process encourages and inspires local action and the local planning process. The bottom-up approach provides an environment in which localities can dictate their own priorities and influence national policy to reflect local needs. This is more likely to obtain widespread support than imposing a centrally concocted document. While the NEHAP can provide a national framework for

local action, on its own it cannot guarantee the development of a LEHAP movement. This requires additional supportive action. The participants at a recent workshop concluded that central governments can (55):

1. provide the legal framework for local action;
2. provide national guidelines on the development of LEHAPs and recommendations on key areas, but not explicit orders;
3. help set priorities;
4. help develop national indicators for local use and information systems that are user-friendly at the local level;
5. promote integration across sectors;
6. encourage the involvement of the academic sector in environmental health risk assessment and cost-benefit analysis;
7. release or provide access to funds, provide seed money for the development of LEHAPs and LEHAP projects, and fund demonstration projects;
8. provide increased local discretionary powers;
9. accept ultimate responsibility for the environmental health system; and
10. assist with transboundary issues.

The participants also noted that central governments should make maximum use of existing local networks, as trust is greater in peer networks than in initiatives presented by central governments.

## **Legal framework**

In many countries, local government can only act on the issues over which it has distinct and specific legal powers. In such constitutional circumstances, the national government should provide the necessary legal basis to develop a LEHAP. This may require subsequent and related powers, for example, to raise funds through taxation or other external mechanisms, to engage in partnership and joint funding arrangements, and either to take action or require action to be taken on certain issues.

## **Funding**

With the exception of a few simple actions, LEHAP development and implementation cost resources in terms of either money or

personnel. Undoubtedly, the LEHAP process can redirect existing funding to more strategic uses, can open up the opportunity for sharing budgets across organizations and sectors, and may also eliminate the duplication of work. Nevertheless, help from the national level may be needed to kick-start the process and to demonstrate how the LEHAP can bring added value. The central government can provide such assistance, and may even be able to facilitate effective intersectoral work. Examples from around Europe show how funding is made available only when partners begin to work together to identify and address mutual interests and problems. In addition, national-level funding of demonstration projects can provide an impetus for local action.

Further, national authorities should remember that LEHAPs need to establish sustainable funding flows if they are to maintain their impact and continue to benefit and grow with the communities they serve. Authorities should therefore consider establishing innovative fund-raising mechanisms to enable local governments to continue their own programmes. This may require the central authorities to provide technical administrative advice and to review local governments' financing procedures and mechanisms.

### **Technical assistance and intersectorality**

National governments may need to provide local authorities with technical assistance to fulfil their programmes of action. Authorities, particularly in small and rural local areas, often lack the necessary technical capacity. Recognizing this, central authorities can assist by providing access to a pool of expertise and technical information from which local authorities can draw assistance.

In addition, the professions in a community can raise barriers to intersectoral work. Professions tend to be conservative, and to resist change. As a result, partnership and the sharing of agendas can prove difficult. National governments need to recognize this phenomenon and work with national professional bodies to bring about a progressive change in attitudes to help create more open working relationships at the local level.

### **Other issues**

All these practical steps can assist municipalities to rise to the challenge of local environmental health planning. Central

governments, however, need to address a number of other issues if they are sincere in their efforts to create sustainable local communities.

Owing to the increasing internationalization of production and the globalization of economies and advertising, local authorities can do little to affect the driving forces that operate at the national and international levels and, some would argue, hinder any progress towards effective environmental health management or sustainable development. For example, there is little point to a municipality's attempting to develop a strategic approach to waste management when, nationally and internationally, individuals and communities are being encouraged to consume more and more.

In their own aims, objectives and plans, national authorities should therefore maintain and support the ethos and principles that underpin the sustainable development and environmental health approaches (56). National authorities that are seen to be working for similar objectives and in the same direction as communities, towns and cities will provide the greatest support and encouragement to the LEHAP process.

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## **LEHAP coordinators/ contact points**

WHO has not published the LEHAPs produced as a result of the WHO/Know How Fund project, but copies may be obtained by contacting the people listed below.

### **Bulgaria**

Mr Lyudmil Ikonov  
Environmental Adviser, Union of Black Sea Local Authorities,  
Varna

### **Kyrgyzstan**

Dr Ainura Djumanalieva  
LEHAP Coordinator, Department of Transport, Communal  
Services, Municipality of Bishkek, Bishkek

### **Latvia**

Ms Spidola Lielmane  
Limbaži District Council, Limbaži

### **Slovakia**

Mrs Katarina Halzlova  
Head of Section, Protection of Population Health, Ministry of  
Health, Bratislava

# **Participants at the review meeting for the WHO/ Know How Fund project**

The following were the participants at a meeting – held in London on 10–11 July 2000 by the WHO Regional Office for Europe and the Department for International Development in the United Kingdom – to review the LEHAP project.

## **Bulgaria**

Mr Lyudmil Ikonov

Environmental Adviser, Union of Black Sea Local Authorities,  
Varna

## **Kyrgyzstan**

Dr Ainura Djumanalieva

LEHAP Coordinator, Department of Transport, Communal Services, Municipality of Bishkek, Bishkek

## **Latvia**

Ms Spidola Lielmane

Limbaži District Council, Limbaži

Ms Gita Rūtina

Director, Department of Public Health, Ministry of Welfare, Riga

## **Slovakia**

Dr Eleonora Fabianova

Director, State Public Health Institute, Banská Bystrica

Mrs Katarina Halzlova

Head of Section, Protection of Population Health, Ministry of Health, Bratislava

### **WHO Regional Office for Europe**

Mr Xavier Bonnefoy

Regional Adviser, Environmental Health Planning

### **Other organizations**

#### **Chartered Institute of Environmental Health**

Mr Graham Jukes

Director of Professional Services, London, United Kingdom

Mr Ian MacArthur

International Project Manager, London, United Kingdom

#### **Sheffield City Council**

Mr Gary McGrogan

Director, Public and Environmental Health Department, Sheffield, United Kingdom

# **Report to the City Council coordinating the development of the “Environment and Health” City Action Plan**

*This is a full report on the methodology used to devise the LEHAP for Varna, Bulgaria, written by the coordinator/contact point, Mr Lyudmil Ikonov.*

## **Health ecology, working and social environmental priorities in the City of Varna**

This report covers health, ecological, work and social environment priorities for the population of Varna, which have been reached following surveys conducted and an analysis of their results. These priorities are presented for the attention of the City Council coordinating the development of the “Environment and Health” City Action Plan; [the Council] must study and accept them or add to and amend them as [it] considers appropriate.

The analysis was conducted by the following team of experts: Senior Assistant Professor Dimcho Tomov, Associate Professor Nevyana Feschieva and Associate Professor Stoyanka Popova. The team completed the task of identifying the above[-mentioned] priorities in accordance with the assignment by the “Environment and Health” City Action Plan project leader and on the basis of the findings of the following two studies:

1. assessment of the state of the environment in the Municipality of Varna (including assessment of public health in the city) for the period 1987–1998 (The results of this assessment were

- presented to the City Council at [its] first and second sessions in October and December 1998 respectively.);
2. public opinion survey among the people of Varna on the state of the environment and public health, and their views on the measures needed to improve these, 1999 (The results from the survey were presented to the City Council at [its] third session in March 1999.).

In addition to the above two studies, the authors have also used all other materials available to them relating to the Municipality of Varna, as well as their own longstanding experience and expertise in this field. The assessment was conducted on the basis of the above information and it outlined the following:

1. health problems recorded in the Municipality of Varna;
2. the three main public health priorities identified from the health problems observed;
3. ecological, working and social environment components and parameters, and conduct affecting public health;
4. functional link between environmental behavioural parameters on the one hand, and identified health problems on the other.

### **Weighting ratios and how they are determined**

In accordance with the methodology set out by the assigning body, each priority, health problem, environmental component and parameter is given a weighting ratio. The assessment uses an expert-defined ten-point rating system, reflecting the significance of each element with regard to the particular health problem. The final result – the environmental weighting ratios (WRs) – are calculated using the compounding method; the WR of a priority is multiplied by the WR of the health problem relating to that priority; the result is then multiplied by the WR of the relevant environmental component affecting the problem and that total is then multiplied by the WR of the environmental component parameter. A parameter may be linked to several health problems and thus have a WR for each one of them. The actual WR of a parameter is the sum of the WRs calculated for all possible problems. The WR of each environmental and health maintenance behaviour parameter presents a qualitative computation of the effect these parameters have on the health problems in the City of Varna.

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The result of the above calculation of WRs established the following components as leading (i.e. having a most negative impact on public health): air quality, vegetation and radiation. The leading working environment components include air quality, radiation and noise levels. The major components of the social environment include health services, social realization of individuals, transport systems and the road network. The most significant components of health maintenance behaviour and activities appear to be smoking, eating habits and recreation.

*Table 1* [not shown here] presents the WRs of the ecological environment parameters. The leading parameters (those with the highest WRs and therefore with the most negative effect) are as follows:

- radiometric indicators
- provision of green areas
- sulfur dioxide in the air.

*Table 2* [not shown here] presents the WRs of the working environment parameters. The leading parameters (those with the highest WRs and therefore with the most negative effect) are as follows:

- dose inhaled (a radiometric indicator)
- toxic substances in the working environment air
- dust (general and fine) in the working environment air.

*Table 3* [not shown here] presents the WRs of the social environment parameters. The leading parameters (those with the highest WRs and therefore with the most negative effect) are as follows:

- the extent of preventive screening and intervention
- access to primary health and medical care
- income
- unemployment levels.

*Table 4* [not shown here] presents the WRs of the health maintenance behaviour and activities. The highest WRs, those considerably ahead of the rest, are as follows:

- structure and characteristics of nutrition
- number of smokers
- intensity of smoking.

## Interpretation of results

The following points must be taken into account when interpreting the above findings.

There is a comparatively small number of expert studies on the effect [that] the environmental components and parameters have on public health at a local level. Such studies do not cover all possible aspects of the effects that have been identified and are discussed in this report. In cases where there is insufficient data from specialist data from specialist studies, the assessment has been made by the experts.

Despite the fact that the intensity of some of the environmental parameters is within the existing norms or does not deviate significantly from these norms, in practice, they do not have an effect on public health because of their prolonged duration or their uninterrupted nature and effect on the population. On the other hand, in addition to the effect of each individual parameter, in most cases we are dealing with their combined, compound effect on the specific climatic and geographical characteristics of the City of Varna. The compounding of a number of parameters of even low intensity can lead to an accumulative effect on public health. This, together with the fact that public health is affected by numerous factors, requires that one adopt an integrated approach when interpreting the WRs of each parameter.

With the approach chosen to determine the final WRs, the values of these ratios reflect the functional link(s) of each component and parameter with a particular number of formulated health problems. Therefore some parameters have a low final WR despite the fact that their individual WR is high (e.g. the parameters of sea and lake waters, landslide occurrence, destruction of the shoreline, access to health and environmental information, number of stray dogs, etc.). This does not mean that these parameters should be ignored in the “Environment and Health” Action Plan just because their effect on public health is indirect and difficult to establish clearly by applying the WR calculators.

Special consideration must be given to the radiometric indicators for air purity [and] deposits in the atmosphere, drinking-water and food, which take a leading position in the ecological environment parameters. Their high WR may mislead a non-expert into believing that this high ratio is a result of significant deviation from the existing norms. There are currently no objective data on

systematic deviation in this respect. The high WR of the ecological radiometric indicators is due to the fact that this is a parameter with a constant effect on people (throughout their whole [lives]) having potentially high health risks with effects that are considerably distant in time. We must also remember that people are very sensitive to the radiation factor, which was also confirmed by the sociological survey carried out by Geopont-Intercom OOD in which the people of Varna expressed their views on the state of the environment, public health and the measures needed for their improvement. In addition, there may exist permanent sources of ion radiation, which are still unknown. All this involves the necessity for unceasing checking of the radiation factor and systematic provision of widely available information on the state of this factor within the various environmental components on the Municipality of Varna.

## **Recommendations to the City Council**

On the basis of the above presented information, we recommend that the City Council adopt the priorities presented in the Appendix [not shown here] and approve for inclusion in the “Environment and Health” City Action Plan the measures aimed at improving the following environmental and behavioural parameters that have the greatest effect on the identified health problems:

1. **ecology:** (1) provision of green areas, including recreation area, (2) sulfur dioxide content [and] dust content in the air (these parameters relate to traffic pollution and local sources of air pollution), (3) contamination of vegetable and meat foodstuffs, (4) contamination of sea and lake foodstuffs, (5) number of stray dogs;
2. **working environment:** (1) dust content in the air, (2) toxic substance content in the air, (3) noise level, (4) provision of ergonomically designed workplaces;
3. **social environment:** (1) percentage of the population involved in preventive intervention programmes, (2) unemployment level, (3) access to primary health care, (4) effectiveness of the maintenance of recreational resources (including maintenance of the beach and control of landslides), (5) effectiveness of solid domestic waste management;

4. **health maintenance behaviour and activities:** (1) percentage of smokers, (2) intensity of smoking, (3) frequency of fresh fruit and vegetable consumption, (4) ratio of vegetable:meat fat consumption in food, (5) level of physical activity.

In addition to the measures designed to alter the above-mentioned environmental and behavioural parameters it is also recommended that the “Environment and Health” City Action Plan include the following measures for monitoring and provision of information:

1. **monitoring of the link between environment and public health:**
  - (1) establishment of a system for monitoring the radiometric characteristics of the air, water and food products in order to identify previously unknown sources of ionizing radiation;
  - (2) establishment of a system of a system for monitoring a range of indicators designed with the specific aim to study the functional link between environment and public health;
2. **establishment of a system for the provision of information to the public and specialists** on the state of the components of the ecological environment and public health in the city, as well as to regulate the access to such information.

Achieving global improvements in environmental health requires action at the local level – this is now universally recognized. Municipalities are the form of government not only closest to the population but also often the most effective at working in partnership with community stakeholders: a prerequisite for any environmental health initiative. Nevertheless, local action cannot succeed in isolation; it must take its place in a supportive framework of national plans and international commitment. The trends towards the decentralization of services and globalization of economies reinforce the need for different levels to play their parts.

International initiatives, such as Agenda 21, have led to local action on the environment and health. These local initiatives seek to improve the health and quality of life of local populations by involving the community in decision-making and by integrating social, economic and environmental concerns into policy and action. In the WHO European Region, agreements reached at Region-wide ministerial conferences led to the development of national environmental health action plans (NEHAPs), which in turn has created a framework for the development of local environmental health action plans (LEHAPs).

This book discusses the international background, analyses existing local planning processes and initiatives in the WHO European Region, identifies their common features and describes how they interrelate with and support NEHAPs. Based on a two-year project carried out in the eastern half of the Region, this book also provides guidance and options for the development of LEHAPs that give the levels of flexibility necessary to ensure that a bottom-up planning process can occur. This publication addresses both local and national policy-makers and professionals in the environmental, health and other sectors. It provides valuable reading for anyone interested in integrated action to improve and protect the environment and health.