

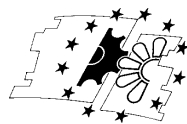
# Sustainable development and health: Concepts, principles and framework for action for European cities and towns



European Sustainable Development and Health Series : Book 1



European Sustainable  
Cities & Towns Campaign



European Commission  
DGXI



WHO Regional Office  
for Europe



Healthy Cities Network

EUR/ICP/POLC060305a–European Sustainable Development and Health Series: 1  
Original English

This publication results from work led by the WHO Healthy Cities project as part of the European Sustainable Cities & Towns Campaign. This work received financial assistance from the European Union through the European Commission, Directorate-General for Environment, Nuclear Safety and Civil Protection (DG XI).

### Keywords

SUSTAINABILITY  
DEVELOPMENT  
POLICY MAKING  
URBAN HEALTH  
CITY PLANNING  
ENVIRONMENTAL POLICY  
HEALTH POLICY  
HEALTH FOR ALL  
(4)EC  
EUROPE

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Cover design: *Central Design*, Glasgow. Book design: Communicable Health

Sustainable development and health: concepts, principles and framework for action for European cities and towns. European Sustainable Development and Health Series, No 1. Charles Price, Editor. Published by the WHO Regional Office for Europe, Copenhagen 1997.

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**T**his is the first document in a series on sustainable development and health produced by the WHO Healthy Cities project within the framework of the European Sustainable Cities & Towns Campaign. It addresses the social, economic, health and environmental state of Europe's cities and towns and outlines the concerns for future development. The major international frameworks are reviewed, with particular emphasis on health for all and Agenda 21.

These strategies share the same fundamental principles and advocate similar processes. Creating more sustainable cities and towns requires action by all sectors of society with the active involvement of the population. Local governments have a key leadership role in facilitating and catalyzing the necessary changes. Action needs to be broad, incorporating economic, environmental, health and social concerns. Sustainable development in cities and towns requires new approaches, new tools and the creation of local long-term action plans incorporating the principles of Agenda 21 and health for all. Future publications in the series will explore in more detail how this can be done.

## Acknowledgements

On behalf of WHO we would like to acknowledge and give special thanks for financial assistance for this work from the European Union through the European Commission, Directorate-General for Environment, Nuclear safety and Civil Protection (DGXI). We would also like to acknowledge the important contribution of the WHO Healthy Cities Project and in particular Dr Agis Tsouros, Regional Advisor for Urban Health Policies and coordinator of the Healthy Cities Project.

We are most grateful for the contributions of the participants of the Multi-city Action Plan on Health and Agenda 21 and the following people who gave technical advice and commented on earlier drafts: Eng Orlando Guerreiro de Almeida and Dr Helena Delgado, Amadora, Portugal; Mr Ray Bateson, Mr Kevin O'Sullivan and Councillor Olivia Mitchell, Dun Laoghaire-Rathdown, Ireland; Mr David Black, Communicable Health Glasgow, Glasgow, United Kingdom; Mr Mark Dooris and Mr Kevin Garritty, Preston, United Kingdom; Ms Stefania Fontanelli, Bologna, Italy; Dr Willy de Haes, Rotterdam, the Netherlands; Ms Mari Hakkala, Turku, Finland; Ms

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**H**uman health and sustainable development are inextricably linked. Agenda 21 (1) – the United Nations programme of action on sustainable development – comprises a framework for action for sustainable development that focuses on economic, environmental, sociodemographic and health factors. The European strategy for health for all (2) provides detailed guidance on taking action on health and shares the fundamental principles of Agenda 21.

Action at the local level is especially important in achieving healthy, sustainable development. Many cities and towns have begun to develop action to address sustainability. Nevertheless, a great deal remains to be learned, especially about how to integrate health into long-term development plans.

This document explores health and sustainable development in relation to the situation in Europe's cities and towns. Health is both an important objective for people and a main component of the process towards achieving sustainable development, as emphasized by Agenda 21. WHO is now working to spell out the practical implications for health of developing and implementing long-term local

action plans towards sustainability for a city or town (such as a local Agenda 21). The fundamental principles of Agenda 21 and those of the strategy for health for all are very similar.

The purpose of this work is make use of WHO expertise and experience in promoting the health component of Agenda 21. Further, this work should identify and address the effects on health of efforts to achieve sustainability and any practical inconsistencies. This document summarizes health-related issues in existing global policies, charters and directives starting in the 1980s and culminating with the United Nations Conference on Environment and Development in 1992 and the Second United Nations Conference on Human Settlements in 1996. Its key recommendation is that action for health that starts with a perspective of achieving health for all need to be broadened to incorporate the need for sustainability.

This is the first in a series of WHO documents intended to assist people in cities responsible for aspects of development such as environment, health and overall urban planning. It is intended to assist in the process of integrating policies and action for

## Introduction

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**“What is the city  
but the people?”**

*Coriolanus, act 3, scene 1, line 198,  
William Shakespeare (1608)*

sustainable development and health. It discusses the state of Europe's cities and towns, describes the major international policy frameworks and explores some of the implications for cities and towns. Subsequent documents in the series will provide more detail on the practical implications for cities. The WHO Regional Office for Europe has prepared this document in close cooperation with representatives of

municipalities belonging to the Multi-city Action Plan on Health and Long-term Action Plans towards Sustainability (such as local Agenda 21) established within the framework of the European Sustainable Cities & Towns Campaign. This work has received financial assistance from the European Commission, Directorate-General for Environment, Nuclear Safety and Civil Protection (DG XI).



The concepts used in the rest of this document are defined here.

The discussion draws on four main sources: Agenda 21 (1), *Our planet, our health* from WHO (3), *Our common future* (4) and the report of the European Commission Expert Group on the Urban Environment *European sustainable cities* (5).

### Development

Development is the process of improving the quality of human life (3). Such aspects of development as economic development, social development or health development are often considered separately, but all aspects interact and are ultimately part of the same whole. A broad international consensus exists on the general principles that should be followed for development (3).

### Sustainable development

Sustainable development encompasses environmental and economic sustenance and sociodemographic and health dimensions. It means development that meets the needs of the present without compromising the ability of future generations to meet their own needs (4). A complementary definition is improving the quality of

life while living within the carrying capacity of supporting ecosystems (6). The European Commission's *Green paper on the urban environment* (7) states that:

Sustainable development is a much broader concept than environmental protection. It implies a concern for future generations and for the long-term health and integrity of the environment. It embraces concern for the quality of life (not just income growth), for equity between people in the present (including prevention of poverty), for inter-generation equity (people in the future deserve an environment which is at least as good as the one we currently enjoy, if not better) and for the social and ethical dimensions of human welfare. It also implies that further development should only take place as long as it is within the carrying capacity of natural systems. Clearly addressing the sustainable development agenda provides new challenges for urban policy integration within holistic frameworks.

Sustainable development is not restricted to environmental problems. It includes integrating overall strategies

for development with action to take account of the long-term effects on the environment and consequently on human wellbeing of current trends in production, consumption and behaviour. Thus, it includes empowerment, equity and health as well as a quality of life that encompasses environment, health and social security. It implies changing existing development strategies, but the details of this are still not clear despite the definition of general principles. The Treaty on European Union (8) makes this link in Article 2:

The Community shall have as its task....to promote a harmonious and balanced development of economic activities, sustainable and non-inflationary growth respecting the environment, a high degree of convergence of economic performance, a high level of employment and social protection, the raising of the standard of living and quality of life.

### Urban sustainable development

Urban sustainable development applies the principles of sustainable development to improving the quality

of life in urban areas. Cities and towns must meet the needs of inhabitants while remaining within the carrying capacity of the local, regional and global environments. Cities and towns cannot meet all their needs from within their own borders. They import water, energy and materials, which are transformed into goods and services, emissions and waste. Their high concentration of people and activities make them major contributors to local, regional and global environmental problems. Most of the world's population will live in cities by 2000, and it is crucial to human development that conditions for urban dwellers continue to improve. Nevertheless, good economic, social and environmental conditions should be developed in each city while taking account of the needs of other cities and the ability of the environment to sustain future generations.

### Health

WHO (9) defines health as:

..a state of complete physical, mental and social wellbeing and not merely the absence of disease and infirmity. The enjoyment of the highest attainable level of health is one of the

fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.

The quality of the environment and the nature of development are major determinants of health. Health is also an important stimulus to other aspects of development. Healthy people are more productive economically, which increases the economic growth rate of countries; investing in health is thus one means of accelerating development (10). More importantly, good health is a goal in itself. The WHO Commission on Health and Environment (3) stated that:

Human health ultimately depends on society's capacity to manage the interaction between human activities and the physical and biological environment in ways that safeguard and promote health but do not threaten the integrity of the natural systems on which the physical and biological environment depends. This includes maintaining a stable climate and the continued availability of environmental resources (soil, fresh water, clean air). It also includes the functioning of the natural systems

which receive the wastes produced by human societies.

Household decisions shape health, but these decisions are constrained by the income and education of the household's members. Governments should concentrate more resources on compensating for market failures and efficiently financing services that will specifically benefit poor people.

The dominant risk factors for the most frequent severe diseases are related to various individual characteristics (such as genetic predisposition or other individual susceptibility) and behavioural and lifestyle factors (such as tobacco smoking, psychoactive drugs, nutrition, alcohol consumption and sexual behaviour). These risk factors combined with a number of environmental factors influence human health. Employment status and satisfaction also affect people's health.

Health indicates the physiological, psychological and social state of human individuals, groups and communities. Health should not be interpreted only in terms of the absence or presence of infection, infirmity or morbidity. Health is defined in relation to all the

environmental and human characteristics of people's daily lives and the reciprocal relations between them, including the impact of human

activities on the health of individuals and groups, their economy and their environment (11).

**W**orldwide trends are increasingly affecting the situation in all regions and local areas. Of particular significance are the reductions in barriers to trade and the influence of world market forces. The manufacturing and service sectors are becoming increasingly globalized. Capital is already highly mobile, and labour is becoming more so. Innovations in technology are rapidly disseminated, and the impact of the revolution in information technology is being felt everywhere. Cities and towns are affected by circumstances and decisions taking place far outside their own borders. At the same time, the impact of urban areas on global systems is also increasingly recognized.

Global and regional economic, social, environmental and cultural trends need to be understood to make sense of urbanization trends and of other trends in the spatial distribution of the world's population over the last two decades (12–14). These trends imply that urbanization will continue in the next century, but population growth rates will slow for many cities in both industrialized and developing countries.

Complex structural changes have transformed the world economy in recent decades. The global economic value of natural resources has declined rapidly. In addition, international trade has grown rapidly and shifted from predominantly goods to mostly financial and specialized services. Mass media businesses have grown rapidly and are being increasingly internationalized. Most of the mass media are controlled by transnational major news services and the television, film and video industries. Tourism has become of major significance to the economies of many countries and to the centres of many cities and smaller towns.

The world is less dominated by cities with more than 10 million inhabitants (megacities) than predicted, although the number of megacities is growing. The links between urban change and economic, social and political change have become reinforced. Urban problems are often blamed on rapid population growth, but the role of increasing population is secondary to the scale of the housing and environmental problems in cities and the lack of provision for piped water, sanitation, sewerage, roads, schools and health centres. The potential

## Global trends in economics, demographics and urbanization

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contribution of cities to sustainable economic and social development can therefore be maximized by promoting competent and accountable governance in cities and towns.

During the 1980s, social trends included higher life expectancy, lower infant mortality and higher literacy. Future trends with important implications for human settlements include the increased recognition of the discrimination faced by women in most aspects of employment, housing and basic services and the growth in the housing rights movement.

In cities and towns in western Europe, economic integration, which is especially being promoted by the European Union, is improving the transport and telecommunication infrastructure and substantially influencing urban patterns. Macroeconomic changes, liberalization programmes and privatization are influencing the form of cities and towns in central and eastern Europe. In the cities and towns of the newly independent states of the former Soviet Union, changes in urban systems largely depend on the extent of their economic success; the lifting of residence restrictions and controls on migration suggests much greater

mobility than in the past.

Two decades ago, national governments had more influence on urban affairs, and most decisions on urban development were made at the national level. Today, the influence of cities and towns on urban development is increasingly recognized. Overall attitudes to urbanization have changed in recent years; traditional perceptions and myths are now being questioned (15).

The urban environment comprises both the built environment and the natural environment nourishing the city, which is changed by urban growth. The concept of the urban environment and how to improve it focuses on people and the physical, social, economic, political and institutional characteristics of the ecosystems surrounding and supporting human life and eventually defining its quality. The environmental problems facing citizens, enterprises and local governments have three broad causes:

- the density of cities and towns
- the profligate use of energy
- the inadequate disposal of waste.

The above causes are related to three factors:

- misuse of resources
- poorly planned distribution
- excessive consumption compared with the carrying capacity of the environment.

International organizations, research institutes, associations and nongovernmental organizations have produced vast literature on the concept of sustainable development. They have four basic approaches, related to the ecosystem, politics, social exclusion and economics (12).

The ecosystem approach, which focuses on the natural environment, shows what a given urban unit requires to conserve its own resources. The concern regarding the future of cities and towns justifies establishing limits on human activity.

The political approach is more recent and was first voiced a decade ago in the reports of international organizations. Sustainable development is defined in terms of human development, which requires a series of political and social prerequisites: freedom of expression, democratic social organization and equality within populations.

The social approach focuses on combating exclusion. The sustainability

of the ecosystem can be measured by the degree of social integration and its future evolution. The weakest sections of the population can participate in community life in numerous ways – from purely consultative procedures to effective integration into decision-making.

The economic approach calls for the economy and the environment to be integrated, especially by factoring environmental effects into economic decisions. Assessing the cost of the measures to be taken and their results is difficult, however. Putting this principle into practice requires the political will to transform the economic system to take sustainability into account.

All cities and towns are the result of an enormous range of investments of capital, expertise and time by individuals, households, voluntary organizations, private enterprises, investors and government agencies. Nevertheless, in many countries the numerous and complex problems of cities and towns were assumed to be the responsibility of national or regional agencies until recently. Over the last two decades, however, critical changes have started to be recognized and promoted.

Cities and towns built on local initiative (rather than national initiative) require a change in emphasis from what national governments should do to how national and regional governments should support the efforts and initiatives of those living and working in cities. City and town authorities increasingly recognize that a person's health can be influenced as much by conditions in the home, at school or at work as by the quality of health care.

Consultation processes with the community and many different agencies and groups have been initiated to develop a vision for the future direction of the city and to understand its current (and past) strengths and weaknesses. People can be mobilized to improve living conditions and to address health and environmental problems by appreciating each city's cultural heritage and by cultivating a sense

of place and belonging to celebrate its unique characteristics and history.

Many cities and towns have shown leadership in developing innovative and successful approaches to addressing health and environmental problems. New generations of elected officials can reinforce local democracy and an accountable form of urban governance, avoiding paternalist or patron-client approaches.

Networking among cities, including the Healthy Cities movement, twinning and exchange of practice and methods has been common in recent decades. These contacts have been based on culture, language and shared historical events.

Decentralization and increased delegation of responsibility to local authorities are a major trend because many national governments cannot deliver successful local development programmes.



**M**ore than two thirds of the people in Europe live in towns and cities. Some are wonderful and healthy places, with work, entertainment, education and services close to where people live. The reality is often different. The health of people in urban areas is an increasing concern. Poverty, pollution, poor services and growing inequality are widespread. In some places essential infrastructure is lacking; in other areas existing infrastructure is decaying faster than it can be replaced. In every city people's relationships with each other and with their environment fundamentally determine their wellbeing.

European cities and towns face the challenge of improving the health and quality of life of their own populations, but they are also partly responsible for the health of people living elsewhere who are affected by the city's impact on the social and physical environments regionally and globally. As major consumers of nonrenewable resources and contributors to global carbon dioxide emissions and other pollution, European cities and towns are a primary focus for efforts to promote sustainable development, including preventing climate change.

In many places decentralization trends are strengthening the remit of local governments to deal with these challenges. Cities and towns can provide an ideal setting for healthy sustainable development. Their structures make joint action between sectors and the involvement of communities easier than at the national level. Local authorities can take the lead in coordinating efforts by workplaces, community groups, national and local service agencies, educational and cultural organizations and other community forces to create a vision and strategies and to take the action needed to improve their city's health.

Nevertheless, cities and towns face huge difficulties in taking action. Some are hindered by administrative systems that block rather than promote intersectoral cooperation. Many have increasing fiscal pressure and difficulty in adapting to rapidly changing political, demographic and economic circumstances.

Cities and towns constitute the foundation of European society and represent an enormous physical, economic and cultural investment. They are crucial to the performance of national economies. They are also enormous consumers of raw materials.

## The state of Europe's cities and towns

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A European city of one million inhabitants uses an estimated average of 320 000 tonnes of water, 11 500 tonnes of fossil fuels and 2000 tonnes of food each day. It produces 300 000 tonnes of wastewater, 25 000 tonnes of carbon dioxide and 1600 tonnes of solid waste (16).

Cities and towns concentrate people and activities and are therefore the focus of many of the economic, social and environmental problems in Europe. Urban areas throughout Europe are showing increased environmental strain, notably in the form of poor air quality, deteriorating water quality in some areas, excessive noise and congestion, lack of green spaces and leisure amenities, poor maintenance of buildings and a general tension between people, buildings and transport. This results in increased emissions and waste and a poor quality of life; increasing resources are then required to manage urban problems.

City residents also experience stress caused by social pressure, rapid change in lifestyles, job insecurity, unemployment, more single-person households and patterns of urban development in recent decades. These patterns include urban sprawl and isolated suburbs, inappropriate transport systems established to serve a sprawling city and large, anonymous shopping centres. In addition, the number of marginalized people is growing, especially but not exclusively in the countries of central and eastern Europe and the newly independent states of the former Soviet Union; poor people, homeless people, elderly people, women and children face particular problems. Slums and substandard dwellings are a problem in Europe, although to a much lesser extent than in developing countries. Finally, migrant populations, illegal immigrants and refugees are posing challenges in many urban areas.

**T**he introduction of a market economy has substantially affected health and environment in many cities in the countries of central and eastern Europe and the newly independent states of the former Soviet Union. These cities have had to deal with a complex array of linked economic, social, environmental and health problems. The transition from central planning to decentralized intersectoral planning in a changing market economy has been a particular challenge. Policies need to be changed, institutions reformed and new laws and standards introduced to meet the demands of the market economy. These changes will transform cities and towns, but only in the long term. Many local authorities face immediate and crucial problems such as housing shortages and a lack of safe drinking-water and sanitation.

The economic crisis in many countries in transition has seriously affected city budgets. The difficult situation has forced cities to make trade-offs between immediate action, unsustainable repair measures and a long-term orientation. New problems are emerging related to land ownership, housing privatization and the increase of private car transport (which directly

affects the urban transport pattern and the urban structure as a whole). Some huge residential buildings remain in poor condition because of lack of maintenance and poor construction standards.

The health indicators in these countries show a high mortality rate (especially among middle-aged men), a high rate of cardiovascular diseases, increasing incidence rates for cancer and a rise in accidental deaths and deaths caused by violence. In some countries infectious diseases are on the rise, including diphtheria, cholera and poliomyelitis (17). The resurgence of tuberculosis is another example of health problems linked to the poor socioeconomic situation of parts of the population. Health-damaging behaviour is also a major problem; consumption of tobacco and alcohol is increasing. Mental health problems, which are partly related to the adaptation to changed social and economic conditions, are reflected in high and increasing rates of alcoholism and suicide and increasing drug use among urban youth.

Traditions of public participation and activity are lacking; in fact, public mistrust towards public authorities is widespread. A very serious cultural

## The special situation of the cities in countries in transition

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problem is human inactivity – apathy is characteristic of the psychosocial environment in some countries in transition. This, together with low public awareness about the environment and health, creates little

incentive and motivation to make necessary and desirable political decisions. It is therefore crucial in these countries to focus on how to establish immediate and tangible results at the local level.

**A** city comprises built thought. Cities and towns are the most visible and obvious expression of culture and have been recognized as such since the first cities were created four thousand years ago. The size, shape and design of buildings, infrastructure, monuments, leisure facilities, services and economic activities are determined through the desire of the inhabitants and through countless human social exchanges. The city both adapts to and shapes technology: from cars to washing machines and from computers to handguns. It reflects and influences the creative arts. It is a stage on which people act out their most personal and most public parts of their lives. Although the physical environment affects the form and functioning of cities, they are primarily shaped by the culture and will of the inhabitants. This is as true today as it was in ancient Athens or Rome. The cities of Europe provide a living showcase of the influence of culture and thinking on the built environment over the centuries. Here can be seen the countless desires and wishes of people transformed into reality via their creativity, energy and social

organization to create splendour, intimacy, living space, communication, commerce and worship.

Cities are profoundly influenced by societal processes and the conflicts and contradictions inherent in human communities. Such social forces as globalization, exclusion, multiculturalism and ethnicity transform cities and towns in various ways and degrees of intensity and present a series of continuing challenges to decision-makers and city residents as a whole. Other crucial transformations profoundly affect cities and towns, including demographic and migratory trends, fertility behaviour and sexuality, gender struggles, family formation or economic and employment trends. The basic implication of the impact of human culture and society on cities is that we get the cities we deserve. People can influence the form and functioning of cities. The sustainable and healthy city can be achieved, but changes in thinking and culture are required.

The following examples illustrate how cities and towns may be influenced by social transformation and by their cultural heritage (12).

## Social and cultural perspectives for European cities and towns

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### **The global city**

Literature is growing on globalization and its impact on cities. A global economy and a new technological and economic paradigm are being created. A new type of urban system is emerging at the global and transnational levels in which cities and towns are crucial nodes for the coordination and servicing of economic units at the international level. The process of globalization not only changes the economic and social fabric and the environment of large urban areas but remodels their spatial structure as well. These developments sharply increase the socioeconomic and spatial inequality within major cities in industrialized countries.

### **The fragmented city**

Throughout the ages, cities have been melting-pots, integrating people of different cultures and languages with tolerance and conviviality. Urban

exclusion means a shift from inequality within a relatively cohesive social entity to fragmentation, isolation and pockets of poverty. If nothing is done to halt the movement from integration to segregation, cities and towns can break up into sectors separated both socioeconomically and geographically, including gated communities and no-go areas.

### **The multicultural and ethnic city**

Cities are cosmopolitan by definition. The most dramatic change urbanization brings is throwing together, in small geographical areas, people from different cultures and backgrounds. The collision of cultures can spark creativity as well as conflict. Few societies are immune to the spectre of violence and ethnic strife. Consolidating the social integration of ethnically and culturally diverse people is a major public policy challenge facing cities and towns now and in the future.

**E**uropean cities and towns and national economies are now firmly integrated into a global system of production, capital movement, trade and investment. All local, regional and national initiatives have to function within the limits set by the global markets. The global competitive pressures have caused massive economic restructuring in European cities and towns: manufacturing industry has declined rapidly as investment and production have moved away from Europe. Employment has shifted mainly to a wide range of service industries. Within some cities, sectoral shifts have been accompanied by the movement of economic activity and employment to the periphery: growth has been concentrated on the outskirts of major cities and in smaller cities and towns. Rapid urbanization can threaten health, the environment and economic productivity within cities. Cities and towns are both engines of growth and sources of concentrated environmental problems. Urban growth and economic development in cities can be driven by the greater concentration of infrastructure and human resources in urban areas compared with rural areas, which can mean greater affluence for

city dwellers. Nevertheless, this concentration of human resources also concentrates pollution, congestion and other negative aspects of city life. The critical and most immediate problems facing cities are the health effects of urban pollution caused by inadequate drinking-water, sanitation, drainage and solid waste services, poor urban and industrial waste management and air pollution, especially from particulate matter. Collectively called the brown agenda, this set of problems disproportionately affects the urban poor and takes a heavy toll on the health and productivity of city residents.

Poverty, economic development and the environment are inextricably linked. This linkage raises the challenges of equity and of the different environmental problems experienced by different socioeconomic groups. Poor people in cities disproportionately face a poor physical environment, and their plight exacerbates the crisis of the urban environment. Many cities face enormous and complex challenges in achieving social sustainability: the ability to continue to function as coherent communities with at least some sense of shared identity and

## Economic perspectives for European cities and towns

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destiny, standards of behaviour and collective provision of basic amenities.

Economic growth by itself seldom improves equity in the distribution of resources or social justice. Patterns of economic growth may deepen social polarization and inequality between different sections of the labour force and different social groups. The agendas for social and environmental sustainability have become linked through a common interest in equity. Concern about the present and future

effects of growth on the distribution of socioeconomic opportunities and the implications for integration and social cohesion has coincided with the growing concern for environmentally sustainable development. The potentially negative effects of various types of economic activity on global sustainability can be reduced by locating them in cities. High density and large scale have both positive and negative implications for the social and welfare effects of economic activity.



The overall state of health of people living in cities and towns is determined by the interaction of socioeconomic conditions, lifestyles, the quality of the local environment and the quality of health and social services. The interaction between these factors is complex and also varies in different circumstances. Much remains to be learned about how various activities affect health and how such information can be related to policy-making. The following factors are relevant to the interaction between health, the environment and overall development:

- the health benefits of urban development, including securing healthy living and working environments, adequate housing, safe water and food supplies, communal facilities and safe transport;
- the detrimental effects to health of damage to the local environment, including local air, water and soil pollution and noise; and
- the detrimental effects to health of damage to the ecosystem, including global climate change, deforestation and the destruction of natural habitats in seas and on land.

Further, the assessment of health is not straightforward. Although there are widely accepted indices for death (mortality) and disease (morbidity), few generally accepted measures can compare adequately people's physical and psychological wellbeing. Although much research has been carried out to identify how specific environmental factors affect susceptibility to specific diseases, the effects of the multitude of factors present in people's microenvironments on their health and wellbeing are poorly understood. Nevertheless, the quality of people's environment is one of the principal causes of differences in people's health.

The average life expectancy in European countries varies vastly. The average life expectancy in the European Union is six years longer than the average in other parts of Europe. Death rates differ vastly between cities in different parts of Europe. For example, some cities in central and eastern Europe actually have lower mortality than some European Union cities (18). Life expectancy may also differ between cities within one country. In the Russian Federation, the life expectancy for people in urban areas varies by about 13 years from one part of the country to another (19). The health of

people living in different parts of the same city may vary by a striking magnitude. In Glasgow, two adjacent areas have a difference in life expectancy of more than ten years (20). The explanation for such geographical variation is complex social and economic factors, but how these factors operate is not well understood. Macroenvironmental factors play a role, but the microenvironmental factors related to living and working conditions are probably more significant.

In western European countries, the overall health situation assessed by conventional measures is improving steadily. In the newly independent states of the former Soviet Union, the health situation has deteriorated markedly in the last decade; unprecedented declines in life expectancy are linked to general economic contraction, increasing alcohol and tobacco consumption and environmental deterioration and are probably exacerbated by the poorly understood effects on health of a feeling of helplessness and apathy among many people.

The state and quality of the community environments in human settlements affect physical and mental

health. More specifically, four main spheres of urban reality influence health:

- economic aspects, including employment and income, availability of social and health services and infrastructure and access to them;
- cultural aspects, such as traditions and behaviour, cultural norms, beliefs, taboos and rituals;
- social aspects, including demographic profiles, family structure, education, social status, civic participation and psychological factors; and
- environmental aspects, focused on land use, availability of clean air, water, land and food, healthy housing, green spaces and waste management facilities.

Poverty is an especially potent determinant of health. It is associated with a higher incidence of many diseases, including heart disease, stroke, cancer and sexually transmitted diseases, including AIDS, and with increasing accidents and violence. Recent trends of growth and decay in some cities have been accompanied by dramatic changes in traditional social structures such as the decline of the

three-generation family, changing roles and expectations of women and men and changes in personal and social lifestyles. In many cities more people

are living alone and supportive social networks are declining, increasing the vulnerability of many people to both mental and physical illness.

## Environmental perspectives for European cities and towns

### 9

This section reviews the quality of the environment in European cities and towns (14,16).

#### Air quality

The main pollutants reducing air quality are sulfur dioxide, particulate matter, nitrogen oxides, carbon monoxide, ozone, lead, heavy metals and volatile organic compounds. The sources of this pollution are urban transport, generation of electricity and heat and industrial activity; air pollution can be exacerbated by local topography (such as in Prague and Sofia), wind direction (Cracow) and local weather conditions (Ljubljana).

Although the levels of sulfur dioxide have generally declined, caused largely by using natural gas instead of coal for domestic heating and electricity generation, the concentrations of other pollutants have increased. An estimated 70–80% of European cities with more than 500 000 inhabitants exceed WHO air quality guidelines at least once a year. Some cities and towns with as few as 200 000 inhabitants already have such problems with air quality (Maribor and Ljubljana). A particular problem is increasing amounts of nitrogen oxides from car exhaust and excess ground-level ozone, which

contributes to photochemical smog. About 90% of Europe's urban population is exposed to potentially health-damaging effects from this source each year.

#### Water quantity and quality

Adequate supplies of clean water are essential for domestic, recreational, industrial and transport activities. The quantity of drinking-water is adequate currently in most countries, but quality is a concern. In some countries, 40–50% of samples do not comply with quality standards; nitrates and pesticides are the most common pollutants. Urban bodies of water are under pressure because built-up areas are expanding, the use of land water is usually not controlled and pollutants are being emitted. The urban structure affects and is affected by changes in surface water and the groundwater table (for example, Amsterdam and Venice).

#### The acoustic environment

Noise is a serious local problem; sources of noise include road, rail and air transport, industry and recreational activities. Many city residents are exposed to noise levels that exceed 65 dB(A): 45% in Sofia, 25% in Budapest,

20% in St. Petersburg, 19% in Cracow, 3% in Kiev and 2% in Amsterdam. In large urban areas, the proportion of people exposed to unacceptable levels of noise (more than 65 dB(A)) can be two to three times higher than the national average.

### Housing

The quality of housing has improved and the average living space per person has increased substantially in western Europe in the past century. The average dwelling space per person in central and eastern Europe is about half of what it is in western Europe, and sanitary facilities such as indoor piped water and toilets are not as widespread. Design, layout and building materials also significantly affect the amenity value and health effects of housing; most people in Europe spend about 80% of their time indoors, so that indoor air quality is an important environmental factor.

### Transport and road traffic

Transport significantly affects the quality of the urban environment; private cars, trucks and other motor vehicles dominate all European cities. Urban sprawl, inadequate planning and public transport and low fuel prices

have led to this situation, which is worsening in most countries in Europe. The health impact of motor vehicles is important. Road accidents are one of the leading causes of years of life lost in most European cities, pollution causes significant detrimental effects on health and the absolute and relative reduction in mobility among people without access to a car, especially those who are vulnerable because of age or infirmity, is another health problem.

### Urban and industrial waste

Waste is an important aspect of environmental quality in European cities; residential waste collection is almost universal, but difficulties in final disposal have increased over the last decade as the volume of waste has increased and suitable disposal methods and/or sites are lacking; recycling is growing, especially in the European Union, but is not systematic in all countries.

### Green spaces, cityscapes and fauna and flora

Cities and towns can offer positive natural and cultural features as amenities; they have important environmental, social and cultural functions. This has been recognized in

most countries in Europe, and legislative and administrative measures protect and enhance these elements. For example, everyone living in Brussels, Copenhagen and Glasgow is within 15 minutes of green spaces and nature compared with 90% for Prague and Zurich, 63% in Bratislava and 47% in Kiev.

### **Material and energy flows**

The flows of energy and water as well as materials, goods and waste are important aspects of the urban ecosystem. Cities import vast quantities of matter and produce waste that is then discharged into the ecosystem, with local, regional and global consequences. Energy flows in European cities are especially serious, as nonrenewable energy is imported and significantly affects regional air quality and global climate change.

### **Patterns of urban development**

Urban development affects both the quality of life in the community environment and the surrounding ecosystem. Important factors include the rate of change in the urban structure and urban economic activities; population density and patterns of building, infrastructure and

land use; and the mobility of people and the related transport volume, modes and infrastructure.

### **Local climate change**

A clear and well documented example of inadvertent climate modification is urban heat islands: the air in the urban canopy is warmer than that in the surrounding countryside, which worsens local air quality considerably.

The following is an overview of the main Europe-wide environmental challenges posed by cities and towns.

### **Loss of biodiversity**

Biological diversity has declined in Europe, where human influence is especially pervasive. European ecosystems include more than 2500 habitat types and about 215 000 plant and animal species. Almost every European country has endemic species that are found nowhere else.

European centres of biodiversity include the Mediterranean basin and the Caucasus mountains on the southeastern edge of Europe.

The implementation of the Convention on Biological Diversity should lead to the sustainable use of biological resources and the

implementation of strategies for achieving this.

### **Decline of freshwater resources**

Water pollution and deterioration of aquatic habitats are severely hampering the use of water for human consumption and wildlife. Much water is lost from leaks in the distribution system for drinking-water; the losses are estimated to average 25–30% for France, the United Kingdom and Spain, with losses of up to 90% in some European cities.

### **Forest degradation**

There are two important causes of forest degradation across Europe: air pollution, which seriously threatens the sustainability of forest resources in central, eastern and northern Europe; and fire, a major concern in southern Europe. Fires are often related to socioeconomic factors; these make it a complex process to control fires since there is often conflict and tension in the overall system of land management. Each year, an average of 700 000 ha of wooded land burns in a total of 60 000 fires in Europe. Coniferous forests are being damaged in the Czech Republic, Germany, Poland and the Slovak Republic, probably as a result of

acidification and high concentrations of ozone and sulfur dioxide in the air. Fifty-four percent of the forests of the Czech Republic have suffered damage from air pollution that may be irreversible.

### **Deterioration of coastal zones**

Many European cities and towns are integral parts of coastal zones, which represent buffer zones between the land and the sea. Human activities physically modify the coastline, and the emission of pollutants harms habitats and water quality. An estimated 200 million people live within 50 km of the European coastline, which is at least 148 000 km long. Marine pollution of the coastal zone is a serious problem in all of Europe's seas.

### **Waste generation and management**

The quantity of municipal and industrial waste and the toxic component are increasing, which creates severe problems in waste disposal and processing. Despite increased emphasis on avoiding generating waste and on recycling, most waste in Europe is disposed of by landfill and incineration. Some waste escapes control or avoids strict regulation by transfrontier movement

within Europe or to developing countries. Strategies to minimize waste generation and ensure safe management are crucial to move towards sustainable patterns of production and consumption. Europe produces more than 250 million tonnes of municipal waste and more than 850 million tonnes of industrial waste annually.

### Major accidents

The environmental and health problems caused by major accidents are a great concern. Attention has been focused on trying to establish what levels of risk to both human health and the environment are acceptable and to achieve these. Risk management focuses on the magnitude of the consequences of an accident and the probability that it will occur. In the Netherlands, for example, processes that have a probability of causing ten deaths in less than 100 000 years are considered unacceptable.

### Acidification

Combustion of fossil fuels emits sulfur and nitrogen oxides into the atmosphere. The gases are converted

into acids that, after deposition, lead to a series of undesired changes in terrestrial and aquatic ecosystems. Adverse chemical and biological effects are caused in lakes, soils and forests as a result of deposition of acidifying substances in amounts exceeding critical loads. Fresh water in large areas of Scandinavia is becoming severely acidified.

### Tropospheric ozone and other photochemical oxidants

The complex reactions that occur in the lower atmosphere (troposphere) produce oxidants such as ozone from the main precursors: nitrogen oxides, volatile organic compounds, methane and carbon monoxide. Levels of these oxidants are increasing and are adversely affecting human health. They can also affect such materials as paint, plastics, crops and possibly forests. In the Northern Hemisphere, tropospheric ozone concentrations are expected to rise at 1% per year. At the ground level, photochemical oxidants, including ozone, can cause eye, nose and throat irritation, chest discomfort, cough, headache and premature ageing of the lungs.



**H**uman activity in Europe's cities and towns is a major contributor to global environmental damage, with consequent threats to human wellbeing both in Europe and in other parts of the world. The high level of resource and energy consumption currently required in European cities and towns generates a significant proportion of global pollution, contributing to such effects as global warming and stratospheric ozone depletion. For example, emissions per person of carbon dioxide, one of the principal gases contributing to global warming, are 5–10 times higher in Europe than in developing countries.

The Intergovernmental Panel on Climate Change predicts that the average global temperature will increase by 2.5°C by 2100. Predictions about climate change are uncertain. Nevertheless, evidence collected since the United Nations Conference on Environment and Development in 1992 confirm the predictions made then that led to Agenda 21. One thing is certain: the unsustainable activities of European cities have very substantial global effects on people's health, the environment and general wellbeing. Action by European cities and towns to

reduce their contribution to world climate change is essential if the threat to world climate and its consequent negative effects are to be ameliorated (16).

The predicted effects of climate change on environment, economy, social conditions and health include a rising sea level, desertification, increased climatic disruption of all forms, crop failures and consequent mass migration. These climate changes against the background of a rapidly increasing global population are likely to increase social unrest and impair the abilities of societies to care for vulnerable groups. People who are already most disadvantaged and vulnerable, especially those living in tropical and low-lying areas, will almost certainly experience the most serious consequences of global warming.

Climate change is likely to disturb various ecosystems, thus triggering off a host of mostly adverse effects on human health. Most of the current environmental health problems are local or regional. Many of the anticipated health effects of climatic change would affect large populations in many regions. The most direct health effects would be those caused by

## The global effects of European cities

heat and cold waves, storms, floods and droughts; the least direct effects would result from socioeconomic disruption caused by environmental deterioration. Many of the indirect public health effects would occur slowly, via the effects of climate change on agriculture, ocean fisheries and infectious disease transmission (21).

Stratospheric ozone depletion is another global phenomenon that affects environment and human health. It is caused by the release of chloro- and bromofluorocarbons, which are chemicals used as refrigerants, industrial cleaners, foaming agents and fire

extinguishers. The consequences include possible changes in atmospheric circulation and increased ultraviolet B radiation on the Earth's surface, which may lead to increased levels of skin cancer, eye cataracts and effects on ecosystems and materials. For example, the stratospheric ozone concentrations at mid-latitudes over Europe have declined by 6–7% during the past decade. Europe emits about one third of the total ozone-depleting substances in the world. Skin cancer deaths due to increased ultraviolet B radiation are expected to reach two per million inhabitants per year by 2030.

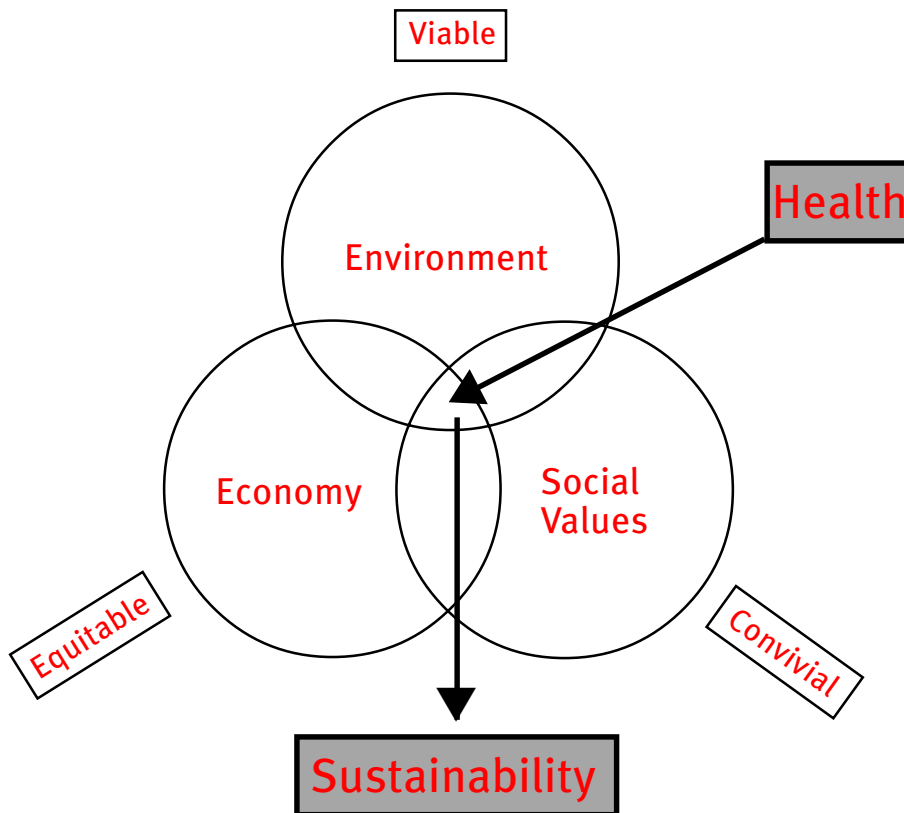
A model of the relationship between the social, economic, health and environmental aspects of sustainable development

is shown in Fig. 1 and 2.

The fact that the social, economic, environmental and health aspects of urban development are interrelated has

## Towards an integrated approach

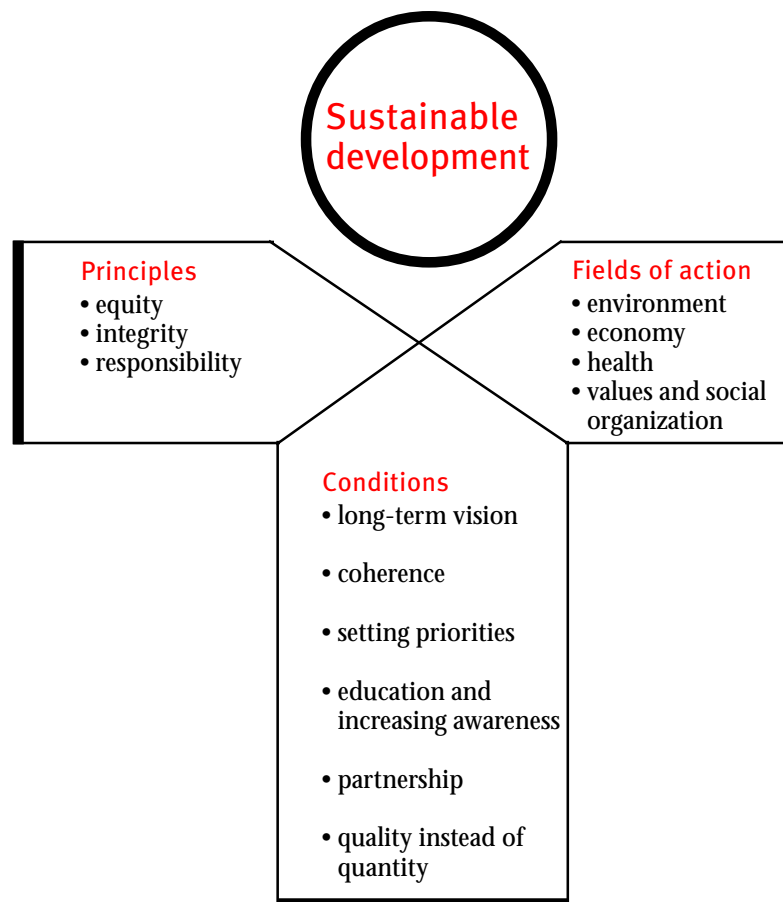
Figure 1: A conceptual model of sustainable development



been increasingly appreciated over the last decade. The global impact of local action and the local impact of global action are now widely recognized. New

strategies are needed based on this. These strategies, which are discussed further in the rest of this document, need to have numerous qualities.

Figure 2: Principles of sustainable development and fields of action



### **Global responsibility**

European cities and towns produce pollution and waste that have global consequences. These cities and towns have to take responsibility for developing solutions that can benefit their own populations and people living elsewhere.

### **An integrated approach**

Most environmental problems are directly related to human activity and directly or indirectly affect human health. Economic and other forms of human activity affect both the environment and human health positively and negatively. An integrated approach is needed for the overall development of urban areas that takes account of health, the environment and economics: sustainable development.

### **Partnership**

A partnership is needed to activate and coordinate all sectors of society through new forms of public participation and awareness. This can ensure comprehensive strategies for addressing environmental and health challenges at the source by integrating these challenges into national and local policies and programmes.

### **Participatory approach**

Motivated residents, partnerships and access to the tools of democracy give the public a better sense of local realities and of the diversity of interests involved. This reinvention of democracy can lead to an open forum that enables local public policy and strategies to be evaluated and adapted continually.

### **Transforming governance**

Civil society and shifts in governance are becoming increasingly important. In addition to traditional stakeholders, new players are entering the field: nongovernmental organizations (including citizens' movements), transnational corporations and national and international mass media. This trend is leading to the recognition that a shift is required from a transnational to a global agenda to achieve health for all and sustainable development.

### **A sustainable urban policy**

A sustainable urban policy needs to be based on a strategy that transcends the sum of its sectoral parts. The scales for analysing and comparing space and time need to be determined. A city is a whole, but in many cities the parts are

managed without a holistic vision.

As environmental, urban and health challenges are interrelated, an integrated approach is required that undertakes action at various levels simultaneously. The main directions and leverage points that can be used to integrate the approaches include:

- integrating policy at the highest levels to move away from sectoral approaches and to aim towards intersectoral coordination directed towards sustainability;
- striving for integrated land-use planning and spatial management, a powerful tool for reducing the overall impact of settlements on the community and regional environments and for improving conditions within settlements;
- promoting sustainable urban planning, an important tool for realizing a sustainable society by balancing and integrating a variety of different requirements and interests;
- managing flows in cities, including water, energy, materials and waste, in accordance with ecological principles but aided by technology, which can both improve efficiency and amenity and contribute to the sustainable use of resources;
- managing the urban environment for quality, amenity and health both through physical approaches and by applying economic instruments and legislation;
- integrating urban and health planning and management by addressing both using a comprehensive action framework that includes the concept of urban health as a means of focusing the issues;
- applying facilitative management techniques and best practices, including environmental and health impact assessment, environmental accounting, eco-auditing, green procurement and economic instruments;
- setting targets for health and sustainability, a powerful way to focus attention on crucial challenges and to provide a timed framework for action;
- building institutional capacity by setting up mechanisms to facilitate cooperation and coordination and the training of staff in interdisciplinary methods;
- delegating decisions to the local

level, including decentralization, empowerment of local authorities, full citizens' participation and participation of local citizens' groups and other nongovernmental organizations; and

- monitoring and evaluating policies, planning, management approaches and activities and instituting feedback mechanisms to re-calibrate the system as necessary.

## International frameworks for health and sustainable development

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Recent global summits, including the United Nations Conference on Environment and Development (1992), the United Nations Conference on Population and Development (1994), the World Summit for Social Development (1995), the United Nations Conference on Women in Development (1995) and the Second United Nations Conference on Human Settlements (1996), have placed health and human development onto the policy agenda. These initiatives have achieved a global consensus on development that emphasizes policy integration, participation and action at all levels, especially the local level. This section reviews the key international initiatives that are relevant to health and sustainable development in cities and towns.

### United Nations Conference on Environment and Development

The United Nations Conference on Environment and Development was held in June 1992 in Rio de Janeiro, Brazil. Five major agreements on the global environment were adopted. The Framework Convention on Climate Change and the Convention on Biological Diversity were formal

treaties whose provisions are binding on the parties. The other three agreements were non-binding statements on the relationship between sustainable environmental practices and the pursuit of social and economic development. Agenda 21 is a wide-ranging assessment of social and economic sectors with goals for improving the environmental and developmental impact of each sector. The Rio Declaration summarizes 27 consensus principles for sustainable development. The Statement on Forest Principles pledges parties to move towards more sustainable use of forest resources.

### Agenda 21

The United Nations programme of action on sustainable development is a detailed plan of initiatives that has greatly influenced thinking and action at all levels. It emphasizes the importance of local action in bringing about change. Agenda 21 addresses all major areas of development, especially emphasizing the environment but also considering international cooperation, poverty, human health and population. It emphasizes several key aspects of social development, including equal rights and empowerment and



education. Agenda 21 devotes one chapter to the role of local authorities and identifies local governments as one of the main partners in implementation. About two thirds of the recommendations have implications for cities. Planning, local capacity-building, community and intersectoral involvement and information are highlighted as processes for implementation. Several guides to Agenda 21 have been produced, some specifically for local governments (22–24). Four of the 40 chapters of Agenda 21 are most significant for action contributing to both health and sustainable development.

#### Chapter 6 – Protecting and promoting human health

This chapter focuses on five main challenges – meeting the urban health challenge, reducing the risks from environmental pollution and hazards, protecting vulnerable groups, controlling communicable diseases and meeting primary health care needs. It advocates four main groups of activities to meet the urban health challenge: developing and implementing municipal and local health plans; surveying, where

necessary, the existing health, social and environmental conditions in cities, including the documentation of differences within cities; strengthening environmental health services; and establishing and maintaining city networks for collaboration and exchange of models of good practice.

#### Chapter 7 – Promoting sustainable human settlements development

This chapter discusses providing adequate shelter for all; managing human settlements; promoting sustainable land-use planning and management; integrating the provision of environmental infrastructure, including water, sanitation, drainage and solid waste management; creating sustainable energy and transport systems; developing planning and management for disaster-prone areas; encouraging a sustainable construction industry; and promoting human resource development and capacity-building.

Paragraph 7.20 recommends that the WHO Healthy Cities project and the Sustainable Cities Programme of the United Nations Centre for Human Settlements be intensified to support cities in developing and strengthening their activities along a sustainable path.

#### Chapter 9 – Protection of the atmosphere

This chapter includes four programme areas: improving the scientific basis for decision-making; promoting sustainable development (energy, efficiency and consumption, transportation, industrial development, terrestrial and marine resource development and land use); preventing stratospheric ozone depletion; and preventing transboundary atmospheric pollution.

#### Chapter 28 – Local authorities' initiatives in support of Agenda 21

This chapter emphasizes the importance of local action and coalitions. Objective 28.3 proposes that, by 1996, most local authorities in each country should have undertaken a consultative process with their populations and achieved a consensus on a local Agenda 21 for their community.

Most of the other chapters of Agenda 21 refer explicitly to health. More than 200 references to health include: occupational health and safety; primary health care; mental health care; maternal and child health; poverty and health; health impact assessment of industrial products;

housing and health; environmental infrastructure; transport and health; energy and health; toxic waste; radioactive waste; the health impact of atmospheric changes; the health impact of air and water pollution, deforestation and ultraviolet radiation; the relationship of health to water and sanitation; the impact on health of structural adjustment programmes; solid waste; including health as part of cost-benefit assessment, education and information; the need for public consultation and involvement; and the need for intersectoral action involving health.

Agenda 21 forms the basis for action for many sectors and levels of government, but the key role of local governments is clearly highlighted. The agreements from the United Nations Conference on Environment and Development are an agenda for development to enable people living now and in the future to have a healthy and productive life in harmony with nature. The type of development described in Agenda 21 has to be qualitatively different from mere economic growth: it must take account of economic, social, cultural, political and environmental and health concerns – both for present generations

and for future ones. Other aspects are recognized, including the interdependence of countries and communities and the need to involve people in the decisions and actions that affect their lives. The approach to sustainable development pursues a course of action that is economically efficient, socially equitable, responsible and environmentally sound.

### United Nations summit conferences

The major recent United Nations summit conferences have clearly defined the relationship between health and poverty, unemployment and social disintegration. Women may illustrate best the combined impact of poverty, unemployment and social disintegration on health and the quality of life. Some attempts have been made to change cities and towns to meet women's needs, but too much of the effort so far has been on behalf of women and not enough by and with women. Women need to be fully integrated into the urban management process (25). By the year 2000, half the world population will live and work in cities and towns. The other half will increasingly rely on cities and towns for their economic survival. Cities and towns are seriously affected by

overcrowding, environmental degradation, social disruption, underemployment and poor housing, infrastructure and services. About 120 million people are unemployed and 700 million severely underemployed in the world, including many city dwellers and inhabitants of shanty towns and peripheral districts. Public policies need to address turning these dispossessed city dwellers into full citizens: integrating refugees from the countryside by providing accommodation and helping them to remain productive and effective citizens.

### Second United Nations Conference on Human Settlements

The Second United Nations Conference on Human Settlements (Habitat II) was held in Istanbul on 3–14 June 1996. The main objective was to make the world's cities, towns and villages healthy, safe, equitable and sustainable. Other objectives included: placing urbanization and urban-rural relationships at the top of international and national development agendas; promoting new policies and strategies for managing urbanization and housing development; and helping to improve community environments and

to highlight needs and opportunities for investment in infrastructure and services. The Habitat Agenda comprises a Statement of Principles and Commitments and a global plan of action adopted by the Conference. The Agenda addresses key challenges facing the world's towns and cities over the next two decades, with a special focus on remedial action from 1996 to 2000. The growth of urban agglomerations also provides a challenge for the future, especially when urbanization is accompanied by increased social polarization, poverty and unemployment. Urban violence is emerging as a major challenge for public health (26).

### Health for all

Health for all is the global strategy for health development advocated by the WHO and endorsed by all 189 Member States. The foundation for health for all was laid in May 1977 when it decided that the main social target of governments and WHO in the coming decades would be the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. The development of a common European

policy based on the principles of health for all was agreed by all the European Member States in 1980. This was elaborated into a detailed health strategy with 38 targets that was approved in 1984 and updated in 1991. The strategy has been built on detailed policy agreements in specific areas that include health promotion and the environment (discussed later). All United Nations summit conferences emphasize health for all. For example, the first principle of Agenda 21 states that:

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

The strategy for health for all is built on the premise that improving health requires action in three main areas: lifestyles, environment and the health care sector. Seven values and principles lie behind the action advocated to achieve the targets: equity, ethics, participating communities, health promotion, primary health care, the need for intersectoral action and international collaboration. Target 18 of the European health for all strategy

(2) is the main target for health and sustainable development:

By the year 2000, all Member States should have developed and be implementing policies on the environment and health that ensure ecologically sustainable development, effective prevention and control of environmental health risks and equitable access to healthy environments.

The concept of health for all has been further elaborated and incorporated into a number of international agreements and action plans, such as the Environmental Health Action Plan for Europe adopted in 1994. More than half the European Member States have created or are creating national strategies for health for all. The WHO Healthy Cities project is leading the process of developing local strategies for health for all.

The Healthy Cities project has brought health for all to the cities and towns of Europe through a vehicle emphasizing other aspects of health

than health care. Making health the business of every sector is probably the most significant achievement of this project. Since 1987, the Healthy Cities project has developed into a major public health movement at the local level, involving networks of over 550 cities throughout Europe. The project has become one of the main instruments of the WHO Regional Office for Europe in implementing the European regional strategy for health for all. The Healthy Cities project exemplifies positive action being carried out at the local level.

The process of updating the global strategy for health for all began in 1994. The process will culminate in 1998 with the presentation of a new health charter at the World Health Assembly organized around the themes of equity, solidarity, sustainability and health. The consultation process is involving various networks of cities and towns and is building on the outcome of the policy renewal processes that are already well advanced in many regions and countries.

## European frameworks for policy on environment and health

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The Environmental Health Action Plan for Europe (27) and the Declaration on Action for Environment and Health in Europe (28) describe the environmental health action to which the European Member States of WHO are committed. They are intended to achieve the health policy objectives of WHO's European strategy for health for all and key environment and health objectives of Agenda 21. The Ministers of Health and Ministers of Environment from the 50 European Member States endorsed the Action Plan and the Declaration in Helsinki in June 1994.

The Environmental Health Action Plan for Europe emphasizes improving the environment and institutional health structures including: an environmental health information system; systems to identify and assess environmental health hazards; a framework of enforceable legislation; control measures, including economic and fiscal instruments; environmental health services; professional training and education; public information and health education; and research and technological development.

Action is recommended on specific environmental health hazards and on the wider aspects of living and working

environments and the effects of various economic sectors on environmental health. Specific areas include: water quality, air quality, food safety and quality, solid waste and pollution, exposure to ionizing and nonionizing radiation, natural disasters and industrial and nuclear accidents.

The Action Plan calls for local governments to take greater responsibility for the environment coupled with greater public participation and accountability. Although the Action Plan mainly emphasizes producing national plans on environmental health, there is also a clear requirement to work with local governments and, where appropriate or constitutionally required, to invite local governments to draw up their own environmental health action plans.

Each Member State should prepare a national environmental health action plan by 1997 to achieve long-term policy objectives:

- involving relevant actors, especially local governments;
- creating a strong link between public health and environmental health;
- improving policy tools;
- sharing responsibility with economic sectors; and

- promoting international action (including international cooperation, support for the development of national action plans, transboundary problems and support for the countries in transition).

The content of national action plans includes fulfilling the basic requirements for environmental health; preventing and controlling medium- and long-term environmental health hazards; and promoting human wellbeing and mental health.

The European Environmental Health Committee established in Helsinki is providing assistance in coordinating the implementation of the action plan. It has representatives of the WHO Regional Committee for Europe, the United Nations Economic Commission for Europe, the European Commission, the Organisation for Economic Co-operation and Development and the United Nations Environment Programme.

### The European Union

The 1992 Treaty on European Union (8) marks an important shift away from the pursuit of economic growth regardless of the environmental

consequences. It introduces the promotion of sustainable growth as a major policy objective. Article 2 states:

The Community shall have as its task...to promote...sustainable and non-inflationary growth respecting the environment...

In addition, Article 130b requires

That environmental policy should contribute to the strengthening of economic and social cohesion.

The European Union's fifth action programme on the environment adopted in February 1993 sets the environmental agenda for the Union for 1993–2000 and beyond. This programme incorporates many of the approaches to sustainability that arise from Agenda 21, such as the need to involve partners at all levels: individuals, communities, businesses as well as local and national governments and the need to integrate policy in a wide range of sectors (29).

### National action by European Member States

All European Member States of WHO have committed themselves to

developing national policies based on health for all. Twenty-four Member States have developed or are developing a national strategy for health for all and nine Member States are developing national environmental health action plans.

The United Nations Commission on Sustainable Development is reviewing national responses to Agenda 21, and a number of reviews have been published or are in preparation (30). Most

European countries are committed to developing national strategies for sustainable development. In some countries, including Denmark, France, the Netherlands and the United Kingdom, local governments have an explicit role in environmental policy-making and implementation. An increasing number of countries are requiring each unit of local government to create a long-term action plan (such as a local Agenda 21).



**A** high level of activity is underway in Europe to encourage and support local authorities in taking action for sustainable development. This includes support from the European Union and national governments to facilitate local action as well as local governments acting alone, networks of local governments within countries and European networks of local governments.

### **The European Sustainable Cities & Towns Campaign**

The European Sustainable Cities & Towns Campaign has arisen from Chapter 28 of Agenda 21 and the European Commission's fifth action programme on the environment. The Campaign forms part of the Sustainable Cities Project, the overall cooperation between the Campaign, the European Commission's Expert Group on the Urban Environment and the Commission's Directorate-General for Environment, Nuclear Safety and Civil Protection. The objective of the Campaign is to promote development towards sustainability through local Agenda 21 processes by strengthening partnership among all actors in the local community as well as cooperation

between local authorities.

Major European networks of local authorities are coordinating the Campaign: the Council of European Municipalities and Regions, Eurocities (the European Association of Metropolitan Cities), the International Council for Local Environment Initiatives, the United Towns Organization and the WHO Healthy Cities project. The Campaign receives financial assistance from the European Commission and has an office in Brussels.

The Aalborg Charter was adopted at the first European Conference on Sustainable Cities & Towns in Aalborg in 1994. The Charter initiated the European Sustainable Cities & Towns Campaign and proposed a number of stages in preparing a local action plan (such as a local Agenda 21). More than 200 local authorities have signed the Charter, committing themselves to producing a local action plan for sustainable development.

The Campaign has initiated a number of activities through collaborating networks to support these cities and to encourage other cities. These activities include the development and publication of guidance on local planning, training

## **Local action plans for sustainable development**

courses, seminars, databases on good practices and networking. The Healthy Cities project, for example, is leading the work on health in relation to sustainable development, of which this document is a part.

The second phase of the Campaign (1996–1998) is implementing the Lisbon Action Plan adopted at the Second European Conference on Sustainable Cities & Towns in Lisbon in October 1996. The Action Plan focuses on how to implement the principles laid down in the Aalborg Charter and how to start and conduct a local Agenda 21 process and provides practical steps on how to plan the implementation of local sustainability plans. The principles of the Action Plan include:

- preparing local governments for the local Agenda 21 process;
- establishing strategies for community involvement;
- defining the local Agenda 21 approach and planning;
- defining sustainability management tools

- raising awareness and education; and
- strengthening partnerships and cooperation between local authorities.

### The WHO Healthy Cities project

The WHO Healthy Cities Project started in 1987, and 35 cities have been designated as European project cities. The first phase of the project, from 1987 to 1992, emphasized advocacy and, by tackling the political and institutional barriers to change, laid the foundation for successful work towards health for all. The strategic objectives of the second phase (1993–1998) include speeding the adoption of policy at city level, strengthening national and subnational support systems and building strategic links with other sectors and organizations that influence urban development. Comprehensive city health plans are setting explicit targets and tackling challenges such as equity and sustainable development while establishing mechanisms to promote accountability for health.

**A**genda 21 (1) emphasized health as indispensable to sustainable development:

By the year 2000, most of the world's people will be living in cities. Health and development are intimately interconnected. Lack of development adversely affects the health of many people, but development can damage the environment in ways that also reduce health. Primary health care needs, communicable diseases, protection of vulnerable groups, urban health and health risks from pollution are the focus of protecting and promoting human health conditions.

The massive increase in urbanization and the impact of urban areas on the global environment mean that creating sustainable cities is essential to sustainable development at the national and international level. The relationship between health and sustainability includes social sustainability as well as environmental sustainability. The message of Agenda 21 and health for all is that community and social development need to be integrated with concern for the quality of the environment. Poverty and socioeconomic inequality contribute

greatly to inequality in health and to unsustainable patterns of development. When inequality becomes too great, the idea of community becomes impossible.

Practical guidance is needed about how to link sustainability and health more practically, and examples of this have been coming from Europe and elsewhere. For example, the University of British Columbia Task Force has been working to develop two tools to achieve sustainability – an index of ecological carrying capacity and an index of social carrying capacity – and to apply these tools in the City of Richmond. The Canadian Healthy Communities Project has developed a process called healthy communities and sustainable development: two paths to one goal (31).

Agenda 21 advocates the development of local action plans for sustainable development and gives some guidance on the processes for achieving this. Agenda 21 and the strategy for health for all overlap considerably but are not identical. Health for all focuses mainly on health and the environment, whereas Agenda 21 covers all sectors concerned with overall development with a particular emphasis on how they can contribute

**Health and sustainability: the same agenda**

to sustainability. The European health for all strategy, including the Environmental Health Action Plan for Europe, provides more specific guidance that supports the objectives of Agenda 21.

The common principles of sustainable development derived from Agenda 21 and health for all are almost identical (Table 1 p.51):

- development must be equitable if it is to be truly sustainable;
- an interdisciplinary and holistic approach is required;
- the social and ecological

interdependence of communities must be recognized;

- sustainable development is inseparable from economic, health and social development;
- sustainable development requires the commitment and cooperation of local governments;
- local support and local action are necessary; and
- promoting public participation is key in this process.

Fig. 2 (p.34) summarizes the main principles and fields of action of sustainable development.

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

<b>Principles</b>	<b>Health for all</b>	<b>Local Agenda 21</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>	<b>Health for all</b>	<b>Local Agenda 21</b>
Consider 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 not explicit
Vision	yes	yes
Long-term action plan with targets	yes	yes
Monitoring and Evaluation	yes	yes

Price and Tsouros (32)

## Challenges for cities and towns

Creating healthy cities in the twenty-first century requires a constant dialogue on health in human settlements. Health for all needs to be promoted in a spirit of equity, solidarity and respect (33) by:

- creating a healthy environment
- responding to specific health problems
- meeting the needs of specific population groups
- promoting lifestyles that are conducive to health.

The most serious health problems evident in cities and towns today and the approaches by which they can be addressed are based on successful experience. The challenges to creating healthy cities in the twenty-first century include integrating health in city management, controlling emerging and re-emerging infectious diseases, promoting the health of women and of children and improving environmental health.

Healthy cities can be built by making health integral to city management and developing and implementing programmes that include a shared vision of the future among all key groups within a city (33).

Emerging and re-emerging infectious diseases, such as tuberculosis in the 1990s, can be controlled by addressing the problem of the resurgence of infectious diseases and identifying the preventive measures cities and national authorities can adopt to reduce the adverse effects on health of these diseases if they do appear (33).

Women's health can be promoted by improving the understanding of the practical health needs of women in cities, especially in reproductive health, domestic violence and the discrimination that women face in access to housing, financing and employment (13). For example, the women's health policy for Glasgow contains four recommendations to improve health and wellbeing in Glasgow: to raise awareness about women's health needs and an understanding of a woman's health perspective, to introduce this awareness into policy and the planning processes of statutory and voluntary agencies; to ensure that women's health needs and a woman's health perspective are incorporated into the delivery of all services; and to ensure the provision of services and support specifically for women.

Children's health can be promoted by addressing the health needs and priorities of children in cities, especially such vulnerable children as street children, working children and children abused through sexual tourism, and by working to provide safe and stimulating community environments, including homes, schools and playgrounds (34).

Environmental health can be improved by tackling the problems of water supply and sanitation and finding new approaches to solve them. Environmental health also includes recognizing the positive effects on health of improving air quality in cities and of sustainable solid waste management and taking action to achieve them (14).

## Tools for achieving health for all and sustainable development

Different types of tools are needed to develop a good and useful approach to sustainable development (5,24,35). Future documents in this series will summarize instructive case studies related to these tools.

Policy tools include general and specific biophysical, health, economic, social and cultural guidelines and indicators. Planning tools include: techniques and information for day-to-day planning in transport; increasing the density of residential housing; natural landscaping; and recycling, reusing and recuperating. Urban planning is an instrument that can improve the urban environment by: encouraging greater diversity and avoiding urban sprawl; redeveloping urban wasteland; revitalizing city areas; and improving urban design.

Development tools should be based on viable strategies and on the notion of the carrying capacity of nature and human beings. Information tools include urban baseline data, periodic status audits (such as the state of the environment or health reports) and impact monitoring and exchanging information through networks.

Fiscal tools should pay attention to the notion of equity. Incentives can include tax relief for those who live close to where they work; disincentives can comprise taxes related to car use. Other fiscal tools include subsidies for public transport, life cycle costing and appropriate government procurement policies.

Decision-making tools include land-use planning, environmental impact assessment, mediation skills, stakeholder and interdisciplinary teams and mechanisms to ensure greater public involvement. Educational tools can target urban planners and health practitioners and other key personnel and include conferences, workshops, case studies, training and small group sessions.

Participation tools involve institutionalized means for consulting and participation and mechanisms and support for the distribution of information to the public by newsletters, campaigns and offices. Information, awareness and education of local populations are essential for a sustainable policy. Public participation is intended to change roles, thinking and behaviour.



Cities and towns need to be more consciously planned if they are to address sustainability properly; this cannot be left to spontaneous mechanisms or to market forces. Planning practices need to be changed to reflect a new awareness and to integrate environmental, health, economic and social concerns in the twenty-first century. For example, new official plans and new town plans should be guided by a set of community values. Sustainability and sustainable development mean that environmental, economic and social needs are complex and require integrated decision-making. Furthermore, both experts and laypeople must better understand how decisions made today could affect the quality of life for future generations. The task of making cities more sustainable emphasizes changes of policy and behaviour at all levels, cooperation and community participation and urban planning. Health and poverty will remain the basis of this new challenge because of the connections between poor urban living conditions, poor quality of life, adverse effects on health and adverse effects on the environment. Substantial work is currently underway to

determine how best to implement these challenges in the planning process, but this work needs to be developed further. Planning challenges that need to be considered in more detail in relation to sustainability include the closer integration of environmental, economic and health planning and the further development of participatory planning processes.

Urban poverty has grown dramatically during the 1980s and 1990s, even under conditions of economic growth. Governments and international agencies have had limited success in improving housing and living conditions, including expanding the provision of safe and adequate water supply and adequate sanitation and drainage. Nevertheless, there are success stories in improving housing and living conditions even if they are limited. The following are principles for future action for more sustainable development.

#### **From environmental protection to sustainable development**

Cities and towns concentrate population and production. This offers many potential advantages in minimizing the generation of waste,

## **Towards future sustainable development**

resource use and dependence on cars. Citizens, businesses and city authorities will have new roles in establishing sustainable patterns of urban production and consumption, as sustainable development goes beyond protecting the environment to improving people's health and wellbeing without adversely affecting people living now or in the future. Drastic changes in lifestyle and in the organization and content of production and consumption are required. Such changes require informed and long-term public participation and cooperation between all sectors. A new environmental management must include a very sophisticated understanding of the numerous factors shaping the urban environment and advanced activities and techniques to assist the city residents in achieving sustainability.

#### **The social components of sustainable development**

Social equity, justice, integration and stability are central to a well functioning urban society. Their absence leads not only to social tensions and unrest but also to civil unrest and violent ethnic conflicts.

Meeting this challenge requires reducing poverty and other forms of deprivation, including social exclusion.

#### **New approaches to planning**

Many of the challenges summarized here arise from inadequate and inappropriate planning and provisioning for settlements. Planning becomes even more necessary in the light of the social, economic and environmental impact of increasing urbanization, increasing consumption and the accelerated support for sustainable development since Agenda 21 was adopted.

#### **Accountable urban governance**

Competent and accountable urban governance is needed to ensure that the potential contribution of cities and towns to economic and social development is realized. A positive view of cities is now emerging. This emphasizes the central role of cities in strong, competitive and adaptable economies. Cities and towns have tremendous potential to combine safe and healthy living conditions, cultural splendour and diverse lifestyles with remarkably low levels of energy consumption, resource use and waste. Good urban governance also requires

an appropriate legislative framework and support from national governments.

Agenda 21 calls for local Agenda 21 plans and for municipal health plans, which are also advocated as part of the WHO strategy for health for all. The principles and processes advocated for

carrying out city planning for health and sustainable development are very similar (Table 1). The challenge now is to explore how these plans can be created and implemented. The next document in this series will look at how to do this.

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