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GREEN PAPER ON THE URBAN ENVIRONMENT

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TABLE OF CONTENTS

INTRODUCTION.....	1
CHAPTER ONE : THE FUTURE OF THE URBAN ENVIRONMENT.....	6
1. City and Urbanization.....	6
The spread of urbanization.....	7
The city as a project.....	7
The essence of a European approach.....	8
The role of cities.....	9
Creativity.....	9
2. The Urban Environment.....	10
The complexity of the urban environment.....	11
Urban pollution.....	14
The built environment.....	22
Nature in the city.....	25
3. The Root Causes of Urban Degradation.....	25
Functionalism.....	26
Production and organisation of work.....	26
Distribution and conception.....	27
Hotels, restaurants and housing.....	28
Tourism.....	29
Communication and mobility.....	29
CHAPTER TWO:TOWARDS A COMMUNITY STRATEGY FOR THE URBAN ENVIRONMENT...31	
1. Targets for Urban Environmental Improvement.....	31
2. Constraints on effective environmental management.....	32
3. Guiding Principles for Urban Environmental Improvement.....	34
4. Instruments of Community Action.....	35
5. Areas of Action.....	39
5.1. Urban planning.....	40
5.2. Urban transport.....	42
5.3. The protection and enhancement of the historical heritage of European cities.....	46
5.4. Protection and enhancement of the natural environment within our towns and cities.....	47
5.5. Water management.....	48
5.6. Urban industry.....	48
5.7. Urban energy management.....	49
5.8. Urban waste.....	51
5.9. Comparative information on the state of the urban environment.....	52

5.10. Information Initiatives.....	52
5.11. Social Initiatives.....	53
5.12. Interregional co-operation.....	54
6. Resume of priority suggested lines of action.....	54
7. The next steps.....	57

Appendix 1 : Articles of Treaty covering environment

INTRODUCTION

Dealing with the problems of the urban environment requires going beyond sectoral approaches. However useful and necessary the setting of targets for air quality, water quality, maximum noise levels, etc. in Directives and Recommendations, finding lasting solutions to the environmental problems facing our cities requires a wider view of their origins. This means addressing not just the proximate causes of environmental degradation, but examining the social and economic choices which are the real root of the problems.

The problems of the cities are an early warning signal of a more deep-seated crisis which will force us to rethink current models of organisation and urban development. Of course, not all European cities suffer identical problems, given their different levels of economic and social development, different economic functions, and geography. But they have much in common.

This Green paper is intended as a first step towards debate and reflection, and attempts to identify possible lines of action.

It may be asked why the Commission of the European Communities is taking up the problems of the cities and their environment. Why can these problems not be addressed and solved at the local level? What contribution can the Community possibly make?

It is important to recognize that the majority of Community policies have, directly or indirectly, an influence on urban areas. Article 130r of the Treaty as amended by the Single Act makes allowance for Community action for the protection of the Environment which must include the potential of such action within urban areas. The full text of which is included in Appendix I of this document.

There are a number of existing Community actions which are targeted at the urban environment - its air, water, noise and waste - and hence at the quality of life in the cities themselves. There are also Community activities helping to preserve the architectural heritage which constitutes the cultural and artistic wealth of our cities. Community funded investments and programmes through both the Regional Development and Social Funds also have a considerable impact on cities in less developed areas and those suffering from industrial decline and high unemployment.

Moreover, many sectoral, industrial and research policies of the Community in such areas as transport, energy and social affairs do have a bearing on the development of our cities. There is a need to make sure that these influences are fully recognized and controlled.

The primary focus for action to improve the urban environment is clearly the individual city. But achieving major improvements will require action at national and Community level as well, with roles and responsibilities assigned to each within a framework of cooperative partnership. At the Community level, it is important that the various sectoral policies take due account of the problems of the urban areas and converge into a Community strategy for Europe's cities.

In fact, the need for an integrated approach to the urban environment is already stressed in the Fourth Environmental Action Programme (1987-1992), which states that "One priority will be to consider to what extent the Community's existing structural funds (and notably the European Regional Fund) could be directed to comprehensive environmental programmes in inner city areas. It will therefore be of special importance to ensure that an adequate level of funding is available to enable the Community to participate adequately, along with public authorities and local industry, in urban renewal schemes which take full account of both environmental and regional policy requirements". This may require a special financial facility.

The Programme also commits the Commission to present a report to the Council "which will examine how the public and private sector and other interests can work together towards the rehabilitation of certain urban areas...".

Moreover, solving the problems of the city would make a major contribution to solving the most pressing global environmental problems, notably the greenhouse effect and acid rain. For it is in the cities that we find the greatest concentration of population and economic activity - and hence of emissions. And it is the cities which make the crucial, long-term and often irreversible decisions on infra-structure investments in energy supply, waste and water treatment, and transport.

A Community role in urban environment would also meet the growing demand by the cities themselves for greater opportunities for an exchange of information and practical experience. The Commission recognizes that other organisations, particularly the Council of Europe, have for some time been encouraging interregional cooperation on urban issues. In the development of Community policies and programmes, the Commission will take note of the work already achieved, such as initiatives on urban renovation and protection of historic buildings, or planned by the Council of Europe to ensure that initiatives are complementary and not duplicative.

The Commission can play a crucial role in facilitating such exchanges. However diverse in detail, Europe's major cities face common problems. But frequently they know little of each other's experiences and projects. The preparation of this Green Paper showed clearly that the cities look to the Community to remedy this situation.

Methodology

This Green Paper was conceived as an instrument for identifying the full range of difficulties confronting Europe's conurbations, so as to devise adequate solutions to real problems. We have thus organized a wide consultation with those responsible for managing urban problems, with technical experts, and with academics and professionals concerned with urban issues.

For this purpose, six international conferences were organized around the following priority themes :

(1) Disused Industrial Areas

Derelict industrial sites in cities with an industrial past can provide a strategic opportunity to establish services and infrastructure linked to the centre. Examples are Milan's Pirelli-Bicocca, Turin's Lingotto, the new projects for the industrial zones of Bilbao, Rotterdam, Birmingham, Barcelona and others.

Rededicating such sites often involves projecting a new role and image for the city to make it attractive for productive and residential investment - an opportunity for new ideas and a stimulus for innovation. Where some industrial activities remain, old and new functions of the city need to be harmonized.

Two conferences were dedicated to this theme, one in Brussels (June 1989) and one in Terni (December 1989) concerned specifically with the problems of steel towns.

(2) The Urban Periphery

Urban growth has spawned vast built-up areas which lack essential qualities we associate with cities : history, functional differentiation, cultural and other forms of infrastructure - in short, a recognizable and unique individuality with which the citizen can identify.

These monotonous areas lay siege to the more structured parts of the city. They often harbour poverty, crime and drug abuse, problems of our modern society subject to increasing attention from authorities at all levels.

The conference of Louvain (October 1989) dealt with this theme of urban "fragmentation" and provided examples of projects which revitalized such areas and established functional and formal links with the centre, transforming them from faceless dormitories to organic parts of the city.

In the coming years, a great deal of planning and financial resources will be devoted to these two great challenges : derelict land and urban sprawl. More broadly, the city inherited from the 19th century offers great opportunities for renewal: its barracks, hospitals, railway stations, abattoirs and other 19th century relics can be replaced or put to new uses to improve the quality of our cities.

(3) The Quality of the Urban Environment, Public Spaces and Green Areas.

The "empty" spaces - the squares, parks and similar areas which lend character to our cities - are being assailed by the motorcar and bill boards, while in the periphery these urban features may be lacking altogether. Creating a quality environment requires more than putting out few benches, potted plants and waste baskets in pedestrian areas. It calls for a comprehensive approach.

The conference held in Rome (December 1989) examined a series of ongoing experiments in Britain, Barcelona, Rome and Rotterdam.

(4) Urban Pollution in Northern and Southern Europe

Two conferences, one in Avignon (December 1989) and the other in Bremen (January 1990), looked at the practical and immediately pressing problems of the urban environment and possible Community help in addressing these;

With one of the conferences dealing with the problems of the southern cities, and the other with those of the North, a comparison became possible, taking into account differences which went beyond climate to include those of history, culture and society. Both conferences dealt with air and noise pollution, urban waste disposal, water, and contaminated soils.

These six conferences have been extremely useful in preparing the Green Paper. They combined firsthand observation, information about ongoing projects and the collection of recent data.

Finally, it is important to stress the horizontal approach which has guided the preparation of this Green Paper. Treating each of the factors threatening the city environment in isolation leads to short-term solutions - mere palliatives or simple delaying action. Thus, it is not enough to worry about air quality only when, as happens every winter, inversion renders the air of many cities unbreathable. This leads to "emergency" measures which

fail to address basic causes. What is needed is a critical analysis of urban structures, their functioning and mode of development : It is here that the remedies to improve the urban environment need to be sought.

What is clear, however, is that the cities will continue to be crucial to the further economic and social development of Europe. Technological change may seem to indicate otherwise. The old steel or shipbuilding towns like Liverpool, Sheffield, Lille, the Ruhr, and Genoa do indeed suffer the effects of structural change. Non-urban areas of economic activity, linked to electronics, are emerging, for example in Flanders, southern France or the Tiber region near Rome. Moreover, global communication in the global village allows decentralized activities ranging from financial services, to research and integrated production directed by a distant computer.

But, paradoxically, the ease of long-distance information increases the need for face-to-face contacts. The cities provide this through their density and through their role as transport "hubs". The creative development of modern products and services requires the presence of a large variety of specialized inputs which the cities most easily provide. "Culture" is now recognized as a factor which extends beyond private life to playing a crucial part in economic creativity.

Most European cities have stopped growing and - like an individual in mid-life - have begun to reflect on their purpose, their assets and their choices for the future. There are exceptions to this in the South, where rural migration continues to swell the population of some cities; and in cities like Berlin, which are coping with new migrants of a different sort. But even, and perhaps especially, in these cities under stress, basic questions concerning the quality of the environment are being posed.

In general, however, population growth has stabilized. Attention is shifting from creating new districts to improving and renewing existing ones. This process involves more than ecology in the strict sense, but architecture itself. The historical centres of our cities have been savaged by the intrusion of anonymous boxes in the international style. Re-creating harmony with the old means more than mimicking superficial stylistic elements. It requires respect for fundamental traditions in the choice of materials, diversity of buildings and multiplicity of purposes. Mere zoning must be replaced by developing the city as a project which assure a new quality of social and economic life.

CHAPTER ONE : THE FUTURE OF THE URBAN ENVIRONMENT

1. City and Urbanization

From the Middle Ages to modern times, Europe's social, cultural and economic development has been based on the city : the power of the Italian city-state, the prosperity of the Hanse towns and Europe's great port cities, the sway of the capitals of principalities and kingdoms, the creativity of university towns such as Bologna, Prague, Paris or Coimbra. European cities show the traces of struggles between city and country, rulers and ruled, rich and poor - testimony to their role in social and political development which, as Leipzig proved in 1989, continues.

Their common history has given European cities a common face : the small streets and alleys of Mediaeval centres; the grand works of 18th century princes; the great transformations of the 19th and early 20th centuries; the growth of suburbs and dormitory towns, joined later by giant shopping centres; the decline of centres as dwellings for middle and upper income groups in a number of cities in favour of specialised commercial and administrative activities; and finally the invasion of traffic congestion, urban motorways, and uniform and mediocre architecture in centre and periphery alike.

As we move towards the 21th century, Europe's cities will continue to be the main centres of economic activity, innovation and culture. Managing the urban environment and the quality of life of its citizens therefore goes well beyond concern for the physical well-being of the Community's urban population. At stake is the quality of "civilization" in its most practical manifestations of economic, scientific and social performance.

Can we speak of "cities" or must we think in terms of "urban areas"? Using the vocabulary of the past may impede our understanding of new realities. The wider term seeks to describe the modern phenomenon, where a historic centre - itself greatly changed - is surrounded by a periphery of high-rise dormitories or suburban houses. Urban areas are divided and, at the same time, linked by a network of communication - motorways and railways which allow constant movement of people and goods.

There are no clear limits to the periphery, nor is its structure sharply defined. At the extreme, "urban areas" negate the concept of the city itself : they become "post-urban" phenomena, far removed from the traditional image of the pre-industrial and even 19th century city. Some experts at the OECD or UN dispense with the notion of "urbs" altogether and prefer to speak of "human settlements", no doubt in distinction to nature reserves or uninhabitable geological features.

The spread of urbanization

More than as a concept of settlement, urbanization can be understood as a pattern of individual and social behavior. Consumption patterns, information networks and social relationships are no longer those of the neighbourhood or the extended family of the pre-industrial village. In this sense a single urban life-style characterizes much of the Community.

European cities also resemble each other for a different reason : they increasingly harbour the poorest members of society in inner city ghettos or slums at the periphery. Yet this phenomenon creates its own diversity, as former city dwellers, rural migrants, European and non-European newcomers live in sometimes uneasy co-existence. Rural and "foreign" life styles blend only slowly into the uniformity imposed by modern production and consumption, and constantly renew the rich diversity which is one of the assets of urban life.

The city as a project

Has the spread of "urban areas" and life-styles made the concept of the "city" irrelevant ? True, with a few exceptions, today's cities have little in common with their 18th and 19th century predecessors. Yet the past decades have seen a rediscovery of the value of urban living and a growing appreciation of the importance of quality of life in the cities of Europe.

In part this reflects the failure of the periphery : the absence of public life, the paucity of culture, the visual monotony, the time wasted in commuting. By contrast, the city offers density and variety; the efficient, time- and energy-saving combination of social and economic functions; the chance to restore the rich architecture inherited from the past. "Urban areas" are a statistical concept. Cities are projects for a new style of life and work. "City" is the right word to use when speaking of urban ecology.

The Single Market accelerates economic activity and the process of internationalization, with consequences for the social cohesion, economic functioning and quality of life of the cities.

The role of some cities as centres for tertiary activities is being accentuated. While this is encouraging economic development and job creation it is also often reinforcing the pressure on the centres from office construction and traffic nuisance, reducing the diversity of city life and confirming the exodus to the suburbs which leaves the remaining dwellings to the poor and migrants, with enclaves for the rich.

Other cities may find themselves outside the zones of modern economic development. These includes towns which scarcely took part in the industrialization of the 19th and 20th century, and those specialising in industries which are now of declining importance in the advanced world.

Both accelerated development and economic decline, over which they sometime have little control, confront city authorities with difficult, sometimes impossible, tasks.

There is today undoubtedly increased competition for investment among localities of all kinds, including cities. Centrally located cities are undoubtedly benefitting from the enhancement of the international service economy. In other cities concern for job creation is leading city authorities to offer not only tax advantages and green field sites, but they also often repeat the mistakes of the past in permitting development of poor environmental quality.

The essence of a European approach

Two elements form the basis for a specifically European approach to cities. The first is that the European city can still be saved. The problems it shares with cities in other continents, rich and poor alike - traffic congestion, slums in the centre and periphery, inadequate infra-structure, pollution - are present there in extreme forms rarely matched in Europe. The worst sources of pressure on cities - population growth and rural migration - are largely, if not completely, things of the past in Europe, leaving only economic growth, which can yield the financial and technological means to correct the damage it may cause.

The second specifically European element is Europe's traditional commitment to what is now called "social cohesion". The problems of poorer regions spill over to cities in the Community and it is here that efforts to create more equal and decent living conditions must increasingly concentrate. Cities have been - and, as Eastern Europe demonstrates, continue to be - where democracy develops. In the West, "Stadtluft macht frei" - the city's air sets you free - has found a new meaning for those escaping a life without jobs or prospects.

It is Europe's prosperity and Europe's economic failures which put pressures on the cities. Similarly, it is Europe as a whole which benefits from the economic efficiency, social stability and beauty of successful cities. In cooperation with national and local authorities the Community can and must make a contribution to improving a common patrimony and meeting a common responsibility.

The role of cities

Urban growth results from a combination of economic, social, cultural and political dynamics :

- the economic dynamic : the city is synonymous with proximity, providing the multiple contacts and activities that make it an information hub and creative centre. It is this ability to assemble the economic actors involved in all stages of production, research and consumption that draws firms to the urban centres.
- the social dynamic : the city brings together a wide variety of social facilities (nurseries, hospitals, social service agencies, etc.) whose role is becoming increasingly important as populations are marginalized by underemployment, unemployment and poverty. Indeed, the concentration of social problems makes it possible to define and pursue specific rather than general remedial policies. The city also concentrates employment opportunities; this is one of its great attractions. More generally, the city represents choice : of social relations, education, services and work.
- the cultural dynamic : as in the social sphere of which it is a part, the city's cultural role depends on density, proximity and choice. These factors facilitate the "production" of culture as much as its "consumption". In addition, the historic heritage of the city allows unique economic activities linked to culture, including tourism.
- the political dynamic. More than any other place, the city must respond directly to demands by its citizens for "good government". It is a place where direct participation is possible and increasingly practiced, and where the individual can develop most freely his sense of personal and civic value. It is not by accident that citizen, citizen, cittadino, or Bürger denote the political sovereign in our languages.

Creativity

The city's economic and social importance ultimately rests on the ease of communication offered by spatial density and the sheer variety of people and institutions which can exploit this opportunity. The telephone and data-link are no substitute for many kinds of communication which go beyond the exchange of information; on the contrary, efficient electronic communication increases the demand for face-to-face contacts. This is especially true for collective decisions based on qualitative judgments and for exchanges of information which yield the unexpected, even unsought answer from which true innovation results. Physical movement and telecommunication services go hand in hand to help create the environment which attracts both business and residents to work and live in cities.

In short, urban communication yield the scientific, organisational, social and intellectual creativity which is one of the motors of development in the post-industrial age.

The enemies of this source of creativity are, on the one hand undifferentiated suburban sprawl in quasi-rural settings which isolate the individual; and highly specialised land-use policies within cities which create functional enclaves and social ghettos where like speaks to like : university campuses at the city's edge, banking districts at the centre, industrial zones deprived of simple services and far from habitations. Both suburban sprawl and specialisation are linked to the urban environment : they exist because they provide escape or protection from urban blight, poverty and pollution. Re-creating the diverse, multifunctional city of the citizen's Europe is thus a social and economic project for which "the quality of life" is not a luxury but an essential.

There is no alternative to a commitment to urban Europe. Statistics showing the reduction of some cities' populations are cited as evidence of their decline. But the suburbs which received such migration continue to depend on the cities for their social and economic vitality.

Indeed, while in some cities the move to the suburbs continues - with the centres taken over by low-income families living next to office enclaves - in others the convenience and stimulus of life in the city is being rediscovered. For this trend to continue, the noise which drives people to the quiet of the country must be reduced, the air improved, the open spaces redeemed from being parking lots and traffic islands. This is described in greater detail in the following section. The last section examines the deeper causes of urban degradation, which requires new thinking at all levels of policy making.

2. The Urban Environment

The urban environment has always known difficulties. Noise was a problem in ancient Rome; traffic blocked the streets of 18th century Paris; the 19th and 20th centuries have witnessed a proliferation of analyses of the pollution and nuisances besetting the lives of urban residents, particularly the poorer among them.

The quality of urban life has improved considerably over the past century. It was not until the end of the 19th century that homes were connected to supply mains and sewers. And it was not until the 1950's that most cities acted to reduce the air pollution from domestic coal heating. These improvements are reflected in increased life expectancy, lower infant mortality rates, etc.

Numerous problems remain, but they are often less obvious and therefore generate little concern. City-wide sewer systems have improved urban sanitation but pollute the rivers and oceans beyond the city's edges. Some types of pollution are highly visible only in certain parts of the city.

Others - such as air pollution caused by industry and cars, airplane noise, etc. - may be underestimated because they are only apparent at certain times or for short periods.

The effects of many of these pollutants are long term, and in some cases are more easily observed in the damage they do to nature or to buildings than in the slow deterioration they cause human health.

Yet the health of urban inhabitants is becoming a subject of increasing concern. Dense urban traffic is one source of health hazards. Carbon monoxide from vehicle exhaust may build up in tunnels or underground garages. This can cause respiratory system damage, inhibit oxygen absorption by hemoglobin and cause brain stroke in the elderly.

Hydrocarbons resulting from incomplete combustion react with other pollutants in the presence of sunlight, resulting in reaction products that cause eye irritation and respiratory system damage. They also react with NOX to produce ozone, which produces painful breathing, coughing and impairment of the immune system.

Lead is also a serious pollutant emitted by motor vehicles, but legislation requiring lead-free petrol should deal with this source.

Indoor pollution is a major source of health problems, the scope of which is just beginning to be understood. Lead paint in older housing has led to numerous cases of poisoning in children. On a much wider level, asbestos - widely used as insulation - has become a serious cause for concern. Inhalation of asbestos fibres causes severe lung damage and a rare - and incurable - form of cancer. This has engendered a hot debate as to whether asbestos already in place should be removed or is less of a hazard if left untouched.

Other building materials contain dangerous substances such as formaldehyde, mineral fibres, mercury, and radon. The toxic effects of these have been aggravated by the tendency towards tight insulation.

At a psychological level, noise may pose a significant health hazard to the urban dweller, creating stress-related physical symptoms and reducing the overall quality of life in the city, increasing aggressive behavior. It may also cause hearing loss.

2.1. The complexity of the urban environment

The problems facing the urban environment are legion and varied. For convenience of exposition we discuss them under three headings :

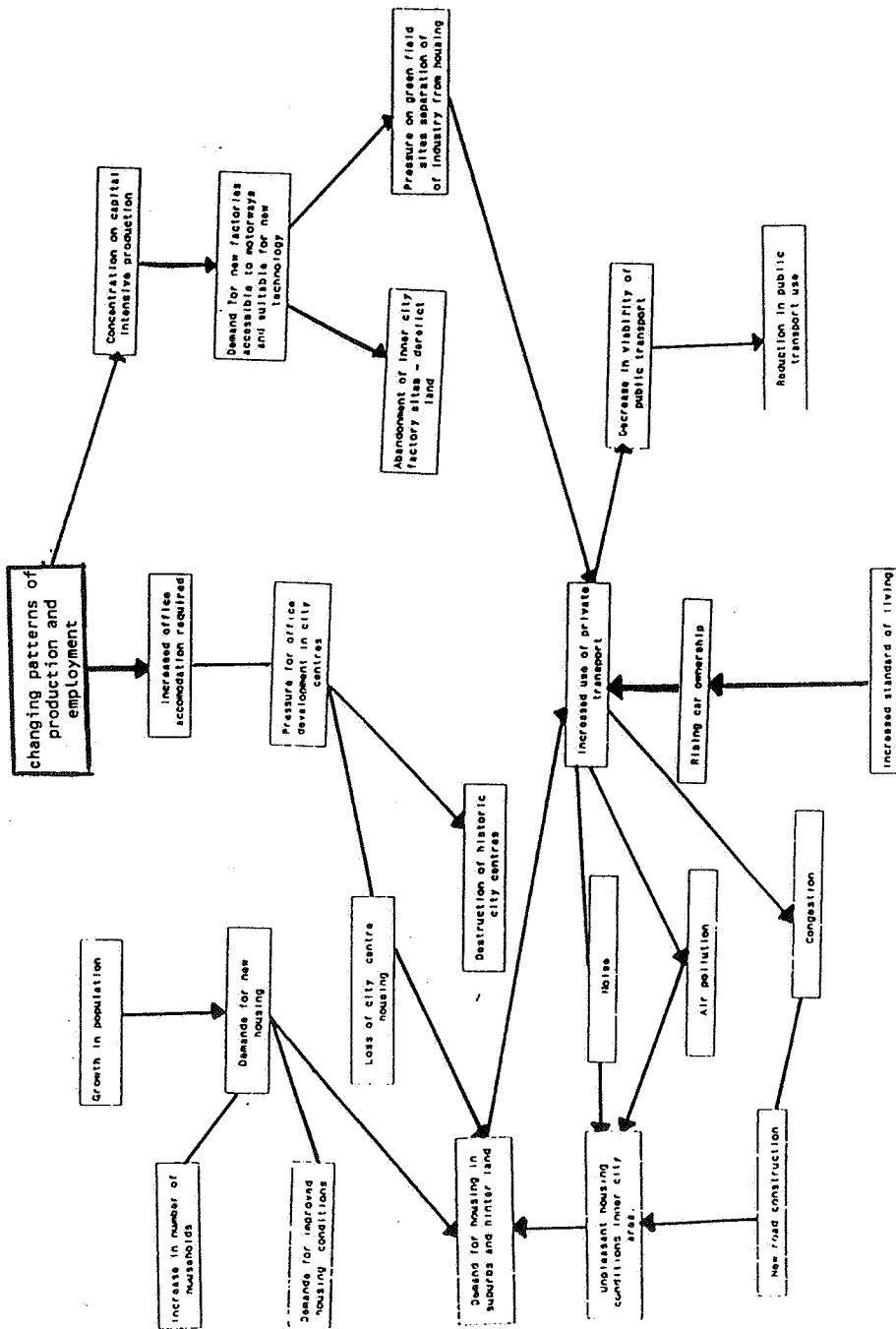
- Urban pollution : air, water, noise, soil, waste
- The built environment: roads, streets, buildings, open spaces, recreational areas.
- Nature : greenery and wildlife in the city.

In focusing on individual problem areas, it is important not to lose sight of the fact that the "urban system" is a complex and interrelated whole. A diagrammatic representation of some of the main cause-and-effect relationships influencing urban development and the urban environmental system is set out in Figure 1.

The extent of these interrelationships demonstrates the potential danger of ad hoc decision-making : the solution to one problem is often the cause of another. Effective management of our urban environment requires a strategy based on an overview of the urban system, with integrated decision-making in key areas. Few cities possess an administrative structure that can ensure such integration, most critically between land use and transportation planning. While the city is the main focus of economic activity and the associated pressures on the environment, it cannot be analysed in isolation from the region within which it is located. The interrelations between the city and its hinterland requires therefore that policies should be generated within a broad context which has a concern for the planning of the region as a whole.

Figure 1

Relationships within the Urban System



2.2. Urban pollution

Urban areas, by their very nature as centres of population and economic activity, show high concentrations of pollutants. Yet despite growing attention and extensive research into environmental issues, there is a lack of comparable data on key environmental indicators. Even where data are available, comparison and interpretation may be complicated by differences in data collection and measuring techniques.

Scientific research has, however, clearly established the negative effects on health of air, water and noise pollution, inadequate waste disposal and contaminated soils. Hence, the Commission has over the past decade established a number of environmental quality objectives. The issues involved in each of these areas are discussed in the sections below.

2.2.1. Air pollution

Urban areas are subject to a wide range of pollutants. The health effects of these pollutants, some which are carcinogens, include respiratory diseases and eye and skin irritation. In addition, they erode the built environment and damage the natural environment. Most air pollutants stem from three sources : industry, motor vehicles and the burning of fossil fuels for heating or electricity generation.

The contribution of industrial sources to air pollution varies considerably from one town to another, depending on density and type of industry in an area, its precise location and the extent to which it has adopted measures to control emissions or disperse them beyond the local environment. The effects of severe air pollution can be devastating : smog caused by SO₂ emissions caused the death of 5000 people in London in 1952.

Industrial pollution is however exclusively an urban problem, however. National and international emission standards are often set to address wider problems such as acid rain and the greenhouse effect, rather than the urban environment. It is as much through ambient "limit values" for air quality as through source emission standards that industry's contribution to urban pollution is regulated.

Air pollution problems related to city transport and buildings are more closely linked to the internal functioning of the city. The contribution of these energy-using activities to the levels of particular pollutants is set out in Table 1.

