

The European Environment Agency
Background Paper for the Informal Meeting of Ministers for the Environment
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“The Urban Environment in its Broader Territorial Context”

‘Creating high quality urban areas requires close coordination between different policies and initiatives, and better cooperation between different levels of administration. Member States have a responsibility to help regional and local authorities to improve the environmental performance of the cities of their county’.

Communication from the European Commission to the Council and the European Parliament on Thematic Strategy on the Urban Environment [SEC (2006) 16]

1. Context and scope of the paper

Europe is one of the most urbanised continents and today some 70% of its population is urban, while urban areas (with a population density above 100 inhabitants per km²) account for some 25% of the EU’s territory. By 2020, around 80% of Europeans will be living in urban areas, while in 7 countries the proportion will be 90% or more.

As a result of Europe’s increasing urban population, the phenomenon of urban sprawl - which occurs when the rate of land use conversion and consumption for urban uses exceeds the rate of population growth for a given area over a specified period - is a major issue for land use policy-makers. Cities, by their nature, concentrate large masses of population in small areas. This has some evident advantages in terms of economic and social development, and in some respects it is even beneficial to the environment, inasmuch as land use and energy consumption tend to be lower than for more dispersed populations; moreover, urban waste and waste-water treatment have economies of scale. Subsequently, traditional environmental health problems from unsafe drinking water, inadequate sanitation and poor housing have largely disappeared from the EU cities. Nevertheless, the urban population still suffers from severe, localised environmental problems (such as impacts of noise, pollutants and waste, and restricted availability of fresh water and open space). Transport, especially road transport, is of major concern; though becoming cleaner because of increasingly strict emission standards for the different transport modes, air quality in cities does not yet meet the limit values set by European regulation and still has a major negative impact on human health: it is estimated that more than 370000 people die prematurely each year due to current air pollution levels (CAFE programme).

At the same time, there is growing evidence that the drivers of many environmental problems affecting European land originate outside the actual urban territory where the changes are observed. The global market economy, trans-European traffic networks, large-scale demographic and socio-economic changes, cross-boundary (e.g. air-borne) pollution, as well as differences in land-planning mechanisms at the national, regional and local level, are the main drivers of change and environmental pressure on - and from - urban areas. As a result, there is now increasing awareness of the added benefits of considering the urban territory as an integrated unit for stimulating better coordination of policies and analysis of their economic, social and environmental impacts.

While EU territorial development is the subject of continuing debate, the links between territorial cohesion and economic and social cohesion — two fundamental aims of the

European Union (Article 16 of the Treaty) —require further clarification and analysis. Many benefits could be realised from a broader vision of cohesion that encompasses the many dimensions of the development of territories, urban areas in particular, and their inter-relationships.

This background paper prepared by the European Environment Agency (EEA) for the Informal Council focuses mainly on this topic and highlights therein four aspects of this broader territorial context with supporting analysis:

- urbanisation and the regional hinterland;
- interconnectivity;
- strategic environmental assessments; and,
- EU cohesion policy.

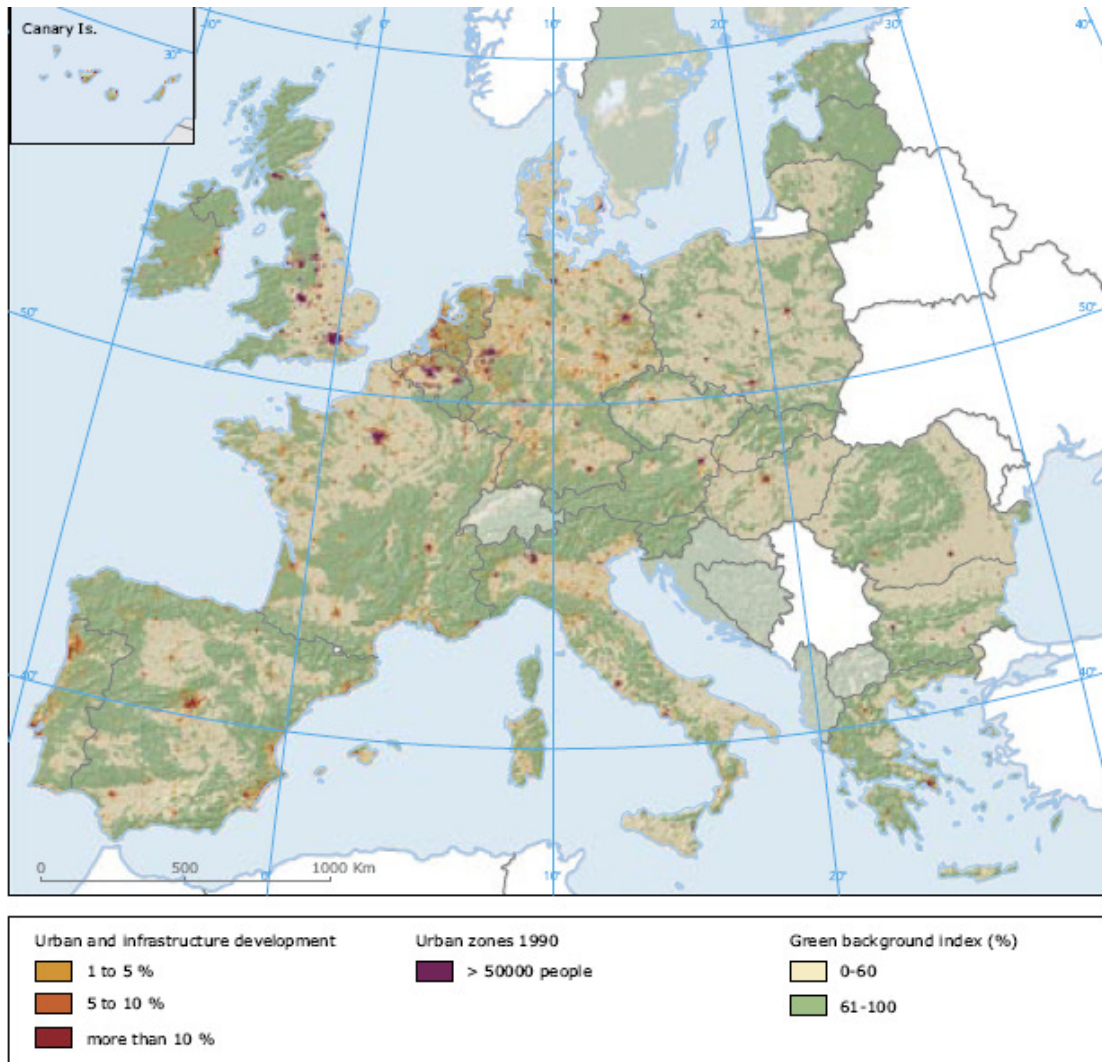
2. Urbanisation and the regional hinterland

When addressing the implementation of management systems for urban sustainability, there is the continuing perception of cities as areas that are administratively separated from their hinterlands and isolated from their wider regional context. In reality, however, the functional influences of cities reach far beyond their immediate boundaries and there are multi-dimensional links between urban and rural areas. The socio-economic realities of cities interconnect with their suburban and rural hinterlands in powerful ways as expressed and defined in the spatial relations of home, recreation and workplaces, and urban areas as the primary focus for socio-economic development. Cities are also increasingly linked with their hinterlands through better communications and exposure to similar cultural influences.

Driven by economic growth and increasing consumption, suburbanisation and the implementation of the internal market (including transport infrastructure), urban areas and infrastructure in the EU increased by three times the size of Luxembourg between 1990 and 2000, a 5.4 % increase over the period. Urban sprawl is concentrated in particular areas, which tend to be where the rate of urban growth was already high during the 1970s and 1980s. On a straight extrapolation, a 0.6 % annual increase, although apparently small, would lead to a doubling of the amount of urban area in little over a century. At the same time, the EU population is expected to grow by a marginal increase over the following 20 to 30 years while life expectancy will keep growing. Conversely, the composition and social status of the population is changing: while the number of households continues to rise, the average number of persons per household has decreased below three. Households affect the environment through their consumption patterns, and have a key role in the land use / transport interface. This needs careful consideration, as we look ahead to the type of Europe we would like to see in the next 50–100 years, not least in the context of possible adaptation to climate change.

A closer look reveals that sprawl around large agglomerations is continuing, but new development patterns can also be observed. Urban development often takes place at a distance from large cities, around smaller towns or in the countryside. Further analysis shows that this is visible for residential sprawl and the development of economic activities, in turn linked to the development of transport networks. The attractiveness of living in large cities has fallen, while the quality of life associated with more ‘rurban’ cities (mid-size cities in rural areas), being closer to nature, has increased in conjunction with increased housing prices in cities and a decrease of commuting costs. These factors represent a planning challenge for municipalities attempting to maintain their populations and attract small and medium-sized enterprises.

Sprawl of urban and other artificial land development, 1990–2000



The extremely low price of agricultural land (in most cases good agricultural land) compared to already urbanised land or former industrial sites, is also an important factor underlying urban sprawl. In many development projects, the cost of agricultural land acquisition is relatively low and enables better profits to be realised than for already urban land or the use of former industrial waste land, even if no remediation is needed (non polluted sites). This factor is particularly important in the economic heart of Europe (also known as the Pentagon zone). Recent CAP reforms are driving agricultural land prices even lower in some areas of Europe.

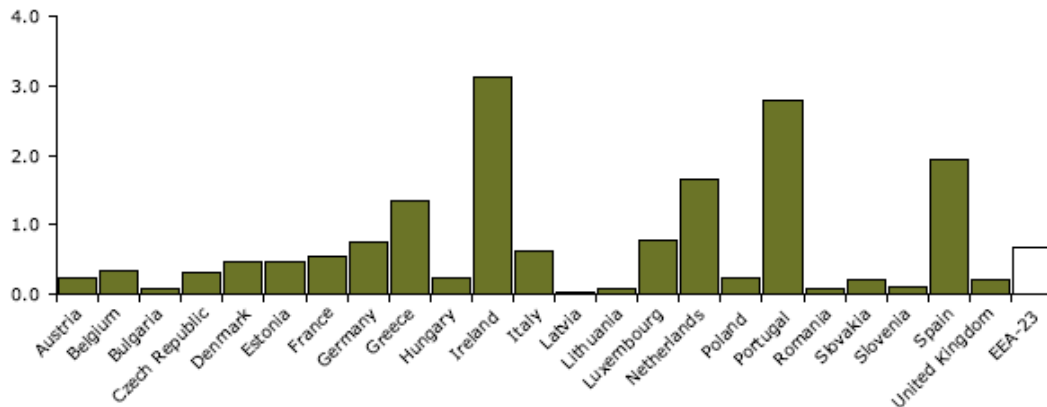
3. Interconnectivity - a feature of city management

Urban development has an impact far beyond the surface taken by constructions and infrastructures and their immediate surrounding area. Landscape polarisation by towns and cities generates the development of new transport infrastructures to link them together. The dimensions of existing infrastructures are also increasing in response to the increasing flows of goods, the demand for more individual mobility and greater regional access in the context of territorial cohesion. These developments, supported in part by EU budget transfers, have given a powerful boost to the economic launch or relaunch of many disadvantaged regions or regions undergoing restructuring in Europe. Some of the most visible impacts of urban sprawl are apparent in countries or regions with rapid economic growth (Ireland, Portugal, eastern Germany, the Madrid region), regions that have also benefited most from EU regional policies in the period in question. New Member States, where little urban sprawl is detected as yet, may follow the same path of urban development in coming decades, and the

accompanying environmental impacts will be all the higher because the very areas that are poised for change still host large amounts of natural landscape. In particular, transport needs are set to increase greatly in the context of the enlarged EU and of the new EU neighbourhood policy. Preliminary analysis indicates that these developments will impact directly on valuable areas of natural landscape.

Typically, cities flow imperceptibly across municipal boundaries. The communities that are socially, economically and/or environmentally linked, e.g. an urban centre and its 'commuter shed', often fall under the jurisdiction of several municipalities and their management may involve a large number of public agencies. The responsibility for land use management is then divided between different administrations and this fragmentation of management, frequently exacerbated by the political tensions of neighbouring administrations, may lead to incoherent and uncoordinated land use management. For these and many other reasons, functional urban areas can be defined that link urban and regional dimensions of socio-economic reality, and it is, therefore, important that policies in pursuit of sustainable urban management are considered in the wider context of the "city-region" and linked to policies for sustainable regional management.

Mean annual urban and infrastructures land take as % of artificial land cover 1990



Urban sprawl should also be analysed through important regional patterns, particularly ecologically sensitive areas such as costal zones and mountains areas.

European coastal population is continuously increasing, sometimes faster than in inland areas. The share of area covered by artificial surfaces is approximately 25 % higher on the coast than inland. During 1990–2000, trends in European coastal zone showed that the growth rate of urban artificial surfaces on the coast has been about 1/3 faster than inland. Infrastructures appear as a powerful driver of residential sprawl, soil sealing and heightened levels of mobility. They are also, together with urban sprawl, an important factor in fragmentation of spatial space. There is widespread evidence that European coasts are a natural environment that attracts socio economic development due to a range of reasons. This attractiveness introduces multiples factors related to changing land uses, which can lead to increased stress on both natural and human environments. The development-related loss of coastal systems, related habitats and services has caused the most remarkable change to the coastal zone.

One of the world's 34 biodiversity hotspots, the Mediterranean area, is particularly affected by these changes, although the level of artificiality of the coastline was already high before 1990. Urban sprawl is expected to continue for the next two decades, along both the northern shore - this calls into question in the long run the sustainability of economic development based on tourism- and the southern shore –an increase of around 35 millions inhabitants in coastal cities. Consequences in the immediate hinterland include the knock-on need for road

infrastructure to accommodate the inland spread of individual housing as well as the removal of coastal farmlands via speculation towards marginal land along the coast.

Mountains also become subject of exploitation as a natural resource for urban consumption from lowland regions. There are many cities above 250 000 inhabitants close to mountain ranges in the EU. Mountains are widely recognized as important and sensitive ecosystems, but little progress has been made in developing comprehensive policies, particularly at EU level, to build upon the good intentions set out in mountain charters. Transport infrastructure development has often facilitated outmigration or commuting to urban centres and increased transit and tourist traffic, particularly day tourism in the catchment areas of big cities. Land use changes are also induced by the gravitation of urban agglomerations, and a balance is needed in the urban-mountain relationship. A new definition of the rural-urban relationship has a particular focus on mountain areas; options include the balance between cities and country, diversification of rural areas, conservation and creative management of cultural landscapes. The benefits of an attractive, environmentally healthy hinterland have been recognised by cities but compensation patterns for the provision of this stewardship are not developed. The example of Munich shows that the high recreation values of lakes and mountains have helped the city to become a highly desired location for high technology industry.

Although European policies were first applied to mountains in the 1970s (under the Less Favored Area framework) and mountain areas are now subject to numerous EU, national and regional policies (e.g. Alpine convention), there remains a lack of coordination between measures at different levels relating to various sectors. Mountains are probably the most prominent examples where multifunctional land uses have partly still survived, but are now at risk. For mountain areas it is crucial to adopt a comprehensive, spatially integrated policy which is able to reflect and support the multifunctionality which has been the sustainable concept in mountains for many generations.

4. Strategic environmental assessments

On a large scale, heavy industry has reduced its presence in cities, but remains a problem in most of the new member states where industrial pollution control measures are generally well underway. However, small and medium-size enterprises are overwhelmingly concentrated in urban areas and improving their environmental performance is a major challenge. Energy sector-related problems are comparable to those arising from industry and often addressed jointly. Tourism brings about intense seasonal stresses concentrated in a number of key areas. Agriculture sector-related problems are inextricably linked to the urban reality, as the urban / rural border is often loose.

Subsurface conditions are also affected by the combined pressures of increased urbanisation and the accumulation of planned and unplanned impacts on the natural environment. There are risks to lives and property, even in those countries not at first sight affected by geological hazards. Urban areas and their hinterlands are becoming increasingly vulnerable to geo-problems controlled by geological processes, the total cost of which to society ranges from major (hazards such as volcanic eruptions, earthquakes, floods, land subsidence, landslides) to minor (local swelling or shrinking of clays in foundations). Reworking and removal of the soil surface by construction can unbalance watersheds and landscapes, contributing to the loss of biological diversity, of ecosystem integrity and productivity as well as to land degradation and erosion.

However, in the context set out in previous sections, transport remains a crucial challenge for urban planning and management, whilst being a key factor in European territorial cohesion, an essential link for communities and very often approached as a precondition for quality of

life and employment in urban neighbourhoods. However, there is more to transport infrastructure than simply adding kilometres of road and rail. They should be part of a global approach that takes into account the real impact of investment directed at creating and sustaining local activities and jobs, a balanced and polycentric development of the European area, and the reduction of damage to the natural and human environment. These are challenges that must be faced at regional, local and European level, in the framework of the common transport policy and the trans-European transport network (TEN-T). In this respect, in April 2004, the European Parliament and Council identified 30 priority projects that represent an investment of EUR 225 billion by 2020, covering for instance the construction of 12,000 km of highways.

However, even if direct land uptake of natural land is minimised or avoided, transport and other urban-related infrastructures create barrier effects that may degrade ecological functions of natural habitats. Immediate impacts such as the loss of agricultural and natural land or the fragmentation of forests, wetlands and other habitats are well known direct and irreversible impacts. Nature conservation policies - Natura 2000 in the first instance - aim at preventing these destructions. The existence of ecological networks and the importance of their maintenance are recognised in Article 10 of the Habitats Directive, as well as in the Pan-European Ecological Network assessment programme jointly run by the Council of Europe, UNEP, IUCN and the EU. Ecological networks have also been addressed in the Kiev 2004 ministerial declaration. The main concern for the degradation of these ecological networks is more intensive land use geared by urban expansion and disruption by transport networks, which could in turn undermine nature conservation efforts.

Potential impacts of TEN-T extension axis to the East on "green" landscape



The EU regional policy perspective will play a major role in developing quality transport during the 2007–13 period in accordance with the priority objectives proposed by the Commission, i.e. convergence, regional competitiveness and employment, and territorial cooperation. It will also have the means to match the importance of the task (ROU: funding estimates here?).

5. Cohesion policy

Europe is debating a stronger and more balanced territorial focus for its policies. This debate has been developed by the Member States and the European Commission within the 1999 European spatial development perspective (ESDP). This process has led to commonly agreed policy orientations around better territorial balance and cohesion, improved regional competitiveness, access to markets and knowledge, as well as the wise management of natural and cultural resources.

The policy orientations reflect the ongoing geographical concentration of many parts of European society in highly urbanised areas. The long-term aim is to see a European territory with many prospering regions and areas, geographically well spread, and all playing an important economic role for Europe and providing a good quality of life for their citizens. Polycentric spatial development is the main concept related to the aim of territorial cohesion. The concept can be described as a bridging mechanism between economic growth and balanced development. Thus, polycentric development can bridge the different interests of the Member States by encouraging more balanced and coordinated competitiveness. Interest in polycentric development is also fuelled by the hypotheses put forward in the ESDP that polycentric urban systems are more efficient, more sustainable and more equitable than either monocentric urban systems or dispersed small settlements. This process should be considered in conjunction with the perspectives of land prices mentioned earlier, in particular the prices of agricultural land prices in the prospective of new intensification of agriculture driven by the increase of world-market prices and the observed growing demand for biofuels.

One of the forming points of the ESDP and its follow up studies, notably the Study Programme on European Spatial Planning (SPESP) is that “many local problems cannot be solved nowadays without an integrated way of looking at towns and countryside, since they tend to be regional problems”. In this respect, a territorial dimension has been proposed for the conception of structural policies after 2007. The Commission has also proposed European territorial cooperation as an objective for Structural Funds interventions for 2007–13 in support of territorial cohesion within the EU.

At the same time, although the Lisbon strategy has no explicit territorial dimension, one of its three main priorities calls for Europe to be made an attractive area in which to invest and work. This priority includes considerations relating to access to markets and the provision of services of general interest as well as to factors relating to the creation of a healthy environment for enterprises and families.

The implementation of the Lisbon strategy and of future structural policies will take place in regions, in national territories and at European level. Therefore, a key question for policy-makers at different levels is to explore, identify, understand and select potential areas for development within their own territory in order to contribute effectively to this overall European strategy.
