

**Rural Development
and Land Use**

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Spatial Planning and Management

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The Aim of Spatial Planning

The Origins of Spatial Planning

Spatial planning refers in short to “the methods used by the public sector to influence the distribution of resources and activities in spaces of various types and scales”. Spatial planning includes all levels of land use planning, that is urban and rural planning, regional planning, environmental planning, national spatial plans, and planning on international levels.

There are numerous definitions of spatial planning. One of the earliest comes from the *European Regional/Spatial Planning Charter* (often called the ‘Torremolinos Charter’), adopted in 1983 by the European Conference of Ministers responsible for Regional Planning (CEMAT). It reads

Regional/spatial planning gives geographical expression to the economic, social, cultural and ecological policies of society. It is at the same time a scientific discipline, an administrative technique and a policy developed as an interdisciplinary and comprehensive approach directed towards a balanced regional development and the physical organisation of space according to an overall strategy.

This definition sets spatial planning in a broad and interdisciplinary context. Spatial planning challenges in this way the understanding of planning focusing merely on land-use planning and on blueprints. Indeed, spatial planning includes strategy building and is closely intertwined with regional and environmental policies. Even the term European spatial planning is ambiguous and probably best understood as territorial policy-making on European level.

Developing Methods and Tools of Spatial Planning in Europe

Numerous planning systems exist around the world. Especially in North-western Europe spatial planning has evolved greatly since the time after the Second World War. In 1999, the European Spatial Development Perspective (ESDP) was signed by the ministers responsible for regional planning in the EU member states at a meeting in Potsdam, Germany. Although the ESDP has no binding status, as the European Union has no formal authority for spatial planning, the ESDP has influenced spatial planning policy in European regions and member states, and placed the coordination of EU sectoral policies on the political agenda, as ESDP provides the possibility of widening the horizon beyond solely sectoral policy measures.

The ESDP provides the first European strategy for the development of the territories of Member States. The aim is to translate the policy aims for European spatial development into examples of good practice at transnational and European level as well as at national, regional and local level. In doing so, the objective is to demonstrate concrete and visible ways of applying and supporting the policy orientations laid down for the European territory.

There are several financial instruments on an EU level to support this. A ministerial meeting in Tampere in 1999 underlined the importance of utilising EU Structural Funds according to the guidelines set out in the ESDP. The ESDP Action Programme support practical policies through actions jointly approved by the Commission and Member States. The Action Programme includes the idea of "ESDP Demonstration Projects". Finally the Interreg program, financing regional development projects, is another vitally important instrument for the application of the ESDP for cross-border and transnational co-operation on spatial development and planning.

On the European level a number of steps have been taken to support planning in member countries. In 1997 the EU Commission Services published a compendium on European spatial planning systems providing an overview on the various approaches to spatial planning within the EU. It was followed by the Study Programme on European Spatial Planning (SPESP), and a research network to support European territorial policies. In 2002, following on the SPESP experience, the European Spatial Planning Observation Network (ESPON) was established to provide territorial evidence for European policy-making covering 29 countries, and after 2007 even 31 countries, that is the 27 EU member states, the three EEA states Norway, Iceland and Liechtenstein, and finally Switzerland.

The European Spatial Development Perspective is certainly the document which kick-started much of the spatial planning thinking at the European level. But the ESDP is merely the first, and so far, main point of reference. The story continued via the elaboration of an evidence document, the Territorial State and Perspectives of the EU, mainly based on ESPON findings. The evidence document resulted in a policy document known as the Territorial Agenda of the EU. This Agenda still has to prove itself, but its mere existence suggests that the momentum of European spatial planning has been sus-

tained from the start of the ESDP. In policy terms these years meant steps in the creation of an intergovernmental spatial policy agenda offering itself as a frame of reference for other policies, including existing EU policies and planning for sector development in Europe.

Spatial Planning and Sustainable Development

Planning and management is one important instrument for implementing sustainable development. There are high demands and expectations on spatial planning to support the society with physical structures to make it possible for people to act and live in a more sustainable way.

During the last decades there has been a growing awareness and international agreements at both UN and EU level for the protection of the environment. In addition the predictions of climate change requires activities to decrease environmental burden and at the same time adapt the physical environment to the effects of climate change. The environmental and climate issues were first in the 1970-1980's defended mainly by environmental NGOs. Today these issues have entered into the official agendas, regulations and rules. The concept of sustainable development is often included in all official planning documents and it is uncomplicated to find cohesion at the general visionary level. On the detailed planning level, when the visions are to be concretised, it is more challenging to achieve consensus between actors with a manifold of sector interests and values.

The Brundtland concept of sustainability is often divided in ecological, social and economic dimensions to make it more manageable and understandable. This means that all these dimensions are to be considered in planning situations. A more detailed description on how to implement this in practical planning and management work is given in below.

Legal Frameworks and Authorities for Spatial Planning

European Level

Generally, the actors at European level are weak when it comes to means and instruments to exercise territorial policies. The competence and means for real action



Figure 18.1. In Latgale, the most eastern part of Latvia, several local authorities have formed Latgale Planning region as an established legal entity for cooperation in spatial planning. Latgale Planning Region is a derived legal entity established in accordance with the Regional Development Law on June 2006 under the supervision of the Ministry of Regional Development and Local Governments. Its activity has been financed from the state principal budget. (<http://www.latgale.lv/en/padome>). Latgale is not so modernised as the western part of Latvia and has a beautiful landscape and rich wildlife. Photo: Pāvels Cacivkins

lie with the Member States regions and local actors. Therefore, most “European actors” can only influence via non-binding guidelines, convincing arguments and discourses. The European Commission has furthermore the possibility to influence via funding schemes, such as the Structural Funds and the Interreg programs, or via regulations. However, there is no regulatory power in the field of spatial planning or territorial policies at European level. Thus the regulatory influence comes via other policy sectors which may influence territorial development and spatial planning.

The EU commission works with funding, based on rules to be followed to be able to reach the funding. In this way the commission forces the regional and local authorities to follow the intentions of the EU policies. We may see the funding programs as “carrots” and non-funding as “sticks”.

In the European Union the two main actors are the European Commission, mostly represented by the Directorate General for Regional Policies (DG Regio), and the intergovernmental co-operation where the Member States come together to shape policies. Both actors have been active in territorial policy-making at European level for a long time.

Whereas the intergovernmental setting appears natural in a field where the European Community does not have an explicit mandate, the contribution of the European Commission is more subtle and mostly act via various sector policies. The EU Regional Policy has also taken some deliberate steps to influence spatial planning. Spatial issues and territorial cohesion are increasingly acknowledged in the three-annual Cohesion Reports. But most importantly the European Structural Funds, i.e. the main instrument of European regional policy, are partly used to promote territorial thinking in Europe and thus indirectly also spatial planning.

The Renewed EU Sustainable Development Strategy was adopted by the European Council in June 2006. It is an overarching strategy which deals in an integrated way with economic, environmental and social issues and lists the following seven key challenges:

- Climate change and clean energy
- Sustainable transport
- Sustainable consumption and production
- Conservation and management of natural resources
- Public health
- Social inclusion, demography and migration
- Global poverty

Tackling climate change is one of the biggest challenges. The EU integrated energy and climate change policy from December 2008 intends to direct Europe towards a low-carbon, energy-efficient economy. The quantitative targets for 2020 is to cut greenhouse gases by 20% (30% if international agreement is reached), to reduce energy consumption by 20% through increased energy efficiency; and increase energy from renewable sources to 20%.

National and Regional Planning Level

Generally, the powerful instruments for spatial planning and territorial policies lie, differing for each country, with the state, regional or local authorities. The responsibilities for the national planning are lying on various ministries. In Table 18.1 the national responsible ministry, planning instruments and legislation is summarised for Baltic Sea region states.

The influence of the regional authorities varies between the European countries. In many countries, such as is the case with Germany, the regional authority works out spatial

Planning, Management and Assessment

Table 18.1. Competent Authority legal responsibilities for planning and management From COMMIN (see further <http://commin.org/en/planning-systems/national-planning-systems/nations.html>)

Country	National level	Regional planning	Most important legislation
Belarus	Ministry of Architecture and Construction	Comprehensive planning specialized (sectoral) planning and Regional planning	Planning and Building Law
Denmark	Ministry Environment	Regional spatial development planning.	Planning Act
Estonia	Ministry of Internal Affairs	Spatial planning and development planning.	Planning Act
Finland	Ministry of the Environment	Regional development and regional land use planning	Nature Conservation Act, Building Protection Act, Antiquities Act, Environmental Protection Act, Water Act, Land Extraction Act, Highway Act
Germany	Several ministries and states (Länder)	Spatial planning, state development planning	Federal Spatial Planning Act, Federal Building Code, Federal Nature Conservation Act
Latvia	Ministry of Local Municipalities and Regional Development	Inter-municipal planning, Regional land use planning and regional development	Planning Law
Lithuania	several ministries	1. Regional strategic planning, 2. Regional development planning, 3. Regional territorial planning	Law on Territorial Planning
Norway	Ministry of Environment and the Ministry of local government and regional development	County planning and Inter-municipal planning	Planning and Building Act
Poland		Spatial Planning	Spatial Planning and Management Act
Russia	Several ministries	Planning scheme	Urban Development Code
Sweden	Mostly the ministry for Environment	Regional development programming, regional planning	Planning and Building Act

plans for the regional territory. The regional plans serve as guidance for decisions on comprehensive plans, detailed development plans and area regulations. The planning instruments are connected to formal planning legislation for regional plans for the entire nation/region or sectors in the nation/region. The plans may, if they are of importance for the region, indicate fundamental features of the use of land and water areas and recommend principles for the location of buildings and constructions.

In other countries, as for example in Sweden, the regional authorities, with exception of the Stockholm region, do not conduct any spatial plans. The regional bodies carry out regional development plans focusing on economical development. Instead the local authorities are the main and independent bodies for development of physical planning issues.

Planning on Municipal and Local Level

The local level is most often the key level for planning of physical structures. The planning area can be comprehen-

sive for the entire local authority territory, as for example is obligatory in Sweden. It can also cover the entire urban territory for a city, a part of a city, a housing area or just a block. It is a local authority task to plan for the use of land and water. It can be made by a *comprehensive plan*, a general document for a larger territory. It relies on, and sometimes is requested by, the legislation of the country. A comprehensive plan is a plan for the entire area for which the local authority (most often the local authority, but in some countries regional authorities or even regional offices of state authorities) is responsible. It should identify future land use regarding e.g. building sites, transport infrastructure, agriculture, and forestry. The comprehensive plan should have a long term perspective. In most countries the comprehensive plan, in contrast to the detailed plan, is not considered law and thus is rather a policy document.

A detailed plan is binding document for detail land use. The detailed plan identifies the suitability of a site for development and give the exact location and character

Table 18.2. Comparison of planning systems at municipal and local level. From COMMIN (see further <http://commin.org/en/planning-systems/national-planning-systems/nations.html>)

Issues	Notes on the situation in the Baltic Sea region countries
1. Territorial organization	Several forms of local authorities exist. In some countries the local planning authority is also handling building permits.
2 Local planning authority bodies	Local committees or local supreme authorities have responsibility for initialization and adoption/ endorsement of plans. In some countries legally notified instruments exist to cooperate between municipalities.
3 Forms of planning	There are different land use and spatial planning instruments at local levels.
4 Regulation instruments of local plans	In some countries land use zoning categories are required in local plans including future directions.
5 Overall local plan	In most countries the overall local plan is legally binding. Then statutory zoning and land use categories are shown on the plan map. The time horizon of the overall plan is normally limited.
6 Detailed plans	In many countries the municipality has a free right to initiate a detailed development plan. This is valid for a specified time limits set for the public handling of detailed development plans and is the time horizon/ validity of these plan(s) positively limited?
7 Development control	The plans normally includes land use zoning categories, and categories of building permits. However these require building applications.
8 Implementation	Public acquisition of land is regulated by the local plan. Countries have particular instruments for covering of urban development costs.
9 Reactions against planning decisions	Conflicts in planning and building matters are mostly led before court and often special or administrative courts. In some countries affected groups may appeal against planning and building decisions.
10 The public costs of handling detailed development plans and building matter	The initiators may have to pay for public handling of development plans and building matters.

and design of buildings, infrastructure etc. The detail plan gives the formal rights and responsibilities for authorities and developers of a smaller territory. This may concern continuous development or a new single individual building. The detailed plan is accompanied by permits for the entrepreneurs to start building. The detailed plan is considered to be national and local regulation.

An overview how planning on municipal and local level is conducted in various ways in the countries of Baltic Sea region (Table 18.2) is found in the COMMIN, The Baltic Spatial Conceptshare, documents. Here we find for each country which municipal authorities are responsible for the planning, and which legislation and instruments that are available in each country.

Detailed plans and projects are worked out only when there are public or private actors interested to make future changes in urban or rural areas. There must be enough public or private interests and funding as a driving force for the planning. That is to say that everything that happens in the future can not be foreseen and planned in ad-

vance. The role of legislation and protection planning is one way to defend public values and common interests when private and individual interests plan for new developments.

Spatial Planning and EU Policies

Rural Development Policies

In the rural context the landscape with all its assets, including natural resources, is the key resource to take care of in planning and to manage properly. Without a well-managed and productive landscape the rural society will be bereaved of its key resource and indeed its condition for long-term survival.

The rural landscape and development is in most European countries not under spatial planning rules and regulation. That is to say, there are no formally adapted plans for development of rural areas. But rural develop-

ment is still a main concern in European policy. Most rural development is encouraged by EU funding. Valuable natural resources and landscapes are, however, protected by legislation when projects or investments are planned.

Some 90% of the territory of the EU is “rural”, and this area is home to more than 56% of the EU’s population. In the Baltic Sea region urbanisation is high, in highly populated areas some 75%. The urbanisation increases even at an accelerated pace. At the same time many families move outside the city borders searching for cheaper ground (relevant also for enterprises) and a life closer to the nature. This can cause urban sprawl without clear difference between urban and rural areas. The pattern of typical urban sprawl, can be found e.g. around Berlin and Hamburg and in large Polish cities such as Łódź and Warsaw and to some extent in Riga.

The development of many kinds of rural trade and business is stimulated by the EU rural development policies. In particular farming and forestry are influencing the rural landscape. Many types of farming and harvests are today mostly steered by EU funds. The EU rural policy aims to improve the living conditions for the rural population, which often is not as good as for those living in towns and cities, to improve the rural economy, and to protect the landscape. The values of the rural landscape, should be properly addressed by spatial planning. These values include beauty and recreation, the production of food and raw materials, and nature protection and mitigating climate change. Rural life is attractive also today if access to adequate services and infrastructure is available.

The present EU rural development policy is valid for the period 2007-2013.

Financial Instruments for Rural Development

As described earlier there is no spatial planning legislation on the European Union level. Instead the Union uses other means of influencing rural development. The most decisive are the economic incentives.

There are a number of EU financed programmes addressing rural areas. Most relevant and forceful are those financed by the EU structural funds. Leader+ is one of four initiatives designed to help rural actors to consider the long-term potential of their local region. It aims to encourage the implementation of integrated, high-quality and original strategies for sustainable development,

Box 18.1. The European Union Rural Development policies

“With over 56% of the population in the 27 Member States of the European Union living in rural areas, which cover 91% of the territory, rural development is a vitally important policy area. Farming and forestry remain crucial for land use and the management of natural resources in the EU’s rural areas, and as a platform for economic diversification in rural communities. The strengthening of EU rural development policy is, therefore, an overall EU priority.” http://ec.europa.eu/agriculture/rurdev/index_en.htm

and has a strong focus on partnership and networks of exchange of experience. A total of EUR 5 billion was spent for the period 2000-2006. Action 1 of the program asks for the establishment of Local Action Groups, LAGs. Action 2 asks for cooperation between rural territories, while Action 3 focus on networking to collect and disseminate information at the national level on good practice, the exchange of experience and know-how. It supports technical assistance for cooperation in best use of natural and cultural resources; improving the quality of life in rural areas; adding value to local products, the use of new know-how and new technologies to make products and services in rural areas more competitive.

An important and influential part of the EU policy is the Common Agricultural Policy (CAP). CAP is implemented through economic instruments using a large part of the EU budget. The territorial impacts of the CAP are largely unsupportive of territorial cohesion in Europe, although there is scope in the given instruments to do more in that direction. Furthermore, one has to consider that the analysis of the instruments and expenditures of the CAP excludes the largest component of the support received by EU farmers in the form of the higher prices paid by consumers within the EU.

Equally the Structural Funds have been of decisive influence. Their main objectives are to reduce disparities in GDP and unemployment between regions. In doing so, they have contributed to territorial cohesion by stimulating regional and local innovation and development. However, they have done so less consistently than might have been anticipated. The assessments have revealed a complex picture; this shows that while money went to

less-favoured parts of the EU, the differences between regions within a country have been left largely untouched or even accentuated. The funds have, however, boosted competitiveness through leverage effects on national policies: local and regional levels of governance have been empowered, resulting in innovations, strategic planning, and new partnerships.

Urban Policies

According to UN statistics the level of urbanization in Europe is currently 74.6 per cent with an expected annual growth of 0.3 per cent per year between 2000 and 2015 (UNCHS 2001a). Urban policies are certainly relevant for all regions, since even dominantly rural areas have some towns and villages, even if not large cities. There are also several important documents regarding local and urban development within the Union. These are also relevant for the very important rural-urban partnership.

The EU *Leipzig Charter on Sustainable European Cities* is a document of the Member States adopted in 2000. In the charter is argued that integrated urban planning approach is a prerequisite for sustainable development of European cities. Its key themes concern strategies for upgrading the urban fabric and for enhancing local economies and labour markets, clean urban transport and the integration of migrants.

On the international level The Sustainable Cities Programme (SCP) is a joint UN-HABITAT/UNEP facility established in the early 1990s to build capacities in urban environmental planning and management. The programme targets urban local authorities and their partners. It is founded on broad-based stakeholder participatory approaches. This programme focuses a facility to package urban Environmental Planning and Management (EPM) approaches, technologies and know-how.

Urban development and rural-urban partnership are topics addressed by many Interreg projects. Almost all ESPON studies and Interreg projects under all three strands address the issue of rural-urban partnership and polycentric urban development, some of these more explicitly than others. Taken together they cover a wide range of activities, from studies, via the development of strategies or strategic partnerships to infrastructure investments. The perception and understanding of polycentric urban development and rural-urban partnership varies accordingly.

Transport Policies

Transport infrastructure is fundamental for the mobility of persons and goods and for the territorial cohesion of the European Union. The growth in traffic between Member States is expected to double by 2020. The investment required to complete and modernize a true trans-European network in the enlarged EU amounts to some € 500 billion from 2007 to 2020.

Most transport infrastructures have been developed under national policy premises. The European governments agreed to establish a Trans-European transport network (TEN-T), allowing goods and people to circulate quickly and easily between Member States. It aims towards a single, multimodal network integrating land, sea and air transport networks. The European Community is supporting the TEN-T implementation by several Community financial instruments and by loans from the European Investment Bank. Grants are allocated both for project preparation and implementation phases. They are also aimed to feasibility and comprehensive technical or environmental studies and costly geological explorations. This is to help to overcome early stage project difficulties, and to the works phase.

The European transport investments have contributed to cohesion in relative terms, although they may actually widen the absolute economic gap between regions. The TEN transport infrastructure projects planned for the period up to 2020 have a decentralising effect, and is thus favouring peripheral regions. Infrastructure policies have larger effects than pricing policies, and the magnitude of the effect is related to the number and size of projects. However, even large increases in regional accessibility produce only small benefits in terms of regional economic activity. Generally, the overall effects of transport infrastructure investments and other transport policies are small as compared to those of socio-economic and technical macro trends.

Cultural Heritage Policies

Cultural heritage refers to material as well as non-material expressions. This includes the traditions, ideas and values that we consciously or unconsciously acquire from previous generations. The view of what constitutes a cultural heritage in all its diversity changes with time. It is however most often a historic environment and can

include everything from individual objects and buildings to larger parts of the landscape. The Baltic Sea region has a very rich cultural heritage and many castles, churches, parks etc have protection status. Cultural heritage and historic environment work refers to activities that promote cultural heritage and historic environment conservation, e.g. by protecting, caring for, researching, disseminating knowledge about, and developing these aspects.

The historical perspective and long tradition are important strengths. In recent decades, the emphasis of public cultural heritage work has changed from the physical conservation of ancient monuments and the maintenance aspects of social planning evident during the 1970s. Via the everyday environmental and ecological issues of the 1980s, it turned towards a more holistic view in the 1990s, in which cultural heritage was regarded as a resource, where both its material and non-material aspects were integrated. The emphasis has thus shifted from “monuments” to “environment” to “heritage”. In the revival work of the 21st century, history, dialogue and diversity have come into focus, as has a wider cooperation both with and beyond the traditional heritage sector.

The European Landscape Convention (ELC) promotes the protection, management and planning of European landscapes and organizes European co-operation on landscape issues. It also promotes the public involvement in matters concerning the landscape. It is the first international treaty to be exclusively concerned with all dimensions of European landscapes. The Convention underlines the fact that the landscape is a common good as well as a common responsibility. The landscape comprises a variety of values - cultural, ecological, aesthetic, social and economic. The use of natural resources and development of landscapes is often a matter of negotiation. A close co-operation between national and local authorities, private organizations and the public is necessary to achieve a sustainable development of the landscape. The ELC, an initiative of the Congress of Regional and Local Authorities of the Council of Europe, basically to protect the landscape, was adopted by the Council’s Committee of Ministers in July 2002, and went into force in 2004, as the necessary ten states had ratified it.

The EU Framework Directives and Thematic Strategies

The EU environmental legislation includes well over 200 legal acts. Most are directed towards a special medium or sector, such as water, air, nature, waste, or chemicals. Others deal with cross-cutting issues, e.g. access to environmental information, and public participation in environmental decision-making. The acts of legislation are grouped into 17 policy areas. Those most relevant for planning work refer to Air, Civil Protection and Environmental Accidents, Climate Change, Industry and Technology, Land Use, Nature and Biodiversity, Noise, Soil, Sustainable Development, Waste and Water.

The most important legal instrument in this sector is the Environmental Impact Assessment, EIA. More recently the Strategic Environmental Assessment, SEA, has been introduced to broaden the number of projects which will be assessed and also broaden the aspects considered, especially to social and economic aspects. EIA and SEA are further presented at page 218.

The 1992 Rio UN Conventions promotes the principle of sustainable development. The Convention on Biological Diversity, signed during the Rio Conference, intends to stop the frighteningly rapid loss of biodiversity on earth. There are important efforts within the European Union to protect biodiversity. Based on the Birds Directive from 1979 and the Habitats Directive from 1991 the Union formed the Natura 2000 network. This includes many thousands of sites in member states, in which wildlife riches are better conserved, managed and protected by being included in this network, significantly enriching the Community’s biodiversity.

The proposal for a framework Directive (COM (2006) 232) on soils sets out common principles for protecting soils across the EU. Within this common framework, the EU Member States will be in a position to decide how best to protect soil and how use it in a sustainable way on its own territory. Today there is a thematic strategy on soils.

Cleaner rivers and lakes, groundwater and coastal beaches are of high priority in European Environmental policy. A fundamental rethink of Community water policy, asking for a more integrated approach to water policy, culminated in mid-1995. A new European water policy and framework legislation to reach “good status” of surface waters and groundwater developed on a river basins ap-

proach. A Directive to introduce *integrated river basin management* for Europe, Directive 2000/60/EC, the EU Water Framework Directive (WFD) was finally adopted in 2000.

EU Supported Planning Cooperation in the Baltic Sea Region

The Swedish initiative Visions and Strategies around the Baltic Sea, VASAB, immediately after the systems change in 1991, became a first trans-national – regional – planning cooperation in Europe. It inspired the creation of the EU for regional cooperation and strategies, the Interreg, already introduced above. There are seven Interreg programmes in Europe, including one for the Baltic Sea region and one for the North Sea region. The first programmes lasted three years (I-III) while the present Interreg IV is a seven year programme (2007-2013). With the establishment of Interreg IIC trans-national co-operation and spatial planning issues got a formal platform and instrument in the EU. This was later continued as Interreg IIIB (2000-2006). The territorial co-operation has been integrated into the mainstream Structural Funds system under Interreg objective 3 “Territorial Co-operation”.

Among the cooperative schemes in the Baltic Sea region also COMMIN, the Baltic Spatial Conceptsphere, is important. It is a partnership of 28 partners in 11 countries in the Baltic Sea region. It is an example of the impact of spatial planning and development policy in the region, but also illustrates the considerable heterogeneity among the Member States.

Enlarging the geographical scope, CEMAT, the European Conference of Ministers responsible for Regional Planning, is an obvious actor at the pan-European level. As the CEMAT is part of the Council of Europe framework, it covers not only the 27 EU Member States but in total 47 countries. The CEMAT can also be considered as a form of intergovernmental co-operation.

Today all of these actor groups plus various other actors are in one way or the other active in shaping territorial policies for the region and Europe. Each of them has a different understanding on what territorial policies or spatial planning at European level is. Furthermore, each of them has different intentions and means.

In 2009 The European Commission adopted a Communication on the EU Strategy for the Baltic Sea

Region. This is the first time that a comprehensive strategy, covering several Community policies, is targeted on a ‘macro-region’. The macro-region around the Baltic Sea includes the eight member states bordering the Baltic Sea, but close cooperation between the EU and Russia is also necessary in order to tackle jointly many of the regional challenges. The same need for constructive co-operation applies also to Norway and Belarus.

The Strategy aims at coordinating actions by Member States, regions, the EU, pan-Baltic organizations, financing institutions and non-governmental bodies to promote a more balanced development of the Region. Four cornerstones of the Strategy have been singled out as crucial:

1. Environmental sustainability (e.g. reducing pollution in the sea);
2. Prosperity (e.g. promoting innovation in small and medium enterprises);
3. Accessibility and attractiveness (e.g. better transport links);
4. Security (e.g. improving accident response).

The most important result of the regional strategy so far is the adoption of an action plan for the Baltic Sea, in which the states, among other obligations, have accepted very far reaching reductions of the nitrogen and phosphorus loading, which will decisively influence the way agriculture is conducted in the region.

Planning Processes

Processes of Planning Practice

Planning practice deals traditionally with how to distribute the use or protection of land and water areas. A main part of planning concerns localisation and shape of new or regenerated built up areas or infrastructure. Planning also deals with protection of valuable areas or resources as example heritage and natural environments. In later decades to these physical issues are in many cases added economical and social issues. Plans are based on, and adopted by, political bodies and worked out by professional planners. Knowledge and interests from other actors, as stakeholders and citizens, are involved in democratic planning processes.

Basic data for the planning processes includes a prognosis on existing conditions and development of areas regarding e.g. the physical situation, buildings, vegetation, infrastructure, demography, mobility, and economic activities together with estimations of the future development.

A rational planning process starts with collecting basic planning data, conducting a planning programme with a vision, and formulating the planning goals. Next step is to find alternative proposals of the future development of the planning goals based on the background and interests of the actors and stakeholders. The planning process is a way to clear out different interests and values between the actors and give stakeholders and interest groups opportunities to influence, criticize or at least receive information on the future plans.

The drivers for planning are firstly public actors. These have the task to distribute land for suitable purposes, establish comprehensive built up and infrastructures, such as communications networks, green structures, schools, children and elderly care, wastewater treatment plants, or to establish protected territories. Other drivers are often public or private actors concerned and interested in various development aspects or projects. These may be buildings, housing areas, commercial centres, energy projects, etc.

The planner needs to identify problems, and establish a platform to address conflicts of interests between actors and stakeholders, and at best allow for exchange of ideas how to address such conflicts.

Pro-active Planning

In the planning process, planners are able to determine a wide range of interconnecting issues that affect an area. Each step of the process can be seen as interdependent, and may be reiterated as needed. The steps are executed in order or in parallel as best fit the purpose. While spatial planning is complex, in practice it never follows a technical rational procedure from goals to results. The planning practice processes can then be described as a spiral where each round takes in new basic data and knowledge to reach a higher level of the planning outcome.

The final plan consists of a written document with objectives, visions and description of the plan together with attached maps and other illustrations as needed. Maps are normally available in computer format, a so-called Geographical Information System, GIS, (or on urban level,

Local Information System, LIS, with very high resolution) or AutoCad. A GIS map consists of several, even a large number, of layers, each with a special kind of information, such as roads, buildings, water networks etc. Statistics of different properties of the area, which have been collected in preparatory steps, may be added to the GIS.

The planning team must first address the issues and context at stake. (For a comprehensive plan, as mentioned, this is a political issue.) These may be requests for new habitation, industrial production, areas asked to be set aside for nature protection, energy production, etc. If habitation is expanded, social services need to be included, such as schools, health services, areas for commercial services etc, and access to the area through roads. Requests for developments from private and public interests are often part and drivers the process.

The local authority may have policy goals, scenarios or “visions” for the long-term development. The visioning process of a community will be discussed further below. Data for the area to be planned typically describe environment (e.g. air pollution), traffic development, demographic trends, economic developments, social conditions, etc, but of course data should be collected regarding any relevant topic in the planning process. These data may be used as indicators as is described below.

The information gathered and the stated goals are used to identify trends and make forecasts and write a first planning proposal. A typical comprehensive plan begins by giving a brief background of the current and future conditions. Following the background information are the community goals and the way in which these goals may be implemented into the community. Comprehensive plans may also contain separate sections for important issues such as transportation, housing, culture heritage, outdoor recreation etc.

Next step is to propose actions to implement the plan, projects or an entire program for each of a number of selected issues. In some areas alternative plans may be drafted, especially with regard to budget options. The programs and plans should during the entire process be communicated with other actors, stakeholders and interest groups. This may be done through exhibitions, published reports, hearings etc. The plan may as well be distributed to the most relevant stakeholders to give them opportunity to comment on the proposed plan.



Figure 18.2. Gaming as way to do planning. In 2009 a group of farmers and other stakeholders in western Poland took part in a game organised by teachers and students of AGH University in Krakow as an innovative way to evaluate different way to develop the watershed. Photo: Piotr Magnuszewski.

The proposals should be evaluated. Some such evaluations are legally required, e.g. environmental impact assessment, EIA, (see below). The zero option, that is to leave an area as it is, should be one alternative included in the EIA. In general the evaluation may concern all kinds of negative and positive effects of a program or plan.

After proper preparations the local government finally adopts parts of or the whole plan. This general decision is most seen as a policy decision. In order to implement and carry out the plan decision are needed on each of a number of projects, each with its own budget, time line, and other details. In connection with such decisions a detailed plan is prepared and accepted. Collected data may be defining the goals to be reached – e.g. a certain level of air pollution, or traffic flow – and as such reported to the political level.

Urban and Rural Planning

Planning work typically always addresses economic development and demographic trends, although these two aspects of development may be the least easy to actually plan. Aspects which may be planned in detail includes nature protection, infrastructure and buildings. In be-

tween these extremes there is e.g. school development, which is also very much “planneable”, as schools have to be made available for new groups of children. In the rural context agriculture, forestry and nature protection are among the most important to address in planning work. Still agriculture is much dependent on policy decisions. The CAP, common agricultural policy of the EU, is crucial for what farmers in the EU are able to do on a commercial basis.

The urban areas are growing all over the globe hosting approximately 50% of the population. Urban areas are complex systems of buildings integrated with infrastructure. That is the main reason why most planning activities are made within the urban areas. Urban - that is city and town - planning is an integration of the disciplines of land use planning and transport planning, to explore a very wide range of aspects of the built and social environments of urbanizations. Urban planning is a synergy of the disciplines of urban planning, architecture and landscape architecture. Another key role of urban planning is urban renewal, and re-generation of inner cities with changing use of buildings and areas, as for example new development of brown fields.

The quality of public spaces, urban man-made landscapes and architecture and urban development plays an important role in the living conditions of the urban populations. These so-called soft locational factors are important for attracting knowledge industry, businesses, a qualified and creative workforce, and for tourism. Therefore, the interaction of architecture, infrastructure planning and urban planning must be increased in order to create attractive, user-oriented public spaces and achieve a high standard in terms of the living environment. Urban development is the sum of all the cultural, economic, technological, social and ecological aspects influencing the quality and process of planning and construction. Urban development and regeneration include preservation of architectural heritage. Historical buildings, public spaces, green structure and their urban and architectural value are of great importance.

The urban green structure includes parks, gardens, avenue trees, wild green nature, and cemeteries. Nature and other green areas in a town or village are important for its social well-being, for its ecology, air and water, as well as for making a city attractive. Green areas in cities and towns are connected to each other and generate entirety – a green structure – independent of ownership or maintenance. They are also important parts of a city's building history, identity and character. A green structure function as lungs and kidneys for the urban areas while it contributes to urban biodiversity, preserves a good local climate, good air environment and provide space for ecological ways to clean storm water. Green areas also give possibilities for leisure and various out-door activities, as it provide informal meeting places, arenas for concerts, theatre, exhibitions, manifestations etc.

Water Planning

Planning addresses both land and water, and water needs a special notion. Water protection, regulations and management will be part of any comprehensive plan and many of the detailed plans. Water is since ancient times by far the most regulated natural resource, and even small streams may have hundreds of dams and other regulations to allow for drainage, defined water levels, abduction of water, hydropower, etc.

Water management is regulated in the EU Water Framework Directive. According to this directive all

surface water in the Union should by 2014 (in most areas postponed) be in a “natural state”. What this exactly means may partly be decided on at national level but, regardless, for a main part of European rivers, lakes and coasts it amounts to considerable environmental improvements. Water is to be administered by River Basin Authorities. These regional authorities are today assigned in all EU15 states, and soon in all EU29. Water need to be continuously monitored, a considerable task, mostly to be made by local authorities. This can be complicated while the water does not follow the administrative borders of local, regional and national territories.

Restoration of surface water are today more important than ever. Restoration organisations are established in many countries on the national (EPA) and regional level (county administration). In part of the Baltic Sea region (especially Norway, Sweden and Finland) restoration of acidified water by liming is a large task on-going since many years already. In more southern areas, and very much so in the Baltic Sea itself, eutrophication is the main problem. In 2008, as mentioned, a Baltic Sea Action plan was agreed on among the coastal states of the Baltic Sea.

The number of water restoration projects in the region increases. These include building wetlands to manage nutrient loads, to restore streams to natural conditions by removing dams and channelization to promote fish life, and removing old industrial sites to allow for waterfront habitation.

A main concern in water management will be diverse interests of stakeholders such as farmers, urban areas, industries and nature protection interests. These conflicts of interests need to be taken care of and balanced mostly by local and regional authorities on all levels.

Environmental Impact Assessment, EIA and SEA

If the planned development is foreseen to cause a significant impact on the surroundings this is normally examined as part of approval of a building permit. Each larger plan, program and development project needs an EIA, Environmental Impact Assessment. The EU EIA Directive is one of the oldest EU environmental directives, and it was in addition preceded in many countries by national regulation. Later on a Strategic Environmental Assessment, SEA, Directive has been adopted and is now



Figure 18.3. The small town Reszel in north-eastern Poland illustrate how urban and rural space is integrated and contribute to each other for the benefit of both. Photo: Johan Anglemark.

mandatory. The idea of an SEA comes from the regional development /land use planning and should ensure that plans and programmes take into consideration the environmental effects they cause and how to strategically avoid negative affects.

Today most often the Strategic Impact Assessments is made before the EIA; the results generated in the SEA are later used for the EIA. The structure of SEA (under the Directive) includes

- "Screening", investigation of whether the plan or programme falls under the SEA legislation,
- "Scoping", defining the boundaries of investigation, assessment and assumptions required,
- "Documentation of the state of the environment", effectively a *baseline* on which to base judgments,
- "Determination of the likely (non-marginal) environmental impacts", usually in terms of Direction of Change rather than firm figures,
- Informing and consulting the public,
- Influencing "Decision taking" based on the assessment and,

- Monitoring of the effects of plans and programmes after their implementation.

The EU directive also includes other impacts besides the environmental, such as material assets and archaeological sites. In most states this has been broadened further to include economic and social aspects of sustainability.

The EIA will ask for an estimation of the effects of the project for pollution, emissions, but as well intrusion into the landscape etc. A main concern is if the proposed plan is compatible with existing legislation, that is, in compliance. Important legislations concern existing Environmental Quality Standards, EQS (limits), the directives on biodiversity (birds, wetlands), protection of the landscape, and protection of natural resources. Another concern is if those influenced are prepared to accept a foreseen impact on the environment.

The EIA often leads to considerable disagreements and protests. Thus the building of a railroad in northern Sweden (close to the city of Umeå) was contested on the basis of its intrusion into an area important for bird re-

Box 18.2.

Via Baltica Expressway

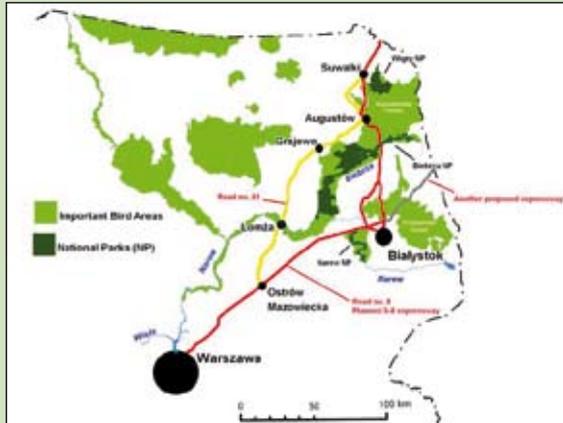


Figure 18.4. Planned route (red) of Via Baltica with alternative and later realised route (grey) through Rospuda valley.

Controversial planning of the Via Baltica Expressway in Poland judged unlawful. Via Baltica, the expressway from Helsinki-Tallinn to Warszawa-Prague, was originally proposed to run straight through the Augustów and Knyszyn primeval forests in north-east Poland. Both sites are listed as Special Protection Areas under the Birds Directive and are proposed Sites of Community Importance under the Habitats Directive – Europe’s major laws for the protection of natural environment, and are as well Natura 2000 sites. The plan was fiercely opposed by Polish and European environmental NGOs, who addressed the case to the European Commission. It decided in March 2007 to refer Poland to the European Court of Justice (ECJ) for breaching EU environmental law by planning construction of the Via Baltica through the protected Rospuda Valley. In September 2008 the Highest Administrative Court (NSA) in Poland ruled the section of Via Baltica expressway planned to cut pristine wetlands in Rospuda river Valley within a protected Natura 2000 site to be illegal. Polish Prime Minister Donald Tusk in March 2009 announced that Poland will choose an alternative route for



Figure 18.5. View of Rospuda river valley. Photo: Mariusz Chilton.

the expressway that will relieve the town of Augustów of heavy transit traffic without harming Rospuda. The new bypass will now be constructed close to the nearby village of Raczki. (<http://www.viabaltica.info.org/The-solutions-strategic-analysis>). Landscape in Rospuda wetland. There are several alternative routes for transit traffic travelling from Warsaw to the Polish-Lithuanian border. In one alternative backed by Polish environmental NGOs, the route can cross the city of Lomza, which would not only be a shorter route but would also bypass the designated Natura 2000 sites. This existing road (no. 61) is also being modernised under the EU funds but with lower technical parameters than are required for the international standard Via Baltica. It has been closed to heavy lorry transit for a few years, and all transit traffic is currently directed via road no. 8, threatening the most valuable nature areas in the region. (see <http://www.viabaltica.info.org/Map-of-possible-alternative>; http://bankwatch.org/documents/Rospuda_valley_road_alternatives.jpg)

production. The building of the main road “Via Baltica” through and area in north-eastern Poland, nick-named the Green lungs of Poland, gave rise to large protests and was even taken to the European court (Box 18.2 above). The presently proposed expansion of the road network around Stockholm (Förbifart Stockholm) has been contested since it has been projected to lead to increased private car traffic and reduced municipal transport, and thereby

a considerable increase in emissions of carbon dioxide, much in conflict with present efforts to reduce emissions of greenhouse gases.

In many countries cases like these are judged in special environmental courts. These are ordinary civil courts but specialising on environmental issues. In other countries an environmental conflict is taken to the county office, or the regional office of the state authority. There is in

many cases the possibility to appeal to higher court, and especially to the European Court in The Hague, if the EU regulations are believed to be violated.

Also during operation the environmental impact of an activity is regulated. When a building permit has been granted, the activity itself, e.g. an industrial production, needs to be licensed. This is today regulated in several EU Directives. Especially significant is the IPPC directive, Integrated Production and Pollution Control. As required in this directive an activity of a certain character requires an integrated permit in which all disturbances on the surroundings are considered together. Activities which require an integrated permit includes land fills, industrial production, power plants etc. The permit prescribes maximum levels of the impact, such as amount of emissions, amount of waste, noise, etc.

Planning for Protection

Re-active planning or planning for protection of land or water is a way to defend certain values as natural resources, natural and cultural values. It can be about valuable nature objects and areas, landscapes, cultural heritage of buildings and entire built up areas. Such sites may be protected by reserves or in adopted plans. Larger areas are the national parks and thus under national administration, while smaller areas, which may be a lake, a meadow or a wetland, are under county or municipal administration. Up to some 10 percent of the territory of a country are protected. Protection exists on several levels, from no-entry (e.g. the archipelago under bird breeding periods) to areas which still includes farming and forestry, although under defined conditions. The conservation level needs to be detailed in the comprehensive plan.

Modern nature conservation concerns both people and nature on land and in water. It requires skills in dialogue and local participation and management. In most European countries, any plant or animal that is in danger of extinction or plundering may be given protected status. This means that it is forbidden to pick, catch, gather, kill or in any other way injure the species in question. Valuable nature areas as open landscapes, forests and wetlands are protected by various nature legislation and is often not planned by spatial plans. On the European level the Natura 2000 network consists of all sites registered by EU member states as protected under either

the Habitats directive or the Birds directive. The member states are obliged to keep these sites in “a good conservation status”. There are many thousands of such sites, only in Sweden close to 4,000.

Both nature and cultural conservation sites promote tourism. Tourism may be the fastest growing economic sector in the region today, and thus this is a strong argument in favour of increased conservation. Quite many cultural heritage sites, such as castles, mansions etc are used for conferences, concerts, exhibits etc and allow tourists to visit. A comprehensive plan should at best indicate the conditions under which a site may be visited and used for the different purposes and activities.

Planning for protection may also be understood as proper management of natural resources in an area. This may include regulation of hunting and fishing, which historically was very important in planning. It may also refer to how much of a resource, such as water, to use, or much timber can be taken from a forest, although these aspects are more often included in the license, or permit, for the area.

Implementation – Planning on Project Level

Planning on a project level is the implementation or part of the planning, when something is to be realised. A project can be a building or a construction that is projected and presented so it can be understood of those influenced by the project.

Detailed plans and projects are conducted when there are public or private actors interested to make future changes in urban or rural areas. There must be enough public or private interests and fundings as a driving force for the planning. That is to say that everything that happens in the future can not be foreseen and planned in advance. The role of legislation and protection planning is one way to defend public values and common interests when private and individual interests plan for new developments.

Sustainable Development in Planning and Management

Planning for Sustainability

As follows from above, to plan for more sustainability is a complex issue. The processes can either be seen as a systematic process based on environmental scientific knowledge or, as discussed below, a communicative process between actors and stakeholders involved in the planning. Here it will be treated as a systems approach to manage sustainability dimensions in planning processes or as a way to assess plans.

Only few planning projects have been carried out systematically with regard to sustainable development. Among the national level projects the Japan for Sustainability (JFS) project, published in 2007, is particularly relevant. It was carried out over a two year period by a group consisting of university researchers, interest organisations (NGO) and some companies. No authority, neither on state nor on local level, was part of the group. The report is interesting since all the typical stages are included and a result calculated. Sustainable development processes for municipalities, companies or other organisations have also been reported but most often with a less complete or systematic approach.

Even if there is no scientifically established method of how to conduct a complete planning process using sustainability principles, there is enough experience, that one may safely say that a best practice has been established. Alan Atkisson's ISIS system may be the best tried out in several cities, companies and other organisations. ISIS stands for

<i>Indicators</i>	Measurement and Assessment of Sustainability & Related Performance
<i>Systems</i>	Understanding Linkages, Dynamics, and Leverage Points
<i>Innovation</i>	Creating and Diffusing Change: Using a Cultural Systems Approach
<i>Strategy</i>	Commitment to Integrated Implementation and Follow-Through

It is possible to describe most systems using a 6 (or 9 in some versions) step procedure, consisting of the following.

1. Agree on what is sustainable development (*the concept*) among those concerned. This phase should at best also include awareness of the importance of systems thinking and the awareness of limits, since these are fundamental for understanding sustainability.
2. Agree on a *framework* to be used to describe and work with the “system” (the area or society to be planned). There are several such frameworks; the classical – ecological, economic, and social – is seldom sufficient for a planning project.
3. Agree on a *vision* for the area in a future time, such as 20-50 years ahead.
4. Decide on a number of parameters to be followed, *indicators*, to measure and monitor sustainability.
5. Decide on which parts of the society or system to address, and in a process of innovation, find ways to improve these and design a number of projects.
6. Run projects often over a period of some 2-3 years. The whole process is then reiterated for continuous improvement.

The six steps may be carried out in a different order (e.g. some starts with the indicators). Additional steps not listed above include agreements, especially on the political level, but also with citizens. After the six steps the process and the results are evaluated. Most often this leads to a reconsideration of each step in the process including the definition of sustainability, the vision, the indicators and finally what to address to improve sustainability, that is, what projects to run in a following round.

Definitions of Sustainability

To work in practice with sustainable development it is basic (see e.g. Atkisson, 2008) to

1. Understand systems in general
2. Understand sustainability in general
3. Distinguish between “development” and “growth” in goal-setting, that is, understand the physical limits of the system.

It is easy to find several hundred definitions of sustainability in the literature, all of which are somehow related to the situation in which they were developed. However a group which intends to work in a multi-year planning activity needs to develop their own understanding.

As an example we may cite the JFS (JFS = Japan for Sustainability) project, in which the group agreed on the following, so-called judgment criteria:

1. “Capacity and Resources”
2. “Fairness across Time”
3. “Fairness across Space”
4. “Diversity”
5. “Human Will and Networking” which they considered important from the viewpoint of global citizenship.

It is easy to recognise the Brundtland Commission concern for next generation (intra-generational equity) in number 2, and the inter-general equity (e.g promoted at the Rio Conference) in no 3, while the others are less established.

It is also possible to have simpler versions, such as “Create welfare within existing resources”, but they tend to be less useful in practical work.

Visions, Scenarios and Goals in Planning Processes

To increase sustainability of a region or an area one needs to know towards what goals one is heading. *Goals* are possible and estimated to be achieved during the planning period. The goals are discussed and set up mostly in the planning programme. *Prognosis* are quantitative predictions of probable future development. *Scenarios* are based on values and interpretations of a future development and a way to outline a future filled with a manifold of uncertainties.

Scenario technique is a way to create images of the future. A scenario is a systematic prescription of a future situation and of a possible development from the situation today forwards to the prescribed situation. Scenarios are often giving a simplified image of the whole and of the connections between different sectors in the society, with contribution from many knowledge fields. To present various possibilities of development often alternative scenarios are worked out. Scenario technique is a method of forecasting.

Visioning is an important part of sustainability management. The plan or the vision may be exhibited to the public and discussed broadly; the vision, just as a plan, does not have legal status but rather is a policy document. A vision is evaluated using a number of sustainability goals.



Figure 18.6.A vision for Gotland. Gotland, the largest island in the Baltic Sea, published its vision for a sustainable society for 2025. The Vision covers a number of areas as illustrated on the cover of the 28 pages document (<http://www.gotland.se/imcms/38064>).

Visions normally are restricted to a few areas of special interest for sustainability. A case may be the Swedish Göteborg 2050 (Göteborg is the second largest city in Sweden). The visioning was carried out in five main areas

1. Sun city (energy)
2. Urban structure (includes green areas)
3. Transport (traffic infrastructure, public transport)
4. Food (e.g. includes health and wellbeing)
5. Recycling (includes waste management)

The Global Community Initiative, GCI, have a long experience from visioning procedures. They always include the community as broadly as possible in the process, e.g.

by creating different citizen groups, and by making results available as the process continues, through exhibitions, in campaigns, or in festivities. Especially in an US context, where the local authorities are less strong than in Europe, it is important to have support from many stakeholders, including the private sector. The experience is that people often get enthusiastic about discussions on the long term future of their community, and that differences in opinions become less strong when it deals with a very long term perspective.

The Framework (Description) of the System

To work with sustainability management is to work with a system (the society and its land). For this purpose a good and useful systems description is needed. The classical system description – ecological, social and economic aspects or dimensions – is not so good for practical work, although it has been adopted by the business world as “the triple bottom line”. Sustainability reporting has established the parts corresponding to these three dimensions, and it has been adopted by the GRI (Global Reporting Initiative) both for business and authorities.

More developed framework for sustainability includes Atkisson’s compass with

- N (North) Nature (the ecological or environmental aspects)
- S (South) Society (the society part of the rather diffuse “social” aspect)
- E (East) Economy (the economic aspects)
- W (West) Wellbeing (the human part of the social aspect)

The Compass is rather well motivated in theory, as have been described by Atkisson (2009). It makes the rather unclear “social” dimension a little less unclear.

Other frames include the Global Community Initiative’s 5 requirements, and an interpretation of the UN Habitat’s as 7 resources. A more detailed frame was developed in the Baltic University Urban Forum project. In the project it was concluded that for local authorities sustainability is best made operational as resource management, and five resources were defined

1. Material resources – all material flows in the municipality, water, energy and waste

2. Urban space resources – all area to be planned in the municipality
3. Human resources – all inhabitants in the municipality
4. Societal resources – the city administration and all its services, institutions
5. Economic resources – companies and all other economic units

It is noted that these resources are not exchangeable and they are all limited. *Sustainable development is here understood as proper management of limited resources!* Each of them is discussed in larger detail in the project reports.

Regardless of the frame used at some level each aspect of the system has to be allocated to one of the parts, partly in an arbitrary way. The resource system or frame allows this to be done in a slightly more systematic and inclusive way.

Sustainability Indicators

It is essential to have adequate information on current developments and trends for the system in question. This information is given by so-called indicators. Choice of indicators is a serious question, as much effort is invested in following the indicators. They thus need to be important and meaningful, and relate to the vision.

There is no end to the number of indicators one may find. It is instructive to look at the economic pages in a daily newspaper; it is filled with hundreds of figures, all of which may be called economic indicators. Similarly one may compare to a medical diagnosis, which again may have many different figures, depending on the medical problem. Some are general, like body temperature, while others are special. In the same way a sustainability planning team needs to ask what indicators they need. Typically a set of environmental, economic, and welfare measures are used. Experience from the Urban Forum project showed that already today a typical municipality has some 60 indicators in common use.

The indicators are related to the framework chosen. Thus, if the three dimensional (environmental, economic and social) system is chosen, one needs indicators for each of these, as proposed in the GRI system. If the Compass is used, there will be four classes of indicators, and if the Urban Forum resource management system is used there will be five sets of indicators. Proposal for indicators are



Figure 18.7. Alan AtKisson discussing sustainability indicators at a workshop on management of sustainable development using the pyramid model. Photo: Krzysztof Cielinski.

found in the basic reports of each of the projects. The Japan for Sustainability project, which used the Compass, reported 5 basic indicators for each of the four directions of the Compass. Each of these had 10 datasets to be calculated. That is the whole project used 20 indicators and 200 datasets.

Indices are composed of several component indicators. Some indices are well established. Ecological footprints (consisting of six indicators) are monitored according to an established method, and there is an understanding what the sustainability value is (1.8 ha/cap). For social aspect of SD the human development index (three indicators are combined) is used; an acceptable level of that is, according to the United Nations, 0.8.

It is important that the indicators are measured over a time period. Then a trend is given and one sees how it is changing. Some indicators which rely on standard measures, such as many environmental and economic data, are often available over a long time. Others need to be either constructed from historical data or monitored in a new project.

It is essential that the “sustainability values” of the indicators are available. This is the value that the indicator would have in a sustainable society, that is, in the vision. Sometimes it is easy to define the sustainability value.

For example the use of non-renewable resources, such as oil, should be zero. In other cases it is less easy. What the unemployment rate is in a sustainable society is not easy to say. Some theory argues it should be 2-3%. This uncertainty is typical for many of the social indicators. Still one should assign a value to each of the chosen indicators. The discussions needed to do this are typically very useful to deepen the understanding of what sustainability is and what one needs to do to achieve it. Of course, it should be added, that the values given are provisional. They will be reconsidered at least each management cycle.

The sustainability values of the indicators are used to calculate the sustainability of the society (system). If the sustainability value is 100 and the present value for an indicator is 60 then for this indicator the sustainability of the system is 60%. The total value for the system is most often calculated as a non-weighted average of all used indicators.

Management and Project Work

The final goal is to implement the sustainability plan. This corresponds to the implementation of a spatial plan and one need to follow the legal process required. Nevertheless there is some specific characteristics typical for the sustainability process.

Indicators are often used in so-called “back casting”. Here the values for the present and the future vision are plotted and the track “from future to present” is indicated by a line. This process allows us to establish intermediary goals for a specific year in the future, typically three years ahead, e.g. in energy use, traffic change etc. Back casting has been used in air pollution work and reaching the Kyoto protocol for reducing emissions of greenhouse gases.

A creative way to address what to do is to ask for the best “levers” in the system. What needs to be changed to get many more beneficial changes as a consequence? This is where system thinking is needed. For example improving public transport will also reduce air pollution if private car use decreases. In the more advanced versions of systems analysis computer models are used, but one gets very far by just drawing the systems and all interdependences on a piece of paper. This forms the basis of a strategy for changing the system and to spur innovations, that is, creative solutions for what to do.

In practice it turns out that very few communities use such a systemic approach. Most common is to focus on technology, e.g. how to work with heating, or waste management. A lack of systems view may in the worst case

lead to no result if several processes counteract each other. Best is to look at both technology, the social changes needed to support it and design a “portfolio” of projects which support each other.

There are many interesting ways to make the planning work interesting and more inclusive. One is to play games on a system which is designed according to the area to be planned. This method was used for planning of a river basin in Poland. In this case, the stakeholders formed teams, which played against each other. Students helped the farmers to handle the computers and the university teachers facilitated the process. As a result the consequences of different planning proposals became very concrete and clear. A more theoretical method is to model the system in question and calculate different scenarios. Modelling science today allows considerable detailed studies with environmental, economic and social parameters to be followed into long term future.

Management Cycles

In order to successfully implement the projects one needs to have support from all the concerned levels in the society. Some projects, e.g. the Managing Urban Europe 25 (MUE25), focused on this aspect. They defined a management cycle consisting of five steps

1. Baseline review (present value of indicators)
2. Target setting (the visioning process)
3. Political commitment
4. Implementation and monitoring (project work, and following the indicators)
5. Evaluation and reporting

The MUE25 cycle is a variant of the classical Deming cycle (Plan-Do-Check-Act), but includes specifically political commitment. The ISIS method asks for “Agreements and Actions”; this is more general since the ISIS method is much used in companies. It should also be added that the way to work is very similar to the environmental management systems, EMS, already adopted by hundreds of thousands of companies and quite many authorities.

The projects are implemented typically over a 3 year period. Then a new turn starts with review of vision, indicators, targets etc. Continuous monitoring and adaptation is needed and in particular the indicators need to be monitored.

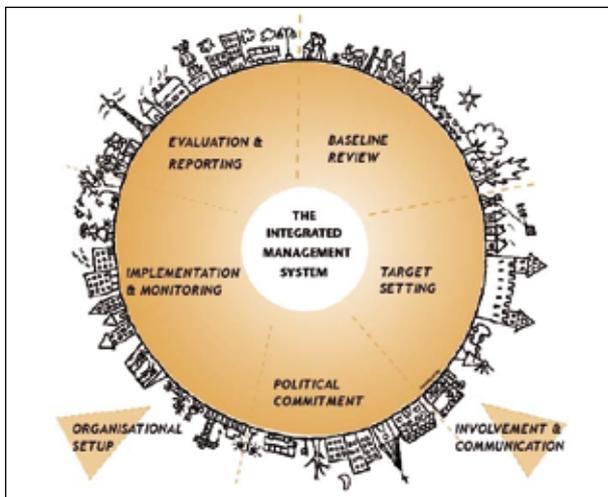


Figure 18.8. The MUE25 cycle is a variant of the classical Deming cycle (Plan-Do-Check-Act) It was used in the Managing Urban Europe project (MUE25) for Sustainable Urban Development. The model is equally useful for managing sustainable rural development.

Planning and Democracy

Three Planning Perspectives

Important changes today are challenging the way we organise and carry out local or municipal planning in the European countries. The underlying paradigm has moved from hierarchical regulation and control to network democracy, partnerships, new public management and governance. As a result, major restructurings of the institutions and legal frameworks for local planning and development are being implemented in several countries. Demands for efficiency have also resulted in new policy regimes and new roles for both professionals and politicians.

Planning was after WWII very much seen as a technical issue. The task of the planners was to use an effective, rationalistic method to achieve the best way to satisfy a list of requirements and reach the defined goal. This way to deal with planning was part of a larger view of development of society at large, as objective, rational and dependent on the application of proper instruments: The planner defines the goal, weighs the alternatives carefully and selects the best according to defined criteria. This, so-called *rationalistic planning*, is the result of economic, scientific and technical knowledge applied in a step-by-step linear process. Often the quantitative measured issues of the plan get priority over the qualitative/soft values.

The rationalistic comprehensive planning tradition has been hardly criticised for not being in accordance to planning practice. A more project-oriented planning, with many actors and stakeholders involved, has been more common during the last decades. Especially at the local level more cooperation in and between projects was achieved through a negotiation process between the actors. This is commonly called *negotiative planning*, meaning that several actors, most typically private actors such as business and building companies, but sometimes also groups of citizens, negotiate with the authorities about the plan. A dialogue is created between interested inhabitants, companies and public authorities to raise the understanding between each others' interests and arguments.

With increasing complexity qualitative uncertainties and plurality of values in the planning process also have increased. Planners meet these uncertainties with increased flexibility to include new circumstances and/or new information as they arise. Instead of a linear order,

as in rational planning, one may introduce a cyclic order with several moments. This is called *strategic planning*. The planning agenda then includes alternatives to reduce complexity, and remove uncertainties as the process continues. The process is aimed to find strategies to manage a vision from idea to a concrete goal. The dilemmas, occurring in practical planning processes, must lead to active choices in relation to politics. A strategic planning process can be used for different purposes. It may be used either to set a democratic planning process into practical operation using strategies to handle a high number of stakeholders and actors. Or it can be used by powerful actors to achieve goals in their own interests, using strategies to avoid undesired hindrances.

Partnerships and Governance

In recent years we have seen an increasing a mutual understanding that the state or local agencies in most European countries have no longer the sole sovereign political and financial power for planning and implementing plans. Then to plan for future changes and be able to implement the plans, actors and stakeholders enter into different types of coalitions, so-called *partnerships*. These include a mix of public and private actors, each capable of bargaining on their own behalf. Partners are expected to bring something to the partnership, and share responsibility for the outcomes of their activities. Disadvantages include an unclear relation of responsibility between the population and their political representatives. Partnerships may also develop towards closed institutions, where the dominating stakeholders cooperate to the benefit of their own interests.

Another societal change during the last decades has been an increasing variation of politics, values, ethics, ethnicity etc. In parallel the inhabitants have become more involved and critical to the centralised rational spatial planning ideology. The traditional representative democracy, limited to voting, has not been able to respond to the criticism. It lacked elements of participation and discussion of proposals. There was too little of listening, mutual understanding and changing others views. Increased participation in the political process is called *participatory* or, more often, *deliberative* democracy.

Increased distribution of the responsibilities of realisation, economy and maintenance make for a higher degree

Table 18.3. Participation. Requirements for information on planning. http://commin.org/upload/Comparison_of_Planning_Systems/COMMIN_Planning_Systems_5_Participation.pdf

Issue	Part of the issue
1 Which are the duties to inform during planning work	Duties at the initiation of planning, for the proposed plan before adoption, and after adoption
2 Who has right to get access to information	Right to access to information for the public, owners of real property, and neighbours
3 Which information methods may be used	Role of hearings, meetings, etc. and how they are used
4 Which are the public opportunities to challenge, and appeal the plan	The legal basis for an appeal after adoption and the consequences for the further handling of the plan
5 Legal status of the public information process	May the public involvement in the planning process be limited; May a new planning procedure be made if these rules are violated

of *governance* in societal issues. The concept of governance has been much used in contemporary debate on public administration. The criticism against how traditional authority works, the bureaucracy, includes not only how decisions are reached but also how services are delivered. To see the difference one may compare policy decision-making to “steering” and service delivery to “rowing” the boat of society. The argument is thus that bureaucracy is a bankrupt tool for rowing. In its place one proposes a kind of entrepreneurial government, which stresses competition, markets, customers and measuring outcomes. This transformation of the public sector may be summarised as less government but more governance. It is sometimes called a new public management.

Communicative Planning

The new institutions and regimes are influencing the organisation of spatial planning, which will require another type of planning profession than the traditional rational and strategic planning processes. This leads to so-called *communicative planning* processes. It is characterised by an ideal dialogue between actors and stakeholders. Individuals are supposed to be influenced only by good arguments and differences in power, status or prestige should have little effect on decisions. In a communicative process all stakeholders or representatives of stakeholder groups participates to exchange ideas, sort out what shall

be judged and see what is important and assess proposals for changes. All parties are expected to be aware of, and accept, contradictory standpoints in a learning process. The stakeholders are assumed to be involved from the start of the planning process and be active during the whole process. Possible conflicts between parties are identified and solutions are expected to be reached in consensus through forms of deliberative dialogues. Understanding, integrity and truth between the parties give legitimacy to the decision-making.

The participation of all interested in the development of the plan is partly regulated by law, but as example differently in different Baltic Sea countries. Lists of the issues which may differ between countries are given in Table 18.3.

Managing Conflicts

As described above any spatial planning process is certain to be confronted with conflicts arising from many actors and stakeholders having different demands and interests on the same area. These are often so many that methods for handling such conflicts are useful. A *conflict map* is a map in which each smaller territory (sub-area) is marked and the conflicts of interest noted. Thus for each mark (number or letter) on the map a conflict is listed. To take a river basin as an example conflicting interests may be fishing vs. hydropower, nature conservation vs. road or railroad, shipping vs. recreation, water extraction vs. outflow from industry or agriculture further upstream.

It is also possible to construct a *conflict matrix*, that is, a table. In this each sub-area has a column and the separate interests/activities a row. Some 10-15 rows in such a matrix are common. In the box where a sub-area and an interest meet, the degree of the interest is indicated by a figure or a filled, half-filled or empty symbol. For example all boxes where forestry is going on or planned get a mark. If many different interests are marked in the column for one sub-area there are conflicts and coordination needs.

Planners are recommended to deal with these coordination needs or conflicts as early on as possible in the process. Possibilities for multiple use or cooperation should be looked at. If this is not possible one needs to find solutions. E.g. effluents from an industry may be diverted to a special treatment plant, and not allowed to be discharged to the river. A swimming place may be slightly moved to

Box 18.3. Conflict Resolution

Cornell University after much experience, especially in the Catskill upstream New York City, made a list of eight principles of how to deal with conflicts in planning processes.

1. *Conflicts are normal* – do not avoid them, outcome does not need to be negative. Ask: who benefits, who pays, who feels threatened and why; are there different values, do we have proper data?
2. *Seek a constructive outcome* – find a non-confrontational arena for dialogue, focus on process not positions, seek consensus that something has to be done.
3. *Power, perceptions and values* – find out how power, both legal and extralegal means, is used by the partners, find out how decisions are made.
4. *Conflict context* – follow the process of conflict resolution: make a report, identify concerns (listen), generate options, study feasibility of alternatives, write agreement.
5. *Can the conflict be saved* – cooperation is needed, not possible to win a conflict, avoid blaming others, benefiteres should pay, agree on prevention rather than remediation.
6. *Conflict management strategies* – break down the conflict to component parts, translate to simple language, scientific facts are not perceived as neutral, a variety of perspectives, avoid “martyrs” who refuse to change, promote a negotiated agreement.
7. *Shape alliances* – recognition that cooperation is required to reach the goals, common outside threat promotes building of alliances, find a by all recognised coordinator.
8. *Public issues education* – facilitates and assists conflict resolution, broadens range of viewpoints, public experience are given credence, all views are given serious attention.

allow for a marina, if there are equipments to collect boat wastewater. Difficult conflicts arise when large interests come into the picture, such as large hydropower plants, which change an entire landscape, or main infrastructure, such as main roads, which also may require bridges.

Conflict solutions include the assessment of the importance of each separate activity for the local or regional authority or country. Such assessments are difficult to make and balance against each other. The broadest view possible should be used not to exclude important aspects. Environmental (or ecosystems) services are too often for-

gotten in such assessments, even if they are essential, as economic interest tend to dominate. Methods and arenas to estimate the monetary value of ecosystems services are available.

Challenges in Planning for Sustainable Development

The concept of sustainable development is a pluralistic concept filled with values. Hence it gives opportunities for different interpretations. Planning is not so much a mechanism for implementing sustainable development as an important forum in which different interpretations and methods of sustainable development are introduced, contested and accepted. There is no prior *conception* of sustainability (as opposed to the broader, consensual concept) independent of this process.

The different definitions have in common, however, that they stand for a better society in the future in which society and the natural environment exist in harmony, an objective which most of us are willing to support. When it comes to the actual content of the various expressions and the realisation of the aims included in the concepts, different groups and individuals have different interpretations. This reflects a diversity of values and relations to the environment and ecology, as seen in the discourses on sustainable development. Based on these values different strategies for achieving sustainability may be adopted.

The techno-central, or instrumental, approach relies on technology for solving the environmental problem. The concept of ecological modernization relates to environmental re-adaptation of economic growth and industrial development. On the basis of enlightened self-interest, economy and ecology is believed to be possible to combine to achieve sufficient resource productivity. Others maintain that life style changes are needed to approach sustainability, that is, it is not enough with efficiency, we also need sufficiency, to reduce significantly resources flow in our societies.

All the diverse perspectives and definitions of sustainable development challenge the planning practice. A social sustainable way to manage these challenges is to discuss and search for consensus of what can be sustainable for each planning conditions. It would be an important part of the planning programme.

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