



URBAN SMS Soil Management Strategy



Existing soil management approaches
within urban planning procedures

Transnational Synthesis

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Existing soil management approaches within urban planning procedures

Transnational Synthesis

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1. INTRODUCTION

The present document gathers, presents and summarizes results compiled under Task 1 within Action 2 of WP 3 of the URBAN-SMS project.

The goals of the work step were twofold:

- 1) to provide an overview of the **organisation and structure of urban planning systems** in the URBAN-SMS partner territories and to **describe urban planning instruments and procedures** that are considered relevant to soil management, and
- 2) to collect and characterise **selected soil management approaches** and their implementation **within existing urban planning procedures**.

Thus, the task was carried out along the following two main lines of activities:

- 1) identifying and describing relevant **urban planning instruments and related planning procedures**, including their role within the multi-level urban planning systems, and
- 2) gathering information on **existing soil management approaches** that are applied **within urban planning procedures**.

It is expected that – for each partner territory and in transnational comparison - the results will contribute to identifying existing gaps in implementation of soil management in urban planning processes and to provide vital building blocks of a future framework for soil management visible.

The information for the synthesis was gathered by the project partners according to common templates and based on guidance for compiling relevant contents. The following definitions of key concepts were applied:

- "*urban planning procedure*": all levels of urban planning within a legal framework, containing legally binding and not binding steps of spatial planning, not only focused on soil aspects
- "*soil management approach*": instrument or measure to manage or protect soil in a qualitative or quantitative way within an urban planning procedure.

The terms "*urban planning*" and "*spatial planning*" are in most cases applied synonymously, with the choice of term depending to some extent on the territory of reference on part of the respective project partner as well as on national and regional differences in planning traditions and related terminologies.

The structure of the following document is composed of the following main parts:

In chapter 2, for each partner territory an overview of the levels of urban planning systems is given and descriptions of relevant urban planning instruments and procedures are presented.

Chapter 3 presents the soil management approaches within urban planning procedures according to contributions by partners.

In the concluding chapter 4, a transnational synthesis of key results, including a number of indicative conclusions, is provided.

2. DESCRIPTION OF URBAN PLANNING PROCEDURES

2.1 City of Stuttgart (PP1) and District Authority Stuttgart (PP11)

2.1.1 Overview of levels of urban planning

2.1.2 Description of Urban Planning Procedures

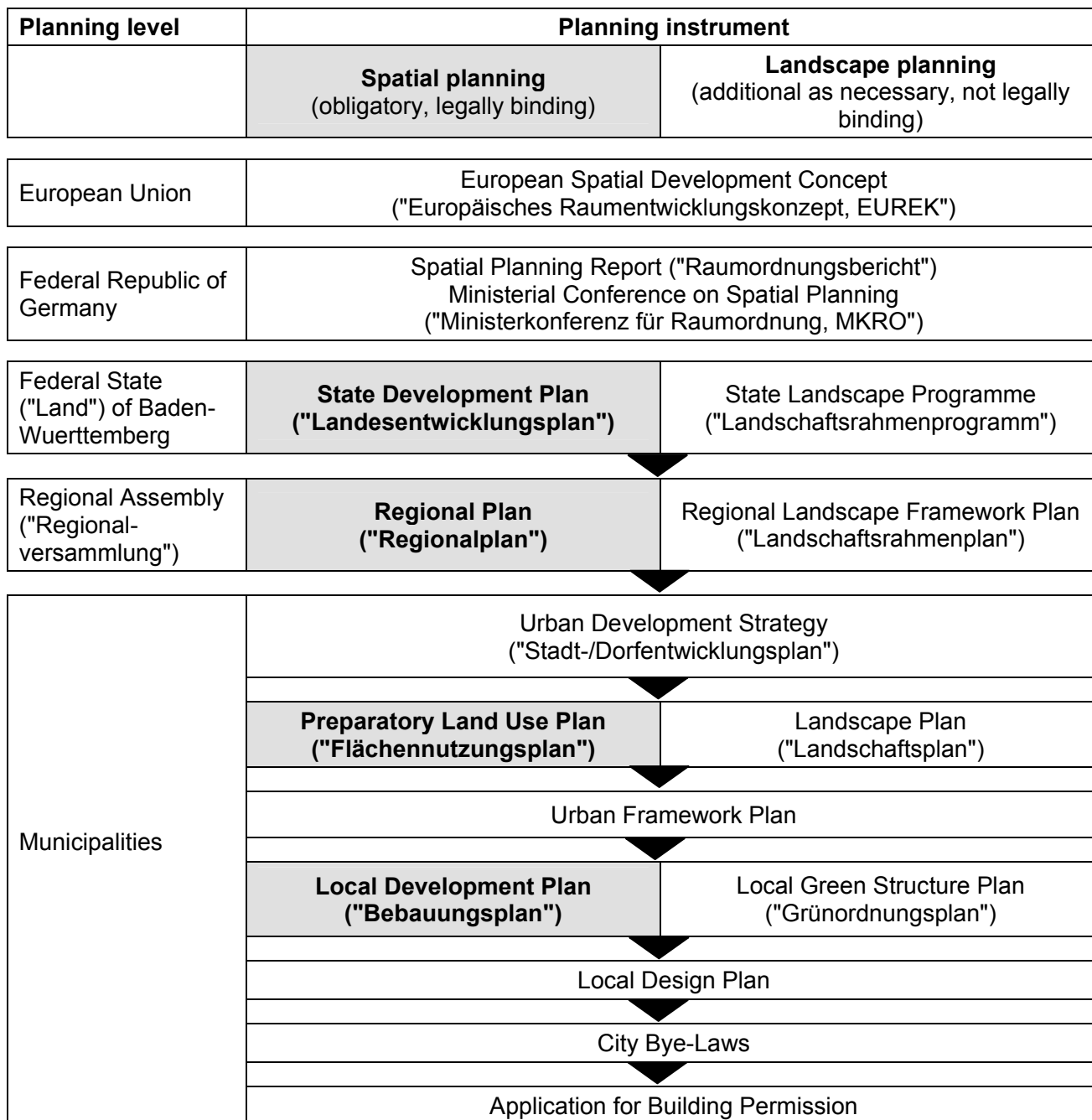


Figure 1: Overview of levels of urban planning procedures for the City of Stuttgart (flowchart)

State Development Plan ("Landesentwicklungsplan", LEP)

Objective and content

The "State Development Plan" [*Landesentwicklungsplan (LEP)*] specifies the goals of spatial development for the entire state of Baden-Württemberg. In particular, it maps the central agglomerations and their zones of attraction, superordinate development corridors as well as the borders between open spaces and densely populated areas. The LEP is subdivided into general policies and objectives on the state and regional level and into sectoral plans.

As far as it is required and applicable, the LEP incorporates the provisions of the "State Landscape Programme" [*Landesentwicklungsprogramm*] and its updates. It is a state sectoral plan that contains aims on nature protection, landscape conservation and the preservation of green spaces for recreational land use.

Territory covered

The plan covers Baden-Württemberg with a resident population of about 10.7 million inhabitants within an area of 35.752 km² (as of 2005).

Scale

Contents of plan exist predominantly in written form. The scale of maps is 1:900.000.

Planning interval

Approximately 10 years targeted. The valid plan of 2002 replaces the preceding plan of 1983.

Legal basis

"Federal Regional Planning Act" [*Raumordnungsgesetz (ROG)*], "State Planning Act" [*Landesplanungsgesetz (LplG)*].

Public participation

Indirectly via 1.500 planning authorities of federation, state and municipalities, trade associations, nature conservation associations, etc.

Planning authority

"State Ministry of Economic Affairs of Baden-Württemberg" [*Wirtschaftsministerium*].

Adoption / supervisory body

"State Parliament of Baden-Württemberg" [*Landtag*].

Regional Plan ("Regionalplan")

Objective and content

In the Regional Plan contents of the "State Development Plan" [*Landesentwicklungsplan*] are adopted and contextualized for the area of the Greater Stuttgart Region. As the Regional Plan transfers contents of state sectoral planning on to the regional level, it can be seen as a link between state and municipal planning. The Regional Plan is subdivided into the following parts: goals, basic principles, recommendations and written statements for the development of

settlements, green belts and infrastructure. It outlines the regional structure of land uses and governs the spatial order to coordinate the development of settlement and recreational uses with transportation and infrastructure networks and public facilities. An underlying basic planning principle is the concept of development corridors and central places. It concentrates new urban development along corridors with capacious traffic infrastructure and ensures a well-balanced distribution of interacting central functions among the municipalities and their surrounding areas. As far as required and applicable, the Regional Plan incorporates the aims of the "Regional Landscape Framework Plan" [*Landschaftsrahmenplan*] and the "Regional Traffic and Transport Plan" [*Regionalverkehrsplan*]. The *Landschaftsrahmenplan* describes and specifies the conditions and demands of open space that spatial planning needs to take into account. In contrast, the *Regionalverkehrsplan* contains strategies and plans for the development of regional transportation networks. The Regional Plan is drawn up by the *Verband Region Stuttgart* (a regional association) as an interdepartmental long-term concept.

Territory covered by plan

The plan covers the Greater Stuttgart Region, which includes the municipality of Stuttgart (the state capital of Baden-Wuerttemberg) and the counties Boeblingen, Esslingen, Goepingen, Ludwigsburg and Rems-Murr-Kreis with a resident population of about 2.7 million inhabitants in 179 municipalities within an area of 3.650 square kilometers or 1.409 square miles (as of 2005).

Scale

The essential part is the "Land Utilisation Map" [*Raumnutzungskarte*] in the scale 1:50.000 with generalized spatial delineations (not at parcel-level).

Planning interval

Approximately 10-15 years targeted. The up-dated 4th Regional Plan was adopted by the *Regionalversammlung* ("Regional Assembly") on the 22nd of July 1998 and is binding since March 1st 1999. The next update is currently being prepared. It starts in 2006 and targets the year 2020.

Legal basis

"Federal Regional Planning Act" [*Raumordnungsgesetz (ROG)*], "State Planning Act" [*Landesplanungsgesetz (LplG)*], *Gesetz über die Staerkung der Zusammenarbeit in der Region Stuttgart of February 7th 1994* (a bill to enhance collaboration within the Stuttgart Region).

Public participation

Since 2006, two stages of public participation exist:

1. Informal participation of planning authorities, counties, municipalities, nature conservation associations, etc.
2. Official open public participation with display of draft plan.

Planning authority

The *Verband Region Stuttgart* as a public corporation with its bodies "Regional Assembly" [*Regionalversammlung*] and "Executive Office" [*Geschaeftsstelle*]. The 95 members of the *Regionalversammlung* have been directly elected by the Greater Stuttgart Region's residents for a second time in 2004.

Adoption / supervisory body

"State Ministry of Economic Affairs of Baden-Wuerttemberg" [*Wirtschaftsministerium*].

Urban Development Strategy ("Stadtentwicklungsplan")

Objective and content

There is no clear and generally binding definition of what an "Urban Development Strategy" [*Stadtentwicklungsplan*] is. Neither a binding administrative territory nor a formal planning procedure is regulated by law. It basically comprises any long-term strategy for analysis, information, coordination and governance of municipal planning concerns. Thus, it ties together the economic, environmental and social concerns of a city with necessities of urban development. Important instruments and tasks of the Stuttgart Urban Development Strategy are:

- Coordination of sectoral planning (schools, sports, playgrounds, and social services, amongst others) with urban planning.
- Individual plans in the fields of housing (for example Housing Report), economic development (for example Report on Perspectives for Economic Development in Stuttgart), and public infrastructure.
- Provision and allocation of playgrounds.
- Guidelines for various fields of urban development (Concept for the Allocation of Neighborhood Centers and Big Box Retail) and structural framework concepts for selected locations (for example single districts or sub-regions).

In the fall of 2004, an interdepartmental strategy for city development in Stuttgart (the so-called *STEK - StadtEntwicklungsKonzept*) was brought forward. It provided a basis for the *Stadtentwicklungsplan* (a comprehensive urban development plan) for the fields of housing, economy and employment, culture and education, recreation and sports, social affairs, landscape and open spaces, mobility and traffic. This overall citywide planning assessment – which also puts emphasis on selected model projects – is meant to be a "navigator" for spatial planning as it provides a broad framework for various fields of action.

Territory covered by plan

The entire municipality of Stuttgart or parts of it, depending on the subject of plan.

Scale

1:2.500 - 1:20.000, mainly in written form.

Planning interval

15 to 20 years.

Legal basis

None.

Public participation

Corresponding to planning task, coached discussions, forums and workshops.

Planning authority

The City of Stuttgart.

Adoption / supervisory body

Municipal Council.

Preparatory Land Use Plan ("Flächennutzungsplan")

Objective and content

German municipal planning (*Bauleitplanung*) consists of two levels of planning: preparatory land use planning and legally binding local development planning at the single lot level. The "Preparatory Land Use Plan" [*Flächennutzungsplan (FNP, F-Plan)*] prepares and organizes the use of all lots located within a municipality for building and other types of use according to the prerequisites of the "Federal Building Code" [*Baugesetzbuch (BauGB)*]. Usually, the planning interval is 15 years.

The *Flächennutzungsplan* has to be aligned with the aims of state spatial planning and regional development planning. It outlines the existing or envisaged structure of land use of the municipal territory, especially residential, commercial and transportation uses, green spaces, agricultural and forestry land. It is drawn up in order to secure planned urban development. The *FNP* consists of a map, a written part and an explanatory report. According to state law of 1975, from 1976 to 1994 preparatory land use planning was in the responsibility of an inter-communal planning authority (*Nachbarschaftsverband*) of 28 municipalities with 1.3 million inhabitants. The current *Flächennutzungsplan 2010* of the City of Stuttgart was based on seven "Inspection Reports" from 1995. It was adopted on the 9th of February 2000 (amendment in 2001) and contains comprehensive policies and aims for spatial development up to the year 2010 or longer. For the *FNP*, a generalized delineation of land uses is sufficient. In practice, however, single resolutions of the Stuttgart Municipal Council lead to a plan that is widely precise at lot level. The *FNP* is legally binding for public authorities, but it does not establish any direct legal rights for land owners from which claims for compensation can be derived. This is why the *FNP* can be modified without compensation. § 5 "Federal Building Code": "(1) *The preparatory land use plan shall represent in basic form the type of land uses arising for the entire municipal territory in accordance with the intended urban development which is proposed to correspond to the anticipated needs of the municipality.*"

Territory covered by plan

The entire municipality of Stuttgart, with a resident population of about 590.000 within an area of 207 square kilometers or 80 square miles (as of 2005).

Scale

1:10 000.

Planning interval

10 to 15 years, current plan effective until 2010.

Legal basis

§ 5 "Federal Building Code" [*Baugesetzbuch (BauGB)*].

Public participation

According to the requirements of the *BauGB*, two stages of open public participation exist:

1. participation of the public at the earliest possible stage;
2. public display of draft plan.

Planning authority

The City of Stuttgart.

Adoption / supervisory body

Regierungspraesidium (state authority on sub-ministerial level).

Landscape Plan ("Landschaftsplan")

Objective and content

The "Landscape Plan" [*Landschaftsplan (LSP)*] implements the aims of nature protection and landscape conservation and thus adds these components to municipal urban development and land use planning. When the *Flaechennutzungsplan* was updated on July 18th 1996, the Municipal Council simultaneously decided to draw up a new *Landschaftsplan*. The *Landschaftsplan* supplements and counterbalances the provisions of the *Flaechennutzungsplan* and elaborates on landscape as a natural life resource. It covers both settled and non-settled areas, as well as areas zoned for development. By combining the *Flaechennutzungsplan* with the *Landschaftsplan*, a comprehensive citywide scheme for spatial development is obtained that integrates concepts for built-up areas as well as for open spaces. The *LSP* is an independent sectoral plan that does not require a formal plan approval. The *Landschaftsplan 2010* is based on a new system of categories (guiding functions: recreation, protected species/biotopes, and agriculture) and defines areas zoned as agricultural development zones. The latter are agricultural areas that will be ecologically improved in order to become "mitigation areas" (areas that mitigate the impairment building interventions into natural areas cause). Essential statements of the current Landscape Plan draft (for example, the identification of areas with insufficient green spaces, the designation of green corridors within built up areas, of landscape development areas, and of zones for mitigation measures, allotment and market-gardening) entered the *Flaechennutzungsplan* that is now binding in effect.

Territory covered by plan

The entire municipality of Stuttgart, with a resident population of about 590.000 inhabitants within an area of 207 square kilometers or 80 square miles (as of 2005).

Scale

1:10 000.

Planning interval

Not regulated by law, approximately 10 years targeted in Stuttgart; current update of plan effective until 2010 or longer.

Legal basis

"Nature Protection Statute" of Baden- Wuerttemberg [*Naturschutzgesetz NatSchG Baden-Wuerttemberg*].

Public participation

According to the requirements of the "Federal Building Code" [*Baugesetzbuch (BauGB)*], two stages of public participation are foreseen paralleling the participation process of the *Flaechennutzungsplan* (q. v. FNP, public participation).

Planning authority

The City of Stuttgart.

Adoption / supervisory body

Municipal Council.

Urban Framework Plan ("Städtebaulicher Rahmenplan")

Objective and content

The "Urban Framework Plan" [*Staedtebaulicher Rahmenplan*] constitutes a non-formalized level of spatial planning that lies in between the Preparatory Land Use Plan and Local Development Plan. It is not codified by the "Federal Building Code" [*Baugesetzbuch (BauGB)*] and non-obligatory. In practice, however, the *Staedtebauliche Rahmenplan* proved to be a valuable and flexible tool to steer urban development within built up areas. It is an essential function of the *Rahmenplan* to define the municipality's development and planning goals for those parts of the city that show tendencies of urban change. In practice, the planning intentions for public spaces and streets can be described more precisely than those for private building sites. This is why the *Rahmenplan* often also functions similarly to a "Local Design Plan" [*Stadtgestaltungsplan*]. Unlike the "Local Development Plan" [*Bebauungsplan*], the *Rahmenplan* is not subject to legal regulations. Thus, it may be adjusted to the given conditions of a planning case in a pragmatic way. However, it does not have a binding effect for land owners. Another advantage of the *Rahmenplan* is that it is by far easier to understand for non-professionals than a *Bebauungsplan*. In case the desired planning goal can not be achieved through other planning procedures, a new *Bebauungsplan* is derived from the *Rahmenplan*. Usually, this is only necessary for selected parts of a *Rahmenplan*.

Territory covered by plan

Depending on project; normally entire city districts.

Scale

1:500 / 1:1.000.

Planning interval

Short-term to long-term.

Legal basis

None.

Public participation

Discussion with affected parties and advisory district boards.

Planning authority

City of Stuttgart.

Adoption / supervisory body

Municipal Council.

Local Development Plan ("Bebauungsplan")

Objective and content

The "Local Development Plan" / "Legally Binding Land Use Plan" / "Zoning Map" [*Bebauungsplan (B-Plan)*] is the second, legally-binding level of German municipal development and land use planning (*Bauleitplanung*). It is derived from the "Preparatory Land Use Plan" [*Flaechennutzungsplan*] and safeguards the socially equitable use of land for the good of the general community. Whereas the *Flaechennutzungsplan* contains the general guidelines for the urban development of an entire municipality, the *B-Plan* particularizes the plan at lot level and makes it legally binding. According to the prerequisites of the "Federal Building Code" [*Baugesetzbuch (BauGB)*] as of August 2004, an "Environmental Impact Assessment" (EIA) [*Umweltpruefung (UP)*] has to be conducted during *B-Plan* preparation. It identifies the expected impact on the environment, described and evaluated in an "Environmental Report" [*Umweltbericht*]. A *B-Plan* that contains a basic set of designations is called a "Qualified Local Development Plan" [*qualifizierter Bebauungsplan*]. In this case, regulations must at least comprise the type and degree of building and land use, specification of lot areas which may or may not be built on, and designation of public thoroughfares (§ 30 BauGB). The *B-Plan* governs the construction or alteration of building structures on a site. It provides regulations for land registration, reallocation and expropriation, and serves as a basis for the provision of public infrastructure and for the calculation of fees charged for it. Some older parts of the City of Stuttgart are not covered by *B-Plan* as the *Ortsbausatzung (OBS)* (a local building statute of 1935) is still in effect there (and provides the same level of regulation as a "*qualifizierter Bebauungsplan*"). On sites within built up areas without a *B-Plan* in effect, a building permission can be granted if the building proposal blends with the characteristic features of its immediate environment and the provision of local public infrastructure has been secured (§ 34 BauGB). Specific singular projects are subject to *Planfeststellungsverfahren* (a special plan approval procedure), for example highways, railroads or airports, according to special federal infrastructure laws.

Territory covered by plan

Depending on the project.

Scale

1:500 / 1:1.000.

Planning interval

Unlimited; the municipality's obligation to compensate property owners for change or withdrawal of permitted but not executed rights of land use normally expires after 7 years.

Legal basis

§§ 1 and 9 "Federal Building Code" [*Baugesetzbuch (BauGB)*].

Public participation

According to the requirements of the *BauGB*, participation of the public at the earliest possible stage and a second public display of draft plan (open public participation for one month) with examination of suggestions. Since 2007, in order to accelerate “legally binding brownfield development plans” [*Bebauungsplaene der Innenentwicklung*], one can abstain from the early stage of civic participation and from an “Environmental Impact Assessment” (*UP*; § 13a *BauGB*)

Planning authority

City of Stuttgart.

Adoption / supervisory body

The Municipal Council adopts the binding plan as a statute. It enters into force on being advertised. In case the *B-Plan* is not derived from an adopted *Flaechennutzungsplan*, permission has to be granted by the *Regierungspraesidium* (state authority on sub-ministry level).

Local Green Structure Plan ("Gruenordnungsplan")

Objective and content

The "Local Green Structure Plan" / "Open Space Structure Plan" [*Gruenordnungsplan (GOP)*] is a non-formalized, supplementary plan of the "Local Development Plan" [*Bebauungsplan*]. According to the state's "Nature Protection Statute" (*NatSchG* § 7 Abs. 1 and § 9 Abs. 1), municipal planning authorities are obliged to work on a *Gruenordnungsplan* as soon and as far as necessary to adopt, complement, alter or override current local development plans. *Gruenordnungsplaene* specify the local requirements and measures needed to implement the goals of nature protection, landscape conservation and preservation of green spaces for recreational land use. They contain measures needed to enforce the goals of landscape development as described in the "State Landscape Programme" [*Landschaftsrahmenprogramm*] and the municipal "Landscape Plan" [*Landschaftsplan (LSP)*]. The role of green structure planning is to monitor and evaluate the conditions of green spaces – may they be unspoiled nature or man-made environment – based on ecological, social, economic and technical knowledge. It also includes assessing the impacts and environmental impairment different uses cause on the ecosystem and on the natural landscape scenery. Another part of green structure planning is to fulfill the obligation for compensation of environmental impairment. The "*Eingriffsregel*" (regulation on interventions and compensation for impairment) is based on the prerequisites of the "Federal Nature Conservation Act" [*Bundesnaturschutzgesetz*]. In general, *Gruenordnungsplaene* are not legally binding. Nevertheless, as they constitute sectoral plans, they are legally binding for public authorities. Selected contents of *GOPs* can become legally binding when entering a "Local Development Plan" [*Bebauungsplan*].

Territory covered by plan

Depending on project, partly exceeding the B-Plan territory.

Scale

1:500 / 1:1.000.

Planning interval

Unlimited.

Legal basis

"Nature Protection Statute" of Baden- Wuerttemberg [*Naturschutzgesetz NatSchG Baden-Wuerttemberg*], "Federal Building Code" [*Baugesetzbuch (BauGB)*].

Public participation

Public bodies (plan contents entering *Bebauungsplan*: q. v.)

Planning authority

City of Stuttgart.

Adoption / supervisory body

Municipal Council.

Local Design Plan ("Gestaltungsplan")

Objective and content

In a "Local Design Plan" [*Gestaltungsplan*], the design of public spaces is regulated in detail. It focuses on the design of streetscapes, particularly where different demands have to be reconciled, for example in the demands of traffic, communication, commerce, representation, and heritage identification. Usually, street paving, locations for trees, traffic routing and parking spaces are subject to this plan, but advertising billboards, lighting criteria and the design of facades may also be regulated. A *Gestaltungsplan* has to be drawn up if clear intentions to modify or redevelop a street or urban square are on hand. The plan may also lay down provisions for the design of spaces on adjacent sites, partly on voluntary basis for private properties. If there is no legal base for detailed design regulation, support programs should encourage owners to comply (for example for façade or courtyard vegetation or green roofs).

Territory covered by plan

Corresponding to the single project or planning area.

Scale

1:500 and detailed plan 1:200.

Planning interval

Not limited, project-related.

Legal basis

Local bye-laws according to the State Building Regulations.

Public participation

Advisory district boards, public bodies (fire department, power authority, etc.), in particular cases adjacent owners.

Planning authority

City of Stuttgart.

Adoption / supervisory body

Municipal Council.

City Bye-Laws ("Sonstige Satzungen")

Objective and content

In historic urban cores or in the inner city, the municipality may designate areas for "City Bye-Laws" [*sonstige Satzungen*]. Specific planning statutes are imposed here in order to preserve the urban structure of those areas.

- The "Redevelopment Statute" [*Sanierungssatzung*] allows the municipality to formally designate areas in which a redevelopment measure is to be implemented (formally designated redevelopment area). This area is to be demarcated in such a way as to allow for the speedy execution of the redevelopment measure by the "Special Urban Planning Legislation" (§ 142 BauGB – "Federal Building Code").
- By the "Preservation Statute" [*Erhaltungssatzung*] areas may be designated in which permission is required for the demolition, alteration or change in use of physical structures. It is imposed in order to preserve the specific urban character of an area or to maintain the composition of the local residential population and thus prevent negative effects on the urban structure (§ 172 BauGB).
- The "Statutory Pre-Emption Rights" [*Vorkaufsrechtssatzung*] allows for the designation of spaces where urban development measures are being proposed. Within these areas, the municipality is entitled to exercise a pre-emption right in respect of the purchase of property in order to safeguard planned urban development (§ 25 BauGB).
- Local building codes such as the "Design Statutes" [*Gestaltungssatzung*] (i.a. § 74 *Landesbauordnung (LBO)* "State Building Regulations") may also enter a "Local Development Plan" [*Bebauungsplan*].
- Further statutes are i. e. "Development Freeze" [*Veraenderungssperre*] (§ 14 BauGB) and the *Abrundungssatzung* (a statute that allows to extend a plan to undesignated outlying areas; § 34 BauGB).

Territory covered by plan

Depending on project.

Scale

Depending on project, for example 1:500.

Planning interval

Unlimited, except for *Veraenderungssperre* (max. 4 years).

Legal basis

"Federal Building Code" [*BauGB*], "State Building Regulations" [*LBO*].

Public participation

Consultation of advisory district boards, method of participation depends on planning procedure.

Planning authority

-

Adoption

Municipal Council.

Supervisory body

Regierungspraesidium (state authority on sub-ministry level).

Application for Building Permission ("Baugesuch")

Objective and content

In many cases, the erection and removal of buildings and other physical structures requires permission by building law or a "*Kenntnisgabeverfahren*" (special procedure of notification; §§ 49-51 *Landesbauordnung (LBO)* "State Building Regulations"). The *LBO* defines buildings and physical structures as "*structures that are closely connected with the building ground and made out of building materials*". This definition does not only relate to residential buildings but also includes other structures, such as exhibition spaces and storage facilities. The municipality's "Office for Building Control" [*Baurechtsamt*] is responsible for the issue of permits. Full particulars are regulated by the *Landesbauordnung* (§§ 52-59). There are generally three different procedures for building applications and permissions: no permission required (*verfahrensfreie Vorhaben*), projects permitted upon the *Baurechtsamt's* official notification (*Kenntnisgabeverfahren*), and projects that require a formal building permission issued by the *Baurechtsamt* (*Antrag auf Baugenehmigung*). The application for building permits must include all documents necessary to assess the building project and process the application (*Bauvorlagen*); in particular a site plan, the architect's plans, written specifications, proof of stability and other technical proofs, and a drainage plan of the site. Full particulars are regulated by the "State Procedures Ordinance" [*Verfahrensordnung (LBOVVO)*]. If no regulations subject to public law are infringed by the project, a building permit is to be granted (§ 58 *LBO*). The *Baurechtsamt* has to control whether the project complies with planning law, building regulations, and other public legal requirements such as nature protection law, protection of historic monuments, or water protection laws or the laws of occupiers of adjoining properties.

Territory covered by plan

Single lot.

Scale

Site plan: 1:500.

Architect's plans: 1:100.

Planning interval

3 years, optional renewal of permit.

Legal basis

"State Building Regulations" [*Landesbauordnung (LBO)*] and associated ordinances [*Verfahrensverordnung (LBOVVO)*], *Ausfuehrungsverordnung (LBOAVO)*, "Federal Building Code" [*Baugesetzbuch (BauGB)*], "Land Use Ordinance" [*Baunutzungsverordnung (BauNVO)*].

Public participation

Adjacent owners on a regular basis.

Planning authority

Architect/civil engineer and building owner.

Adoption / supervisory body

"Office for Building Control" [*Baurechtsamf*] (part of state authorities, not under municipal directive).

2.2 City of Vienna (PP2)

2.2.1 Overview of Levels of Urban Planning

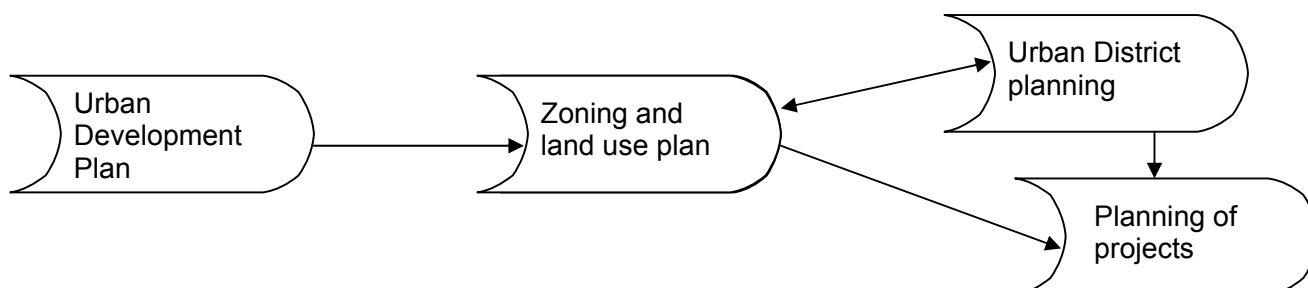


Figure 2: Overview of levels of urban planning procedures for the City of Vienna (flowchart)

2.2.2 Description of Urban Planning Procedures

Urban Development Plan (level 1)

Objective and content

The Urban Development Plan [*Stadtentwicklungsplan (STEP)*] is a strategy for the development of the Vienna region. For instance, it specifies whether an area is designated as green space or for traffic purposes, for commercial buildings or for housing construction.

The current Urban Development Plan STEP 05 (Urban Development Plan Vienna 2005, Vienna City Administration):

- involves the surrounding regions;
- includes opportunities and challenges for the city;
- has the motto: “Think European - Act Regionally - Develop Vienna”;
- meets the new challenges with a comprehensive catalogue of measures;
- defines 13 key-areas of action focusing on planning activities in the next years.

One objective is to ensure also the environmentally compatible urban development. It pursues the goal to concentrate settlement developments along high-capacity public transport means and to prudently use the resource of land (Hirschler, Svanda SCUPAD Congress 2008).

Territory covered

The plan covers the area of the City of Vienna with a resident population of 1,63 million (according to the last census 2001) within an area of 414,65 km².

Scale

The main purpose of the STEP lays in the text and the measures. But it also contains thematical maps in the scale 1:10.000.

Planning interval

A new STEP is made every 10 years. The last one has been made in 2005.

Legal basis

There is no legal basis.

Public participation

The plan is developed under the leadership of the department for urban planning and development (municipal department 18) together with all relevant departments of the Vienna City administration. The draft version is presented in many public workshops, presentations and discussions. All citizens have the possibility to interact at this stage of development because these events are open to the public.

Planning authority

The plan is made under the leading direction of the department for City planning and development (municipal department 18) under participation of all relevant parts of the City administration bodies of Vienna.

Adoption / supervisory body

The STEP is adopted by the Vienna City Council.

Zoning and Land Use Planning (level 2)

Objective and content

The zoning and land use planning is a local planning process. The combination of the designation of areas and the building plan (construction plan) is a specialty of the zoning practice in Vienna. The designation of areas and the redesignation of parts of Vienna is an iterative process with three different types of plans which results in a decision of the Vienna City council.

Territory covered

The plan covers the area of the City of Vienna with a resident population of 1,63 million (according to the last census 2001) within an area of 414,65 km².

Scale

1:2.000.

Planning interval

There is no legal basis for an interval, but existing plans are not older than 10 years.

Legal basis

Building regulations of the city of Vienna¹.

Public participation

¹ Vienna Building Code LGBl 1930/11 i.d.g.F (B20-000-Bauordnung für Wien)

The zoning plans are developed under participation of all relevant departments of the Vienna City administration in 3 steps. The third draft of the plan is offered in a public display over 6 weeks. Every citizen is allowed to make a statement which is considered, if possible.

Planning authority

The plans are developed by the departments for “District Planning and Land Use” (Municipal departments 21A and 21B). The building inspection department (municipal department 37) is responsible for the authority function.

Adoption / supervisory body

The final plan “red print” is adopted by the Vienna City Council and published as an enactment of the City Council.

Urban District Planning and Planning of Projects (level 3)

Objective and content

Urban district planning and planning of projects are often made in a masterplan for a part of the town, which is planned to be developed. The specifications (terms of reference) for tendering are one possibility to place principles of sustainability.

Territory covered

Sometimes these projects cover only one building lot. Often up to 200 ha are developed in one project.

Scale

1:200 to 1:1.000.

Planning interval

Project-orientated, no interval.

Legal basis

No legal basis.

Public participation

The grade of public participation depends on the specific project. For example: For the Aspern Airfield master plan the households in the area surrounding the former airfield were mailed information folders containing a questionnaire. The folders served the twofold purpose of providing comprehensive information on the one hand, and learning about the worries and concerns of abutters, discussing these and integrating articulated demands into the plans on the other hand².

² Aspern Airfield Master Plan, Vienna City Administration, MA18, MA21B, Tovatt Architects&Planners, 2008



Planning authority

The plans are contracted by the City of Vienna under responsibility of the departments for urban planning and development (MD 18) or district planning and land use (MD 21A,B).

Adoption / supervisory body

No adoption procedure, because there is no legal basis; accepted and signed sometimes by the Vienna City Council.

2.3 Federal State of Salzburg (PP3)

2.3.1 Overview of Levels of Urban Planning

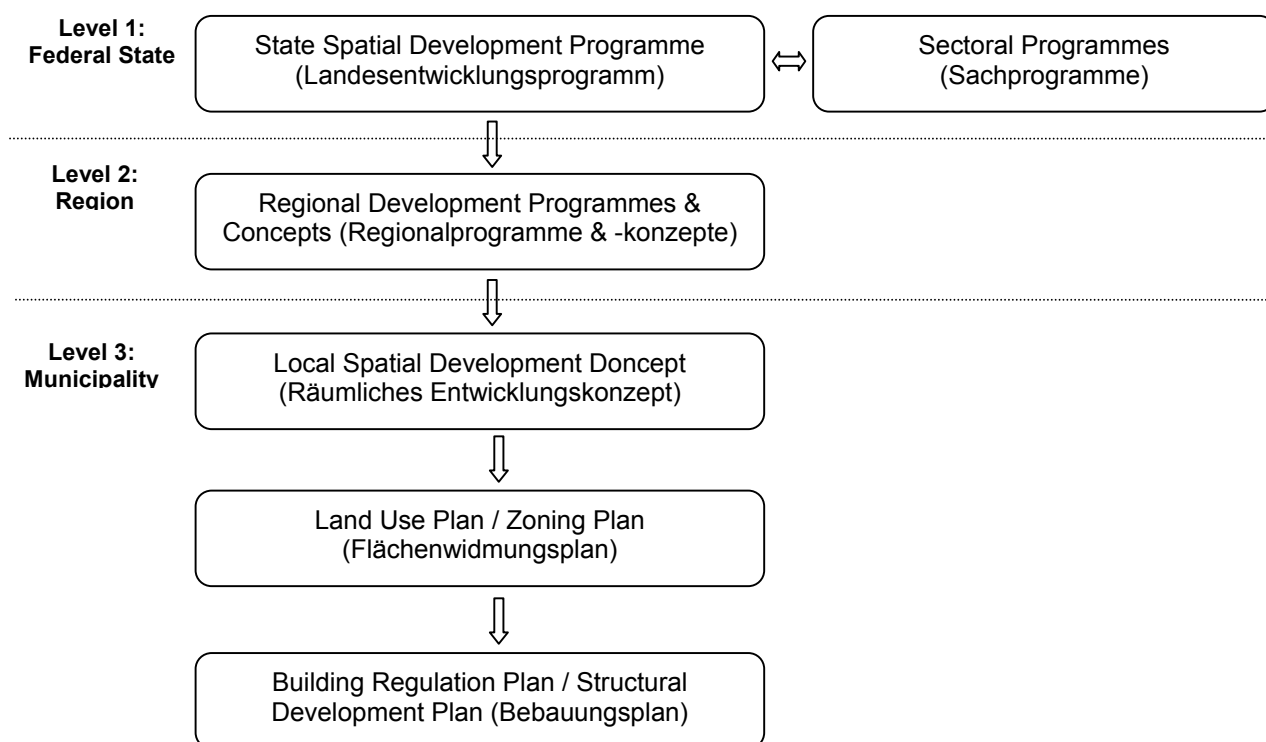


Figure 3: Overview of levels of urban planning procedures for the Federal State of Salzburg (flowchart).

2.3.2 Description of Urban Planning Procedures

Level 1 – State Level: State Spatial Development Programme ("Landes-entwicklungsprogramm")

Objective and content

The Spatial Development Programme [*"Landesentwicklungsprogramm (LEP)"*] at Federal State Level covers the entire state territory, is comprehensive in content and is the highest-ranking strategic instrument of spatial planning. It is binding for the authorities themselves in implementing sectoral and regional planning, for carrying out their supervisory functions over municipalities, and finally also for the local spatial planning activities of the municipalities.

In the Federal State of Salzburg, a "State Spatial Development Programme" has existed since 1994. The Programme has last been amended and modified in the year 2003. The new LEP 2003 contains:

- general principles and guidelines for the spatial development of the State Salzburg;

- structural definitions and planning goals;
- definition of regional planning zones;
- definition of central agglomerations, main development and transport axes;
- statements on transnational planning issues;
- goals and measures for settlement development, settlement structures and settlement densities, landscape planning, economy, and infrastructure.

Territory covered

The plan covers the entire State of Salzburg with a resident population of 529.379 (as of 2009) within an area of 7.154,23 km².

Scale

The main focus is on the text, but the LEP also contains coarse-scale maps (e.g. in the scale 1:500.000).

Planning interval

There are no binding legal obligations for revision of the LEP. In principle, it is a long-term programme with unlimited validity. Adjustments and revisions are implemented if required, in particular if existing framework conditions for state planning have changed substantially. In practice, up to now a new LEP has been enacted about every 10 years. The last one has entered into force in 2003.

Legal basis

The legal obligation to set up the LEP is provided by the State Spatial Planning Act ("*Landesraumordnungsgesetz*"), which also defines the required contents. The LEP is issued by the state government as an official decree. It is binding for public authorities, in particular for spatial planning authorities, on all levels of territorial organisation (state, regions, municipalities). Measures relevant to spatial development taken by the state administration, in particular spatially relevant financial incentives and investments, as well as measures and planning activities taken by the municipalities, must be in accordance with the LEP.

Public participation

The draft version of the LEP, as any other spatial development programme (sectoral programmes, regional development plans), must be made available in public via display in district authorities, municipal authorities (municipal board), the State Newspaper, and – as far as possible – in the internet. Objections delivered within four weeks have to be dealt with and considered by the programme-issuing authority.

Planning authority

The LEP is set up by the political spatial planning authority of the state government of Salzburg (Department of Spatial Planning).

Adoption / supervisory body

State Parliament of Salzburg ("*Salzburger Landtag*").

Level 1 – State Level: Sectoral Programmes ("Sachprogramme")

Objective and content

The purpose of Sectoral Programmes is to supplement and specify certain issues of spatial development for specific economic sectors. Sectoral Programmes contain requirements and provisions that are related to defined development issues relevant to spatial development, and which have to be complied with by Regional Spatial Development Programmes and by spatial planning on municipality level. Regulations of Sectoral Programmes may be provided in the form of guidelines or by defining target or threshold values for spatial development objectives. They also offer the opportunity to the state government to deliver spatially relevant planning activities on state administration level.

The government may set up Sectoral Programmes based on the State Spatial Planning Act for both the entire state as well as for individual regions. Examples include the Sectoral Programme for the Central Region of Salzburg, which regulates the development of settlements and also the earmarking of important areas for future industrial development, the Sectoral Programme for Skiing Resorts, and the Sectoral Programme for Golf Ranges.

Similar to the *LEP*, Sectoral Programmes are strategic planning instruments that are binding for the authorities themselves in implementing planning activities, in carrying out their supervisory functions over municipalities, and finally also for the municipalities' local spatial planning activities.

Territory covered

The entire state or an individual region.

Scale

The main purpose lays in the text and the measures; the scale of annexed plans may depend on the issue regulated and the territory covered.

Legal basis

The legal basis is provided by the State Spatial Planning Act ["Landesraumordnungsgesetz (L-ROG)"]. Sectoral Programmes are issued by the state government as official decrees. They are binding for public authorities, in particular for spatial planning authorities, on all levels of territorial organisation (state, regions, municipalities). Measures relevant to spatial development taken by the state administration, in particular spatially relevant subventions and investments, as well as measures and planning activities taken by the municipalities, must be in accordance with all development programmes issued on state level, including the Sectoral Programmes.

Planning interval

No legally fixed planning intervals. Adjustments and revisions are implemented if required, in particular if existing framework conditions for state planning have changed substantially. In practice, Sectoral Programmes are revised every 10 to 15 years.

Public participation

Similar to the *LEP* (cf. above).

Planning authority

State government of Salzburg.

Adoption / supervisory body

State Parliament of Salzburg ("*Salzburger Landtag*").

Level 2 – Regional Level: Regional Spatial Development Programmes ("Regionalprogramme")

Objective and content

Regional Spatial Development Programmes are the strategic spatial planning instruments on regional level. They implement spatial goals and strategies contained in the *LEP* on the level of defined planning regions. They are set up for one or more districts or only for parts of districts issued by the state government. They usually contain a mixture of strategic goals, general guidelines, and corresponding planning measures that define the intended spatial development of a region. Contents of Regional Programmes are binding for spatial planning on local level (municipalities), whereas Regional Development Concepts (cf. below) are not binding for the municipalities. Regional Development Plans are set up in the form of decrees issued by the state government.

Contents include, e.g., the following:

- priority areas for regionally important land use demands and ecosystem services, such as industrial and commercial development, agriculture, recreation, nature conservation etc.;
- existing settlement areas and transport infrastructure;
- regionally important barriers for future settlement development;
- important social and technical infrastructure services;
- regionally important development axes;
- ecological connectivity axes and important green spaces;
- etc.

Territory covered

Planning region (one or more districts, or parts of districts).

Scale

Coarse-scale plans.

Legal basis

The legal basis is provided by the State Spatial Planning Act ["*Landesraumordnungsgesetz (L-ROG)*"]. Regional Programmes are set up by regional associations ("*Regionalverband*") of planning regions and are enacted by the state government as official decrees. They are binding for local spatial planning on municipality level.

Planning interval

No fixed planning intervals; amendments and revisions, as required.

Public participation

A complex and often lengthy participation procedure is required, including public announcement for response. Contents are negotiated among the municipalities of each regional planning association ("Regionalverband") in an open democratic process ("bottom-up" planning).

Planning authority

Planning region [regional planning association ("Regionalverband")].

Adoption / supervisory body

State political spatial planning authority (Department of Spatial Planning of the state administration).

Level 2 – Regional Level: Regional Spatial Development Concepts ("Regionale Entwicklungskonzepte")

Objective and content

Contents and objectives of Regional Spatial Development Concepts are very similar to those of Regional Spatial Development Programmes. The main difference is that Regional Concepts are not binding for local spatial planning on municipality level and do not require approval by the state administration. Their main function lays in providing guidance and a non-binding orientation framework for future spatial and economic development on strategic level.

Territory covered

Planning region (one ore more districts, or parts of districts).

Scale

The focus is on verbal description of goals and measures for regional development.

Legal basis

The legal basis is provided by the State Spatial Planning Act ["Landesraumordnungsgesetz (L-ROG)"]. Regional Development Concepts are set up by regional associations ("Regionalverband") of planning regions. In contrast to Regional Programmes, they do not require approval by the state administration and are not enacted as decrees; they only have to be communicated in a formal way to the state governmental authority. Hence, their binding character is much weaker: they are not binding for the municipalities, but may be binding for governmental authorities regarding decisions on planning, investments and subventions if there is a special state planning interest.

Planning interval

No fixed planning intervals; amendments and revisions, as required.

Public participation

Contents are negotiated among the municipalities of each regional planning association ("Regionalverband") in an open democratic process ("bottom-up" planning).

Planning authority

Planning region [regional planning association ("Regionalverband")].

Adoption / supervisory body

None (only communication of the concept to the governmental authority).

Level 3 – Municipality Level: Local Spatial Development Concepts ("Räumliches Entwicklungskonzept")

Objective and content

Among the three types of municipal planning instruments regulated in the State Spatial Planning Act of Salzburg, the Local Development Concept is the strategic planning instrument on municipality level. It is an internal guideline for municipal authorities drafting and documenting long term objectives and strategies for local spatial development for a minimum time period of 20 years. Practically, it works as a process plan for coordinating and steering the next stages of spatial development. Its main objective is to develop and document future development intentions of the municipalities on strategic level. The Local Spatial Development Concept represents the basis for development of municipalities, and in particular for land use planning (zoning) and for structural development planning. The "*Räumliche Entwicklungskonzept*" is composed of a text part and a plan part, which both describe and illustrate spatial development objectives. The objectives described in text must at least make statements on:

- future demographic and economic development;
- future settlement and transport development;
- expected demand for building land;
- development and conservation of "green spaces".

The spatial development plan ("*Entwicklungsplan*") must at least designate:

- areas intended for future zoning as building land;
- areas intended for future installations (e.g., technical and social infrastructure facilities) within open land;
- areas important for development of green spaces.

Besides being, in principle, binding for land use planning on local level, an important function is also that the Local Spatial Development Concept creates some kind of self-binding effect on the local planning authority. Moreover, the Concept facilitates argumentation of public interests towards private land owners. That is why this type of instrument, despite operating on a mere strategic level, is being attributed at least a moderate effectiveness in terms of limiting land consumption and soil sealing (ÖROK, 1993).

Territory covered

Entire territory of the municipality.

Scale

The scale of the spatial development plan is above parcel scale, e.g. 1:10.000. The "*Räumliches Entwicklungskonzept*" may contain further explanatory maps, e.g. on the inventory of the status quo and on green spaces.

Legal basis

The State Spatial Planning Act ["*Landesraumordnungsgesetz (L-ROG)*"] requires each municipality to set up a Local Spatial Development Concept on an obligatory basis; it also regulates the contents of the Concept. In principle, its contents are binding for the subsequent Land Use Plan ["*Flächenwidmungsplan*"].

Planning interval

Regular revision every 10 years is foreseen. In any case, an amendment is needed if it is required by revision of the higher-ranking Regional Development Programme.

Public participation

The intention to set up a new Local Spatial Development Concept has to be announced to each household in the municipality. The municipal population must be allowed to participate in the elaboration (e.g., by means of public meetings). The draft concept has to be announced and displayed to the public (municipal administration, State Newspaper). Within a time period of six weeks, every person is entitled to submit written opinions, which have to be dealt with by the municipal council.

Planning authority

Municipality (local planning authority). The Concept is adopted by a resolution of the municipal council.

Adoption / supervisory body

Following adoption by the municipal council, the Local Spatial Development Concept must be submitted to the provincial planning authority on state level and reviewed for coherence with superordinate planning provisions.

Level 3 – Municipality Level: Land Use Plan / Zoning Plan ("Flächenwidmungsplan")

Objective and content

The Land Use Plan has binding character upon land owners and upon the municipal authority itself. The Land Use Plan describes the most rational use of land for the whole territory of a municipality. Its most important functions and contents are:

- to determine the land use categories (building land, green land, traffic areas, and land for special uses, e.g. for specific public purposes) and the zoning categories within each land use category for each parcel of land. Examples of zoning categories within the land use category "building land" include, e.g., exclusive residential zones, extended residential zones, core settlement zones, rural settlement zones, etc.
- to display relevant contents and provisions that are provided by functional laws or by sectoral planning domains, such as forest areas according to the national Forest Act, legally nature conservation areas, protected areas under the national Water Act, natural hazard zones under forest functional planning, flood-prone areas according to water-related legislation, etc.

Territory covered

Entire territory of municipality.

Scale

Plans in the scale 1:5.000 (parcel-sharp).

Legal basis

State Spatial Planning Act ["*Landesraumordnungsgesetz (L-ROG)*"]. The Land Use Plan is enacted by ordinance of the municipality. Its contents are binding for the individual land owners.

Planning interval

No fixed planning intervals. The Land Use Plan is constantly adjusted and amended in line with ongoing developments.

Public participation municipal

The intention to set up a new Land Use Plan has to be announced in public for a period of four weeks. Land owners are allowed to submit suggestions in written form. The resolution of the municipal council on the draft Land Use Plan must allow for "sufficient public information". The draft concept has to be announced and displayed to the public for a time period of four weeks, within which representants of public interests as well as everyone who is able to prove that he / she has an interest in contents of the plan is entitled to submit written objections. These objections have to be dealt with by the municipal council.

Planning authority

Municipality.

Adoption / supervisory body

The Land Use Plan is adopted by a resolution of the municipal council and has to be approved by the provincial planning authority on state level.

Level 3 – Municipality Level: Building Regulation Plan / Structural Development Concept ("Bebauungsplan")

Objective and content

The Building Regulation Plan regulates the structural development on building land in detail, i.e. the extent to which a parcel may be covered with buildings or sealed, the building density, and the type and basic design of built structures (height, number of floors, etc.). In doing so, aspects such as economical land consumption, well-ordered settlement development, energy efficiency etc. must be considered. Regulations and contents of the Building Regulation Plan are binding upon land owners and the municipal authority.

Territory covered

Parts of the building land (according to the Land Use Plan).

Scale

Plans in the scale 1:2.000.

Legal basis

State Spatial Planning Act ["*Landesraumordnungsgesetz (L-ROG)*"]. The Land Use Plan is enacted by ordinance of the municipality. Its contents are binding for the individual land owners.

Planning interval

No fixed planning intervals. The "*Bebauungsplan*" is constantly adjusted and amended in line with ongoing developments.

Public participation

The intention to set up a new Land Use Plan has to be announced in public for response for a period of four weeks. Persons affected are allowed to submit suggestions in written form. The draft Building Regulation Plan has to be announced and displayed to the public for a time period of four weeks, within which representants of public interests as well as everyone who is able to prove that he / she has an interest in contents of the plan is entitled to submit written objections. These objections have to be dealt with by the municipal council.

Planning authority

Municipality.

Adoption / supervisory body

Adoption by the municipal council. The adopted Plan has to be submitted to the state planning authority.

2.4 City of Milan (PP4)

2.4.1 Overview of levels of urban planning (flowchart)

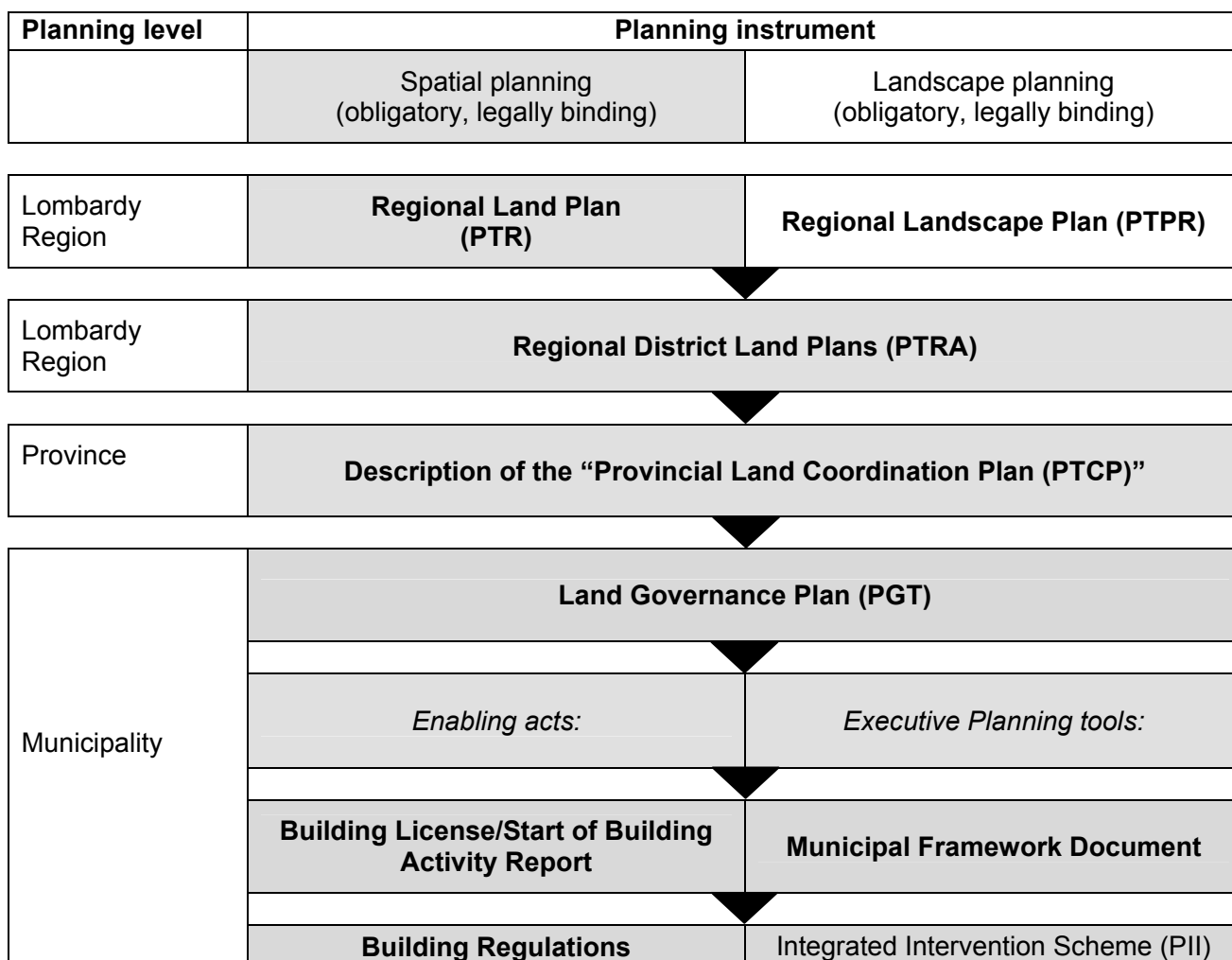


Figure 4: Overview of levels of urban planning procedures for the Region Lombardy (flowchart).

2.4.2 Description of Urban Planning Procedures

Regional Land Plan (PTR)

Objective and content

The Regional Land Plan (Piano Territoriale Regionale, PTR) illustrates main objectives for the regional socio-economic development, the framework of actions for the realization of infrastructures and public works of regional and national interest, the operative criteria for the safeguard of the environment concerning protected areas, water resources, geological, hydrogeological, agro-forestry and ecological resources, for noise regulation, air quality, waste management.

Beyond that, the PTR defines orientations for the overall geographical arrangement and order of the Region, identifying main regional development centres and areas of environmental safeguard, general addresses for the necessary re-arrangement in order to prevent geological, hydrogeological and seismic risks and identifying priority objectives of regional interest. Pursuing its objectives, the PTR identifies methods for economic compensation for local administrative bodies residing in areas where economic development is constrained by environmental protection measures; it also indicates evaluation methods for environmental compensation for infrastructural actions involving strong relevant impacts on the territory.

The PTR constitutes the reference framework for the assessment of compatibility for every land governance act proposed by municipalities (Land Governance Plan – PGT), provinces (Provincial Land Coordination Plan – PTCP), mountain communities, regional parks management authorities and for every other public body responsible for land planning.

Moreover, the PTR has nature and effects of a Regional Landscape Plan (see following sheet)

Territory covered

The Plan covers the entire surface of Lombardy Region (23'875 km²), with approximately 9'800'000 inhabitants in its 12 provinces and 1546 municipalities.

Scale

PTR cartography was edited in a 1:300'000 scale.

Planning interval

It is not regulated by law. First PTR was approved on Jan 27th, 2010 and it is in force at present. This plan will be updated yearly through the Regional Economic-Financial Programming Document

Legal basis

Regional Law #12, 11 march 2005: "Land Governance Law".

Public participation

6 public thematic workshops were organized about regional territorial systems during the elaboration of the PTR/PTPR within the broader "PTR Forum" (comprehending also international and interregional meetings, consultations with municipalities and provinces and with stakeholders from culture, social and economic sectors) active for the whole editing of the Plan. Observations are anyway possible – by local bodies geographically involved, bodies with environmental responsibilities and by the general public – on the PTR proposal and on the correspondent SEA, on the basis of Regional Law 12/2005 and on other National and Regional acts concerning SEA.

Planning authority

Lombardy Region, Directorate General for Territory and Urban Planning.

Adoption / supervisory body

The Regional Board adopts the PTR (comprehending the PTPR), the Regional Council approves the PTR (comprehensive of PTPR). Editing and supervision of PTR/PTPR are supervised by the Directorate General for Territory and Urban Planning of the Lombardy Region.

Regional Landscape Plan (PTPR)

Objective and content

The Regional Land Plan (PTR, see previous sheet) has also the juridical nature and effects of a Regional Landscape Plan (PTPR). The PTPR became, starting from 2005, a specific section of the more comprehensive PTR.

The PTPR identifies and establishes regulations of use for buildings and areas of relevant public interest, protected zones by law or further contexts undergoing specific safeguard and use measures.

It identifies besides recovery and redevelopment actions for significantly impaired or debased zones, beyond measures needed for the proper insertion of land transformation actions in the landscape.

Planning tools of municipalities (Land Governance Plan – PGT), provinces (Provincial Land Coordination Plan – PTCP), metropolitan towns and protected areas must adjust their contents to landscape protection regulations contained in the PTPR.

Territory covered by plan

The Plan covers the entire surface of Lombardy Region (23'875 km²), with approximately 9'800'000 inhabitants in its 12 provinces and 1546 municipalities.

Scale

PTR cartography was edited in a 1:300'000 scale, except for the “synoptic framework of landscape protection mandatory measures” in a 1:100'000 scale.

Planning interval

It is not regulated by law. First PTPR, still in force, was approved in 2001, and its update was approved on Jan 27th, 2010 (through the PTR, see previous sheet).

Legal basis

PTPR of 2001 was originally edited and approved in compliance with the “European Convention on Landscape”, and through Government Decree 42/2001 “General Act on environmental resources and cultural heritage”.

Its update, approved in 2010, was then edited in compliance with Regional Law 12 of 11 March 2005 “Land Governance Law”.

Public participation

As for PTR (see previous sheet), 6 public thematic workshops were organized about regional territorial systems during the elaboration of the PTR/PTPR within the broader “PTR Forum” (comprehending also international and interregional meetings, consultations with municipalities and provinces and with stakeholders from culture, social and economic sectors) active for the whole editing of the Plan.

Observations are anyway always possible – by local bodies geographically involved, bodies with environmental responsibilities and by the general public – on the PTR proposal and on the correspondent SEA, on the basis of Regional Law 12/2005 and on other National and Regional acts concerning SEA.

Planning authority

Lombardy Region, Directorate General for Territory and Urban Planning.

Adoption / supervisory body

The Regional Board adopts the PTR (comprehending the PTPR), the Regional Council approves the PTR (comprehensive of PTPR). Editing and supervision of PTR/PTPR are supervised by the Directorate General for Territory and Urban Planning of the Lombardy Region.

Regional District Land Plans (PTRA)

Objective and content

In case regional land parcels with a significant surface are affected by buildings, works or land use with regional or supraregional relevance, the Regional Land Plan (PTR) can, on request of the involved provinces, provide for the editing of a Regional Regional District Land Plan, to regulate the governance of such areas.

Compared to the PTR, the PTRA details more socio-economical and infrastructural objectives to pursue in the specific area, identifies criteria for tracing and allocation of financial resources, issues site specific indications concerning land governance (e.g. for settlement forecasts, regulations of interventions on the concerned area, environmental compensation and restoration).

PTRA regulations must be acknowledged by provincial (Provincial Land Coordination Plan – PTCP) and municipal (Land Governance Plan – PGT) planning tools.

Territory covered by plan

Not regulated. The Plan can concern the surface of a few municipalities within the same province (as for the PTRA of Valtellina– north-eastern mountain part of Lombardy) or involve the territory of several municipalities in different Lombard provinces (as for the PTRA of the Navigli canals, concerning 57 municipalities in the 4 provinces of Lecco, Milano, Pavia and Varese).

Scale

Not regulated. Variable depending on the concerned area.

Planning interval

Not regulated by law. Variable depending on the PTRA

Legal basis

Regional Law #12, 11 march 2005: “Land Governance Law”.

Public participation

Edition of any PTRA implies consultation with municipalities, provinces and management authorities of protected areas concerned by the PTRA within a specific conference.

It is besides always possible the identification of single sectors of the general public concerned by effects of the Plan to consult with, depending on the specific PTRA.

Observations are anyway always possible – by local bodies geographically involved, bodies with environmental responsibilities and by the general public – on the PTR proposal and on the

correspondent SEA, on the basis of Regional Law 12/2005 and on other National and Regional acts concerning SEA.

Planning authority

Lombardy Region, Directorate General for Territory and Urban Planning. The Regional administration can delegate all or part of the PTR to the Province/s concerned, or anyway avail itself of their cooperation.

Adoption / supervisory body

The Regional Board adopts the PTR (comprehending the PTPR), the Regional Council approves the PTR (comprehensive of PTPR).

Provincial Land Coordination Plan (PTCP)

Objective and content

Through the Provincial Land Coordination Plan each province of the Lombardy Region defines its own objectives concerning spatial setup and protection of territory, landscape and environment, beside addressing its own socio-economic activity.

The PTCP therefore defines the schedule and implementation criteria of infrastructures for mobility, it identifies “technological corridors” where supramunicipal network infrastructures should be created, provides for specific instructions for the creation of settlements relevant at a supramunicipal level (e.g. manufacturing districts), defines areas intended for agricultural activity.

Under the point of view of landscape protection, the PTCP is connected with the PTPR in the identification of scenarios useful for the achievement of objectives on the regional level.

The PTCP adjusts its contents to forecasts contained in the PTR/PTPR and in the PTRAs, while it has mandatory effect on each municipal PGT for what concerns environment and landscape protection, provincial level mobility, areas intended for agricultural activity, accommodation and strengthening of areas protected or at hydrogeological or seismic risk.

Territory covered

Each PTCP covers the whole surface of the corresponding Lombard province (Bergamo, Brescia, Como, Cremona, Lecco, Lodi, Mantova, Milano, Monza e Brianza, PAVia, Sondrio).

Scale

Not regulated. Variable depending on the area concerned by the PTCP.

Planning interval

Not regulated by law. PTCPs approved as enforcement of Regional Law 1/2000 are now undergoing adjustment to update to Regional Law 12/2005.

Legal basis

Regional Law #1, 2000 and subsequently Regional Law #12, 11 march 2005: “Land Governance Law”.

Public participation

Each PTCP is edited thanks to the consultation of municipalities, mountain communities, managing authorities of regional protected areas affected by the PTCP and neighbouring provinces. Moreover, the province that edits the plan ensures participation of social parties, professional registers, environmental ngos or stakeholders representing common interests through different kind of participation.

Observations are anyway always possible – by local bodies geographically involved, bodies with environmental responsibilities and by the general public – on the PTCP proposal, on the basis of Regional Law 12/2005.

Planning authority

Province.

Adoption / supervisory body

The Provincial Board adopts the PTCP, the Provincial Council approves the PTCP.

Land Governance Plan (PGT)

Objective and content

The Land Governance Plan (PGT) defines the spatial setup of the whole territory of a municipality and is split in 3 acts: the Planning Document (DdP), the Plan of Utilities, the Plan of Rules (PdR).

The Planning Document contains all data and information describing the territory and development directions pursued by the municipal administration. It identifies districts undergoing transformation and decides development objectives and municipal policies on mobility, housing, primary, secondary and tertiary manufacturing activities and commerce. Such objectives must be environmentally sustainable and coherent with supramunicipal planning instruments.

The Plan of Utilities (PdS) takes a census of public utilities or with a public relevance on the municipal territory, identifies actual demand from resident or potential dwellers and from population gravitating on the area, plans new needed facilities that the municipality should realize directly or that should be comprehended in executive planning tools (e.g. in the Integrated Intervention Schemes – PII – see following pages) and in transformation districts described in the DdP. It is accompanied by the General Urban Plan for Underground Utilities (PUGSS).

The Plan of Rules contains all regulatory issues and quality aspects for the built environment. It defines zones with consolidated urban fabric, identifies buildings subject to protection measures, identifies buildings and zones at risk of decay and with a relevant risk of accident, as well as those geologically, hydrogeologically and seismically vulnerable, identifies areas devoted to agriculture, areas with high landscape and environmental value, ecological areas or areas not subject to transformation.

Between adoption and approval of the Plan, provincial and regional administrations assess PGT's compatibility with their own planning instruments (PTCP and PTR/PTPR, in case also PTR).

PGT plans are implemented through “direct/executive intervention” (using building permissions and DIA – see following pages) or through “executive planning” (e.g. submitting a PII – see following pages).

Territory covered

The whole municipal territory.

Scale

Cartography contained in the Planning Document are edited in a 1:10'000 scale; those for the Plan of Rules and for the Plan of Utilities are composed in a 1:2'000 and 1:5'000 scale.

Planning interval

The Planning Document has a 5-years validity. PdS and PdR have no expiration dates and are always subject to update. At the present time the Municipality of Milano is in the adoption phase of its first PGT.

Legal basis

Regional Law #12, 11 march 2005: “Land Governance Law”.

Public participation

At the launch of the administrative process the Public Authority asks for opinions and requests to all public and private subjects.

Anyway, before the PGT is adopted and approved, observations are always possible – by local bodies geographically involved, bodies with environmental responsibilities and by the general public – on the plan proposal and on the correspondent SEA, on the basis of Regional Law 12/2005 and on other National and Regional acts concerning SEA.

Planning authority

Municipality of Milano, Central Directorate for Land Development

Adoption / supervisory body

The municipal council adopts and approves the PGT

Municipal Framework Document (*Documento di Inquadramento*)

Objective and content

The Framework Document is a political schedule with two main aims: defining new procedures for urban planning administration and identifying a reference strategic framework for urban planning policies of the Municipality of Milano.

In the first case, to introduce more flexibility in the administration of urban planning in Milano, the Framework Document implements a simplification of regulations in force through the introduction of new procedures.

Beyond that, because Regional Law 9/99 makes it possible to proceed in variance to the General Master Plan (PRG - now replaced by the PGT) in the whole municipal territory, the definition of a strategic reference framework is essential to address, assess and select the

Integrated Intervention Schemes (PII) – in the perspective of pursuing public interest – providing guidelines for public and private actors in the definition of such instruments.

Strategies, policies and criteria defined in the Document are not juridical constraints.

The document aims at rearranging spatially the city, making it more productive and competitive, able to attract capitals from abroad, and more supportive of its socially and economically weaker parts, improving urban quality for dwellers or workers in the wider region, making the whole territorial system more accessible through the realization of a strong infrastructural network.

Procedures, strategies and objectives described in the Framework Document work as reference point for the editing of Integrated Intervention Schemes (PII).

Territory covered

The whole municipal territory.

Scale

There's no reference scale

Planning interval

There's no expiration date; the Framework document in force since year 2000 is verified and, in case, updated or modified by the Municipal Council contextually to the adoption of following Integrated Intervention Scheme

Legal basis

Regional Law # 9 of April 12, 1999 (Regulation of Integrated Intervention Schemes) sicuri?

Public participation

Not provided

Planning authority

Municipality of Milano, Directorate for Strategic Planning

Adoption / supervisory body

Approved by the Municipal Council

Integrated Intervention Schemes (PII)

Objective and content

Objectives of the Integrated Intervention Schemes (PII) are urban and environmental redevelopment (referring in specific to historical centres, to suburban zones as well as to outdated manufacturing districts, unsuitably placed or abandoned), the restoration of existing building heritage, the creation of new buildings, the improvement of existing public facilities (broadening of roads, refurbishment of pavements and of urban equipment) and the realization of public works or of structures with relevant public interest (schools, theatres, public parks).

The PIIs, defining different land use on an area, must ensure the availability of areas for public utilities or structures of public interest to the extent required by legislation in force; such

availability must be verified considering the effects of new settlements and the increased theoretical capacity descending from implementation of the PII.

In agricultural zones the PIIs have effect on the existing buildings, respecting environmental, landscape and agricultural characteristics of the surrounding territory. In agricultural areas no longer in use or abandoned, aims of the PIIs must comprehend environmental recovery and compensation.

Territory covered

Not regulated. A PII can apply both to a single zone within a municipality or to different areas, not necessarily contiguous, even located in different bordering municipalities.

Scale

Not regulated. Depending from the area included in the PII.

Planning interval

When a PII is approved, by one year an agreement (convention) must be drawn up, where – among other aspects – deadlines for works completion are established (usually less than 10 years).

Legal basis

National Law # 179 of February 17, 1992 (Regulations for public housing schemes)

Regional Law # 9 of April 12, 1999 (Regulation of Integrated Intervention Schemes)

Public participation

The plan provides for the contribution of both public and private actors and public and private financial resources; those actors, either individually or associated, can submit proposals of integrated schemes to the municipality, following in case addresses contained in the municipal Framework Document.

In case the PII is subject to a Strategic Environmental Assessment procedure, local bodies geographically involved, bodies with environmental responsibilities and the general public can submit observations on the plan proposal and on the correspondent SEA.

Planning authority

Municipality of Milan

Adoption / supervisory body

Usually adoption and approval of PIIs are specific tasks of the Municipal Council. Within the PGT of a municipality, specific cases of 'PGT compliant' PIIs can be envisaged where they're adopted by the Municipal Board and approved by the Municipal Council.

Building License/Start of Building Activity Report

Objective and content

All the urban and building redevelopment interventions are subject to a Building License, except for works that can be considered as ordinary maintenance. The building license is issued to the building owner or to anyone enabled to ask for it.

The building License is issued in compliance to land use and built environment scenarios contained in the municipal planning instruments (PGT), to prescriptions contained in the Municipal Building Regulations and to other urban and building laws and norms in force. In the Preliminary Survey Report, needed before issuing the license, are comprehended the summons for the administrative coordination meetings (*Conferenze dei Servizi*) for the municipal departments involved, the opinion of the Building Commission, the examination of the intervention schemes and the issue of a certificate of fitness for human habitation.

An alternative for the Building License is the Start of Building Activity Report (onerous DIA). In this case, no license is issued by the municipality and the works can start right after the submission of the application (DIA); in this case responsibility of works execution is upon the designer and on the holder of the administrative procedure.

Territory covered

The whole municipal territory.

Scale

Not regulated. Depending on the design detail.

Planning interval

Building License: the Preliminary Survey to issue the Building License must not exceed 60 days. Works must start within on year from the issue of the enabling act (Building License) and must be completed within three years from the starting date.

Start of Building Activity Report (DIA): works can start from the 30st day after the submission of the application (DIA). As for the Building License, works must start within on year from the submission of the application (DIA) and must be completed within three years from the starting date.

Legal basis

National: Decree of the President of the Republic 380/2001 (Single Act on Building Activities)

Regional: Regional Law 12/2005 (Land Governance Law)

Municipal: Building Regulation

Public participation

Not provided

Planning authority

Municipality of Milano, Central Directorate for Land Development

Adoption / supervisory body

The building license (enabling act) is issued by the Executive Officer or by the responsible officer for the Centralized Desk for Building Activities (Sportello Unico per l'Edilizia) in compliance with laws, regulations and planning instruments in force and adopted.

Adoption and approval is not provided for the DIA, supervision and control is left to the Centralized Desk for Building Activities.

Municipal Building Regulations

Objective and content

The Municipal Building Regulations were introduced by National Land Planning Law 1150/1942 and is at present regulated at national level by Decree of the President of the Republic 380/2001 (Single Act on Building Activities) and at Regional Level by Regional Law 12/2005 (Land Governance Law). The Building Regulations don't contain land planning or design norms that can influence urban or building shape, measures that are in fact part of the PGT; it regulates in details the execution of works implementing PGT itself.

The Building Regulations, in compliance with the national and regional laws on building issues and with health regulations in force, specifies mainly technical details and building parameters related to hygiene and health care, as well as the setup of open and green areas. It regulates moreover the procedures for temporary structures in building sites and correspondent safety aspects, prescription for the proper maintenance of buildings and outdoor equipment, toponomy included.

The regulation specifies besides the administrative procedure for the "enabling acts" for building activities, like the Building License and the Start of Building Activity Report (DIA), starting from the submission of projects until the completion of works, comprehending energy efficiency measures in buildings.

Territory covered

The whole municipal territory.

Scale

Not regulated

Planning interval

unlimited

Legal basis

National: Decree of the President of the Republic 380/2001 (Single Act on Building Activities)
Regional: Regional Law 12/2005 (Land Governance Law)

Public participation

Not provided

Planning authority

Comune di Milano

Adoption / supervisory body

Adoption and approval by the Municipal Council.
Responsibility of supervision is upon the Municipal Technical Office.

2.5 University of Torino – UNITO (PP5)

2.5.1 Overview of Levels of Urban Planning

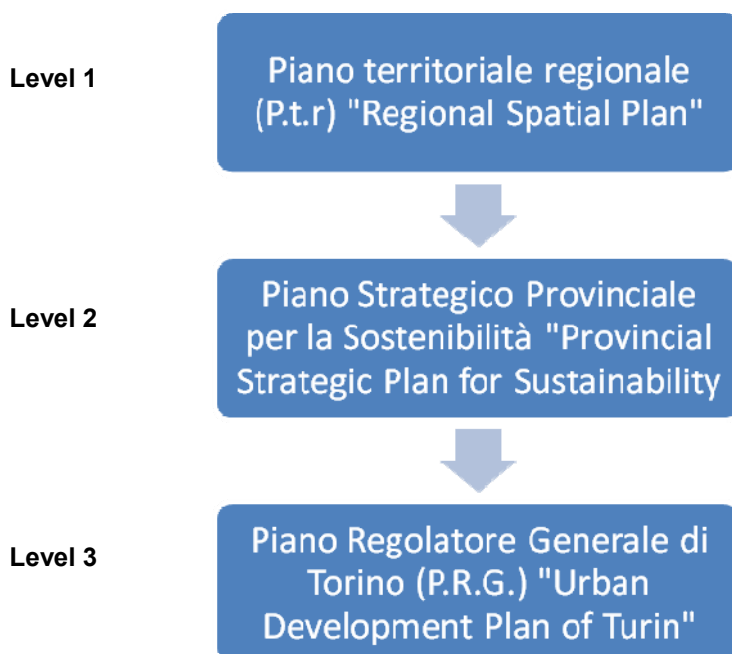


Figure 5: Overview of levels of urban planning procedures for the region Piemonte (flowchart).

2.5.2 Description of Urban Planning Procedures

Regional Spatial Plan ("Piano Territoriale Regionale, P.t.r.")

Objective and content

The Regional Spatial Plan [*"Piano Territoriale Regionale (Ptr)"*] specifies the goals of territorial development for the entire Region Piemonte. This plan contains guidelines on integration between the environment and human activities (e. g., for protection of green areas, the Plan identifies 63 conservation areas in the region managed by 35 local authorities that are connected by a Regional Ecological Network ("*Rete Ecologica Regionale*").

The Ptr is subdivided into general policies (e. g., coordination of local authorities) and objectives (e. g., planning and simplification of the legal system) at the regional and municipal level and into sectoral plans.

The "*Ptr*" is integrated within the Piano Regional Landscape Plan ("*Paesaggistico Regionale*"). That is a regional sectoral plan applied for environmental valorization and to establish rules for land use.

Territory covered

The plan covers the Piemonte Region with a resident population of about 4.4 million inhabitants within an area of 25.399 km² (as of 2009).

Scale

Contents of the Plan exist predominantly in written form (guidelines, technical annexes); maps are provided in the scale 1:250.000.

Legal basis

"*Legge Regionale*" (Regional Law) 56/77 "Regional Protection and Land Use Act", National Law 431/1985.

Planning authority

Regional Department of Strategic Planning, Construction and Territorial Policies.

Adoption / supervisory body

Regional Council ("*Giunta regionale*").

Provincial Strategic Plan for Sustainability ("*Piano Strategico Provinciale per la Sostenibilità*")

Objective and content

The *Piano Strategico Provinciale per la Sostenibilità* ("Provincial Strategic Plan for Sustainability") is a programme document involving provincial sectors and various local authorities on:

- Integration of environmental sustainability goals in the various activities of province and municipalities;
- Rationalization of provincial and municipal legislation.

The Plan implements the planning strategies of the "Agenda 21".

Territory covered

The Plan covers the Province of Torino, which covers 6.829 km² (population: about 2 million).

Legal basis

The *Piano Strategico Provinciale per la Sostenibilità* ("Provincial Strategic Plan for Sustainability") is based on the Regional Spatial Plan ["*Piano Territoriale Regionale (Ptr)*"].

Planning authority

Provincial authority of Torino.

Adoption / supervisory body

Provincial Council ("*Giunta provinciale*").

General Urban Development Plan ("Piano Regolatore Generale, P.R.G.")

Objective and content

The General Development Plan [*"Piano Regolatore Generale (P.R.G.)"*] rules urban land use; it is a planning instrument specific to spatial planning which is mandatory in all Italian municipalities.

The *P.R.G* of Turin classifies urban land in different classes. These are based on criteria of morphology (hydro-geological constraints), type of infrastructure or land use (residential/commercial, green areas etc.), areas of historical value.

Territory covered

130.17 km² and a population of about 1 million inhabitants.

Scale

Contents of the Plan exist predominantly in written form (guidelines, technical annexes); maps are provided in the scale 1:5.000.

Planning interval

The plan does not expire, but it is usually modified every 5 – 10 years.

Legal basis

Legge Regionale (LR) 56/77 "Regional Protection and Land Use Act".

Planning authority

Municipality of Torino.

Adoption / supervisory body

Municipal Council ("*Giunta comunale* ").

2.6 City of Celje (PP6)

2.6.1 Overview of Levels of Urban Planning

Introduction to the spatial planning system in Slovenia:

In Slovenia, spatial planning is organized hierarchically on the levels of state and municipalities. Spatial planning is implemented on the legal basis of the Spatial Planning Act. In Slovenia, there are three nested types of instruments of planning instruments on municipal level and two on state level:

1. Strategic Spatial Plan (state and municipal level)
2. Spatial Plan (state and municipal level)
3. Municipal Detailed Spatial plan (municipal level only)

The *Strategic Spatial Plans* on the state and municipal levels define the objectives of spatial development, spatial planning policies and their concepts. Therefore, the Strategic Spatial Plan is an act which puts general policies in connection with land development on state and municipality level.

The *State and Municipal Spatial Plans* give concrete guidance (on municipality level only on area where an *OPPN – Municipal Detailed Spatial Plan* is not in force) on spatial development, based on the objectives of strategic spatial planning documents. These spatial plans shall be set up in such detail that it is possible to prepare housing projects in order to get building permission for each building plot. The smallest possible scale is 1:5,000.

The *Municipal Detailed Spatial Plan* is the lowest-ranking spatial planning level on municipality level and should be drawn up for:

- spatial arrangements that are necessary for the implementation of local public services,
- spatial arrangements in areas which are sealed in a complex pattern and where more inter-connected forms of land use are planned (industrial zones, residential neighborhoods, areas for sports and recreation, etc.),
- spatial complexes where settlements are expanding or re-urbanization of degraded urban areas is planned,
- spatial complexes where rehabilitation of degraded urban and natural areas is planned.

In those areas for which a Municipal Detailed Spatial Plan ("*OPPN*") exists within a territory covered by a Municipal Spatial Plan ("*OPN*"), only the *OPPN* is the basis for issuing building permits as the *OPN* is not accurate enough.

One of the main prerequisites is that the state and the municipalities, each within its own competence, set up self-planned spatial arrangements by means of the above-mentioned types of spatial plans. However, *Municipal Spatial Plans* must not be in contradiction to the *State Spatial Plan*, because there is a need for coherent spatial development throughout the country. Therefore, also *Municipal Detailed Spatial Plans* should be in accordance with the *Municipal Spatial Plans*, which must be consistent with the *Municipal Strategic Spatial Plan*, which in turn must be consistent with the *National Strategic Spatial Plan*.

The only case where an exception to the principle of consistency with the superior Strategic National Spatial Plan is possible are spatial planning arrangements for the rehabilitation of the consequences of natural disasters.

In Slovenia, there currently exists a mix of spatial planning documents (Plans) that have been prepared under different master acts. As new *National and Municipal Spatial Plans* are still under construction, the old Plans are allowed to be still in force (according to respective articles of the Spatial Planning Act on exceptions). Their role and use is determined in the current Spatial Planning Act which provides guidelines on planning procedures and on the role of spatial plans in the spatial planning process.

Spatial Planning Act, 2007 (Zakon o prostorskem načrtovanju; ZPNačrt)*
Spatial Planning Act, 2002 (Zakon o urejanju prostora; ZUreP-1),**x,
Act on Urban Planning and other Forms of Land Use, 1984 (Zakon o urejanju naselij in drugih posegov v prostor; ZUNDPP)***x
(existing situation)

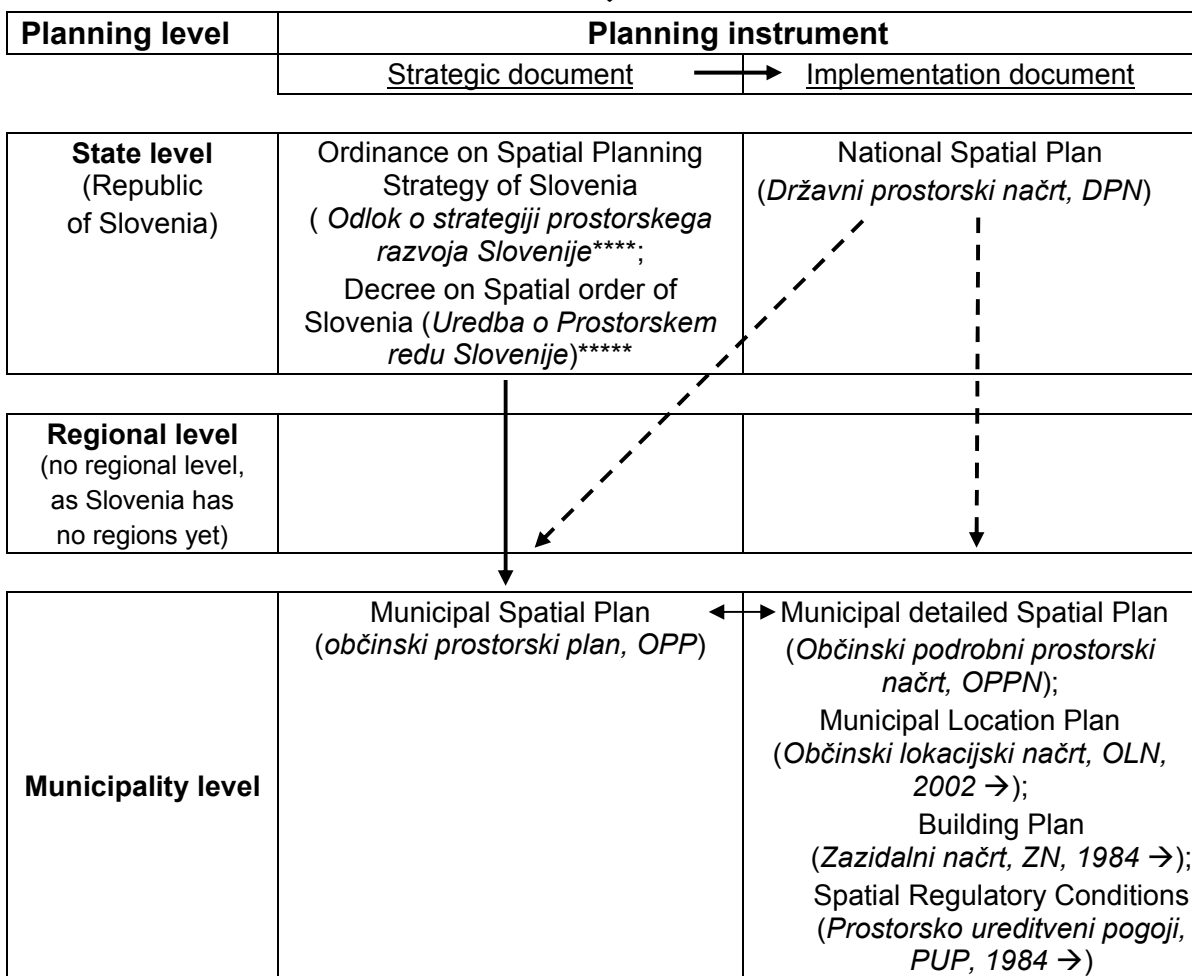


Figure 6: Existing structure: overview of levels of urban planning procedures for the Republic of Slovenia (flowchart).

- * Zakon o prostorskem načrtovanju, “ZPNačrt”; Official Gazette of the Republic of Slovenia, N° 33/07, changes in 70/08 and 108/09;
- **x Zakon o urejanju prostora, “ZUreP-1”; Official Gazette of the Republic of Slovenia, N° 110/02, changes in 8/03, 58/03, 33/07 and 108/09;
- ***x Zakon o urejanju naselij in drugih posegov v prostor, “ZUN”; Official Gazette of the Socialistic Republic of Slovenia, N° 18/84, many changes, valid until 1.1.2003 – it is stated because implementation documents, prepared under its validity and not updated yet, are still valid
- **** Odlok o Strategiji prostorskega razvoja Slovenije, “SPRS”; Official Gazette of the Republic of Slovenia, N° 76/04
- ***** Uredba o prostorskem redu Slovenije, “PRS”; Official Gazette of the Republic of Slovenia, N° 122/04

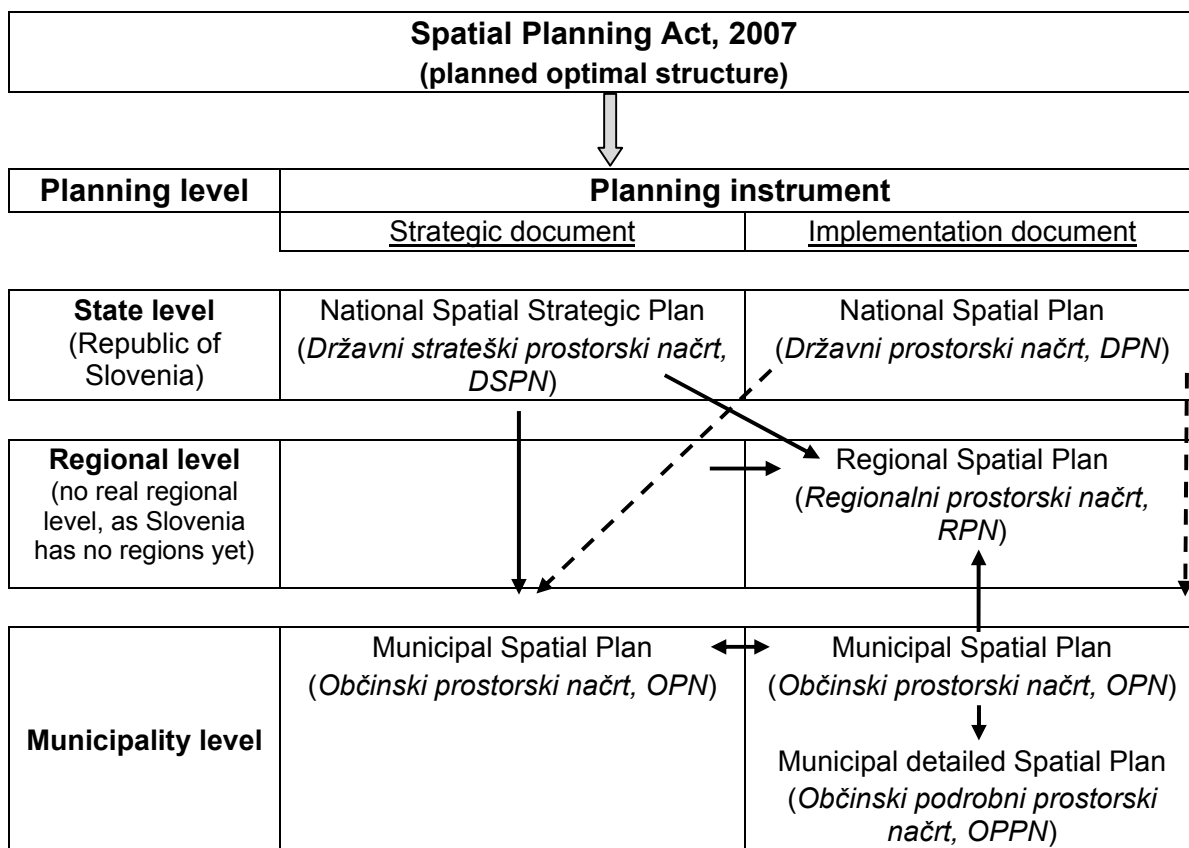


Figure 7: Planned ideal structure: overview of levels of urban planning procedures for the Republic of Slovenia (flowchart).

—▶ Hierarchically lower Plan must be in accordance with higher Plan

---▶ Normally no direct connections, but if not previously planned, higher Plan cancels spatial organisations planned with lower Plan

*** previous spatial legislation that is in some Articles still valid; as also Plans made on it base if no newer were made

2.6.2 Description of Urban Planning Procedures

National Spatial Strategic Plan ("Državni strateški prostorski načrt, DSPN")

Objective and content

The National Spatial Strategic Plan ["*Državni strateški prostorski načrt (DSPN)*"] is a spatial plan which prescribes requirements for a coordinated and efficient spatial development, and which requires wise use of natural, physical and other development potentials. It determines the objectives of spatial development for the entire country, based on spatial determinations of national importance, and it establishes the guidelines for the design of spatial arrangements of local importance. The DSPN includes concepts for specific national spatial arrangements arising from the development programs, development strategies and other documents on state level in line with the requirements of environmental protection, nature conservation, sustainable use of natural resources, cultural heritage protection, and preservation of human health.

The National Spatial Strategic Plan is adopted by the National Assembly of the Republic of Slovenia on the proposal of the Government.

Territory covered

The plan covers the territory of entire Slovenia (20.,271 km²) with a population of 2 million people.

Scale

The content of the Plan is provided predominantly in written form; the scale of maps is not fixed, but should not be less than 1:50.,,000.

Planning interval

Approximately 15 years targeted. The new plan is still under development.

Legal basis

Spatial Planning law ["Zakon o prostorskem načrtovanju (ZPNačrt)"].

Public participation

Indirectly via participation in strategies, plans of ministries, agencies, (planning authorities) of the state; opinions of municipalities are considered.

Planning authority

Ministry of the Environment and Spatial Planning ["Ministrstvo, pristojno za okolje in prostor (Ministrstvo za okolje in prostor, MOP)"].

Adoption / supervisory body

National Assembly of Republic of Slovenia ("Državni zbor republike Slovenije").

Municipality Level: Municipal Spatial Plan ("Občinski prostorski načrt, OPN)

Objective and content

The Municipal Spatial Plan ["*Občinski prostorski načrt (OPN)*"] is a solid document that must be coherent with the provisions from national strategic spatial planning documents (*DSPN*) and that responds to the development needs of a municipality and environmental requirements. It establishes objectives and baselines of the municipal spatial development. Its main function is to plan spatial arrangements of local importance and to determine the allocation of land use functions in space.

The Municipal Spatial Plan is prepared and adopted as one single document with both a strategic and an implementing part. More precisely, it is made up of the following mandatory components: a strategic part, a detailed urban development plan for major towns, the land use plan (dedication of land use categories), and spatial conditions for implementation.

Territory covered

The plan covers the entire municipality area (area difference in Slovenia 1:82, ranging from 6.,,9 km² up to 563.,,7 km², with the population ranging from 332 residents up to 278,000 residents).

Scale

The contents of the Plan are provided predominantly in written form; the scale of maps in the strategic part should not be less than 1:500,000, in the operative part the scale is mostly 1:50,000 and 1:100,000.

Planning interval

Approximately 15 years targeted. New plans are mostly still under development.

Legal basis

Spatial Planning Act [*"Zakon o prostorskem načrtovanju (ZPNačrt)"*]; National Strategic Spatial Plan [*"Državni strateški prostorski načrt (DSPN)"*].

Public participation

The completed draft of the OPN is announced to the public for response via media and internet for at least 30 days. During that time period, the public has the right to submit comments and suggestions to the draft OPN. The municipality is obliged to examine these opinions, to take a stand to them, and to publish them.

Planning authority

Municipality.

Adoption / supervisory body

The Ministry of the Environment and Spatial Planning [*"Ministrstvo, pristojno za okolje in prostor (Ministrstvo za okolje in prostor, MOP)"*], along with other ministries, examines the OPN and confirms its compliance with relevant guidelines of institutions with public authority as well as the acceptability of the OPN impacts on the environment, according to the Environment Protection Act. The OPN is finally adopted by the Municipal Council of the respective municipality.

Municipality Level: Municipal Detailed Spatial Plan ("Občinski podrobni prostorski načrt, OPPN")

Objective and content

The Municipal Detailed Spatial Plan [*"Občinski podrobni prostorski načrt (OPPN)"*] represents the lowest level of spatial planning of local importance. Guidelines for the preparation of a Municipal Detailed Spatial Plan are already provided in the Municipal Spatial Plan. A OPPN is made in particular for spatial arrangements that are necessary for the implementation of local public services, in areas which are complexly governed, and where it is planned to have more interconnected forms of land use (industrial zones, residential neighbourhoods, areas for sports and recreation, etc.). Furthermore, it is set up also for areas where existing settlements are allowed to expand as well as for spatial arrangements that are necessary for the renewal of degraded urban areas and for the restoration of degraded urban and natural areas.

Territory covered

A planning unit within an OPN with need for more precise planning; normally a few hectares.

Scale

The contents of the Plan are predominantly provided in written form; the scale of maps is not fixed, but normally it is 1:100,000.

Planning interval

Not specified; depends on needs for complex spatial arrangements.

Legal basis

Spatial Planning Act ["*Zakon o prostorskem načrtovanju (ZPNačrt)*"]; Municipal Spatial Plan ["*Občinski prostorski načrt (OPN)*"].

Public participation

The completed draft of the OPN is announced to the public for response via media and internet for at least 30 days. During that time period, the public has the right to submit comments and suggestions to the draft OPN. The municipality is obliged to examine these opinions, to take a stand to them, and to publish them.

Planning authority

Municipality.

Adoption / supervisory body

Institutions with public authority check and confirm compliance of the OPPN with their guidelines.

If a comprehensive Environmental Impact Assessment has to be conducted, then the Ministry of the Environment and Spatial Planning examines the acceptability of the impacts of the OPPN on the environment in accordance with the Environment Protection Act ["*Zakon o varstvu okolja (ZVO-1)*"].

After consent is achieved, OPPN is adopted by the Municipal Council of the respective municipality.

2.7 Institute of Soil Science and Plant Cultivation, Pulawy (PP8)

2.7.1 Overview of Levels of Urban Planning

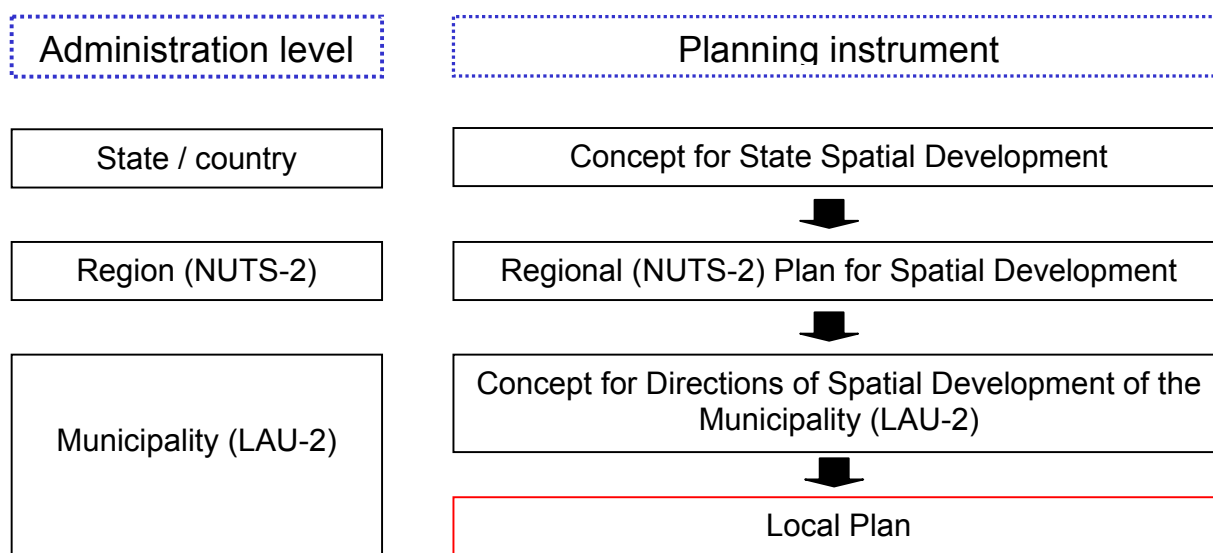


Figure 8: Overview of levels of urban planning procedures for Poland (flowchart).

2.7.2 Description of Urban Planning Procedures

National Level: Concept for State Spatial Development

Objective and content

The Concept for State Spatial Development is a strategic document that aims to ensure sustainable development of the entire country, taking into account natural, cultural, social and economic conditions and international cooperation. The Concept contains basic elements of a national urban network with delineation of urban areas, requirements of the environment and of the protection of cultural heritage, the allocation of technical and transport infrastructure, and designations of water resources and of problem areas.

Territory covered

Entire country.

Scale

Mostly in written form.

Planning interval

No fixed interval.

Legal basis

The Law on Spatial Planning, 2003.

Public participation

No direct public participation.

Planning authority

The Ministry of Regional Development prepares the Concept for Spatial Development of the country. The Ministry of Infrastructure along with the Ministry of Regional Development examine and coordinate compatibility of regional spatial plans with the Concept for State Spatial Development.

Adoption / supervisory body

The Concept is adopted by the Parliament and supervised by the Government.

Regional Level (NUTS-2): Regional Plan for Spatial Development

Objective and content

The Regional Spatial Development Plan is based on the Strategy for Regional Development and defines several basic elements of spatial planning. It contains elements of the residential network in the region and its links to transport and infrastructure networks. It also contains the system of protected areas, which includes objects and areas relevant to environmental protection, preservation of cultural and architectural heritage, health resorts, etc. The Plan also allocates public investments of regional significance, problem areas with guidelines for their management, areas requiring specific support, flood-prone areas, closed areas with their safe zones, areas of ore deposits. Urban (metropolitan) areas are delineated. Detailed plans for the spatial development of cities are prepared separately and provided as annexes to the Regional Plan for Spatial Development.

Territory covered

Voivodship (NUTS-2 region).

Scale

The plan contains both written and mapped contents. The scale of cartographic information is defined by the Ministry of Infrastructure.

Planning interval

No fixed interval. The plan is evaluated at least once every four years (term of office of regional parliament).

Legal basis

The Law on Spatial Planning, 2003.

Public participation

Opinions of regional urbanization commission, local communities, and the Ministry of Infrastructure are considered.

Planning authority

Regional governor.

Adoption / supervisory body

The Plan is adopted by the Regional Parliament and supervised by the Ministry of Infrastructure.

Municipal Level (LAU-2): Concept for Directions of Spatial Municipality Development

Objective and content

The “Concept for Directions of Spatial Municipality Development” is the fundamental document on the local planning level. The document takes into consideration higher level instruments of planning (“Concept for State Spatial Development” and “Regional (NUTS-2) Plan for Spatial Development”). The document defines spatial development policy for the local LAU-2 region. It is produced in both written form and as maps. It contains elements such as:

- desired trends of changes in spatial structure and land use
- preferred land use changes and land to be excluded from urbanization
- areas and principles of environmental protection in the region
- areas and principles for protection of cultural values / heritage
- development of transport and technical infrastructure
- areas for public investments
- plan for management of agricultural and forest lands
- areas exposed to flood risk
- areas requiring remediation or transformation.

An obligatory part of the procedure is an Environmental Impact Assessment.

Territory covered

Administrative borders of Gmina (LAU-2 region).

Scale

1:5.000 to 1:25.000.

Planning interval

No fixed interval. A new plan is developed based on a decision of the Municipality Council., according to an evaluation of plan accuracy and the need for updating.

Legal basis

The Law on Spatial Planning, 2003.

Public participation

Two stages of participation are foreseen:

- local urbanization commission, neighbour communes, regional environmental protection agency, Regional Government, military bodies, and other bodies are allowed to provide their opinions;

- the plan is displayed in public along with the EIA for 30 days.

Planning authority

Mayor of the Municipality.

Adoption / supervisory body

Municipality Council.

Municipal Level (LAU-2): Local Plan

Objective and content

The "Local Plan" is a more detailed document compared to the "Concept for Directions of Spatial Municipality Development (LAU-2)". It has the legal status of an act of local law. It must be prepared in accordance with the provisions defined in the above-mentioned Concept. The objective of the Local Plan is to define the category of land use of a given land parcel, including public investments, and the way it is to be managed and urbanized. Obligatory elements of the "Local Plan" relate to:

- land use and borders of different land uses;
- protection of aesthetic, environmental, cultural and landscape values;
- delineation of public space;
- delineation of settlement structures;
- delineation of protected areas and prescriptions for their management;
- areas excluded from urbanization.

If required, the "Local Plan" contains delineations of commercial areas, areas that require rehabilitation, or recreation areas. If the "Local Plan" foresees changes of agricultural or forest land to other forms of land use, this requires approval of the Ministry of Agriculture and Rural Development.

Territory covered

Administrative territory of a commune / municipality (Polish name *Gmina*; LAU-2 unit), or a part of a municipality.

Scale

1:1.000.

Planning interval

No fixed interval. The Local Plan for a given area may be changed in response to a respective request (application form with justification of the proposed change).

Legal basis

The Law on Spatial Planning, 2003.

Public participation

Two levels of participation are foreseen:

- local urbanization commission, neighbour communes, regional environmental protection agency, Regional Government, military bodies, and other bodies are allowed to provide their opinions;
- the plan is displayed in public along with the EIA for 21 days.

Planning authority

Mayor of the Municipality.

Adoption / supervisory body

Municipal Council.

2.8 Czech University of Life Sciences, Prague (PP9)

2.8.1 Overview of Levels of Urban Planning

Definition of term “urban planning procedure”

All levels of urban planning within a legal framework, containing legally binding and not binding steps of spatial planning, not only focused on soil aspects.

Overview of levels of urban planning (flowchart)

1. National level - The document Spatial Development Policy of the Czech Republic (CR SDP) 2008 “Politika územního rozvoje ČR (PÚR ČR)”- NUTS 0.
2. Regional level – The Principles of Territorial Development document “Zásady územního rozvoje” – NUTS 3
3. Municipal level - Municipalities with Extended Powers – Municipal plan – LAU 2
 - 3.1. Municipal Plan of the City of Prague “Územní plán města Prahy”

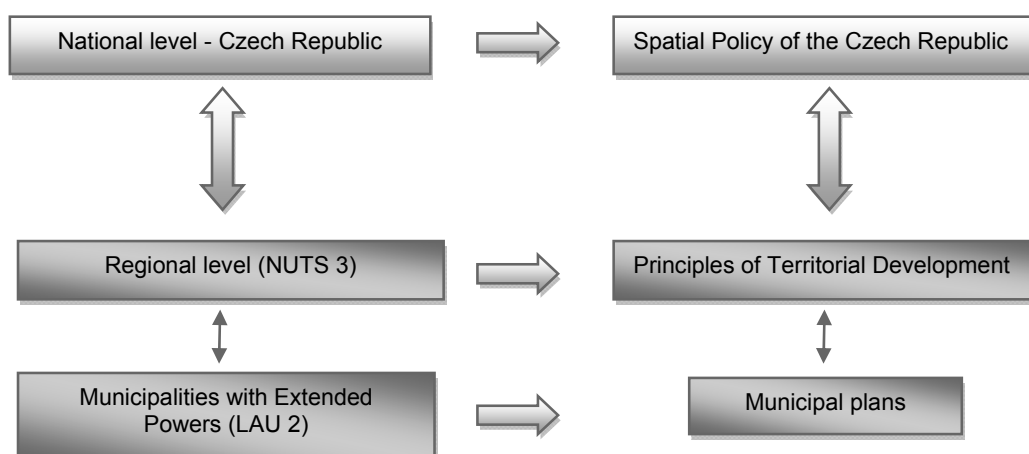


Figure 9: Overview of levels of urban planning procedures for Czech Republic (flowchart).

2.8.2 Description of Urban Planning Procedures

Description of urban planning procedure - National level

Objective and content

The Spatial Development Policy of the Czech Republic (CR SDP) 2008 document “Politika územního rozvoje ČR (PÚR ČR)” is national instrument of spatial planning. Spatial development policy of the CR specifies a strategy and fundamental conditions for fulfilling the planning tasks and thus it provides and frame for consensual, generally beneficial development of the CR area values (hereinafter only “spatial development”). CR SDP purpose is, taking into account the possibilities and conditions of the area and requirements of spatial development, to ensure coordinated planning activities of regions, municipalities, coordination of sectoral and inter-sectoral concepts, policies and strategies and other documents of ministries and other central administration offices.

Territory covered

The document Spatial Development Policy of the Czech Republic 2008 covers the area of Czech Republic 79 000 km² with 10,5 mil inhabitants.

Planning interval

The Spatial Development Policy of the Czech Republic document can be up-dated every 4 years on the basis of Government Decision.

Legal basis

Act No. 183/2006 Coll., on town and country planning and building code as amended by later regulations and Decree No. 500/2006 on planning analytic materials, planning documentation, and planning activity filing.

Public participation

Participation of public, central administration authority and region members held during the procedure.

Planning authority

The Ministry for Regional Development of the Czech Republic.

Adoption / supervisory body

The concept of CR SDP was discussed and approved on July 20th, 2009 by the Government of the Czech Republic. The CR SDP concept is listed in part III of the material, reference No. 903/09.

Description of “urban planning procedure - Regional level

Objective and content

The objectives of regional urban planning are setting of corridors for technical and traffic infrastructure; territorial system of ecological landscape stability on regional and supraregional level. Within the operation of regional authority the complex spatial development is comprehend; regarding especially creation of conditions for social services development, protection of a health environment, traffic development, education, public order protection, economic expansion.

Examination of proposal for land utilization in term of environmental impact and proposition of NATURA 2000 territory run within the regional urban planning too.

In addition a region individually coordinates the development of its territory and approves a Principles of Territorial Development of Region.

The Principles of Territorial Development are obligatory for creation and publication of municipal plans, regulation plans and for decision making.

Territory covered

It includes territories of 14 Regions "Kraj" (NUTS 3). Regions can be divided into Higher Territorial Units (VÚC).

Scale

Regional plan consist of written form and set of maps in scale: 1:100 000, 1:50 000, 1:200 000, 1:500000

Planning interval

Urban planning materials such as Planning Analytic Materials and Principles of Territorial Development are updated every 2 years.

Legal basis

Act No. 183/2006 § 26-29 about landscape planning and construction regulations as amended by following regulations and Decree No. 500/2006 on planning analytic materials, planning documentation, and planning activity filing.

Public participation

Municipal and regional authorities, public, NGO.

Planning authority

Regional authority, Department of Regional Development, Urban Planning.

Adoption / supervisory body

The Ministry for Regional Development of the Czech Republic, Regional Authorities (Regional Council)

Description of urban planning procedure - Municipal level - Municipalities with extended powers

Objective and content

The aim of the municipal plan is to determine the basic urban concept of municipality development and arrangement, functional land use protection, ecological stability and sustainable protection.

The borders of developed city areas are delineated by this plan. Municipal plan setting background are Planning Analytic Materials, additional studies and analyses.

Territory covered

The municipal plan covers all municipal territories. This area corresponds to LAU 2.

Scale

Content of plan is predominately in written form and set of various maps in scales: 1:2 880 (new 1:1000), 1:5 000, 1:50 000

Planning interval

Planning Analytic Materials are updated every 2 years.

Legal basis

Act No. 183/2006 § 26-29 about landscape planning and construction regulations as amended by following regulations and Decree No. 500/2006 on planning analytic materials, planning documentation, and planning activity filing.

Public participation

Inhabitants, NGO, public organisations

Planning authority

Municipality Council

Adoption / supervisory body

The Municipality Council

Description of urban planning procedure – Prague case

Objective and content

The aim of “Územní plán města Prahy” Municipal Plan of the City of Prague (MP) is to rationalise the spatial and functional land use disposition in land and its utilization. The MP states basic concept of municipal territory (MT) development, protection of MTs values, MTs distribution, land distribution and concept of public infrastructure. The Capital City of Prague has specific position. There is dual role of urban planning procedure. The Capital City of Prague fulfils the role of local government administrator of a territorial unit that is both a region and a municipality in the same borders. So it is necessary to make both documentations (Principles of Territorial Development of the City of Prague and the Municipal Plan of the City of Prague). Both documentations differ in content, mode, scale of map and etc. The Principles of Territorial Development of the City of Prague, set up in the level of region, are superordinated above the local plan.

Territory covered

The plan covers the City of Prague, it is 496,1 km² (with 112 cadastral territories) and about 1,2 mil inhabitants (in the year 2006)

Scale

Content of plan is predominately in written form, maps 1:10 000

Planning interval

It is necessary to take consideration into all changes in the City of Prague every 10-15 years. The new urban plan should be valid from 2012 and it replaces the plan from 1999.

Legal basis

Act No. 183/2006 about landscape planning and construction regulations as amended by following regulations and Decree No.135/2001 of the Collection of Laws, on Regional Planning Source Materials and Regional Planning Documentation as amended by the following regulations.

Public participation



Legal entities (concerned authorities, organizations), natural persons (citizens).

Planning authority

The planning authority is the Ministry for Regional Development and the Municipal Assembly of the City of Prague.

Adoption / supervisory body

The Ministry for Regional Development.

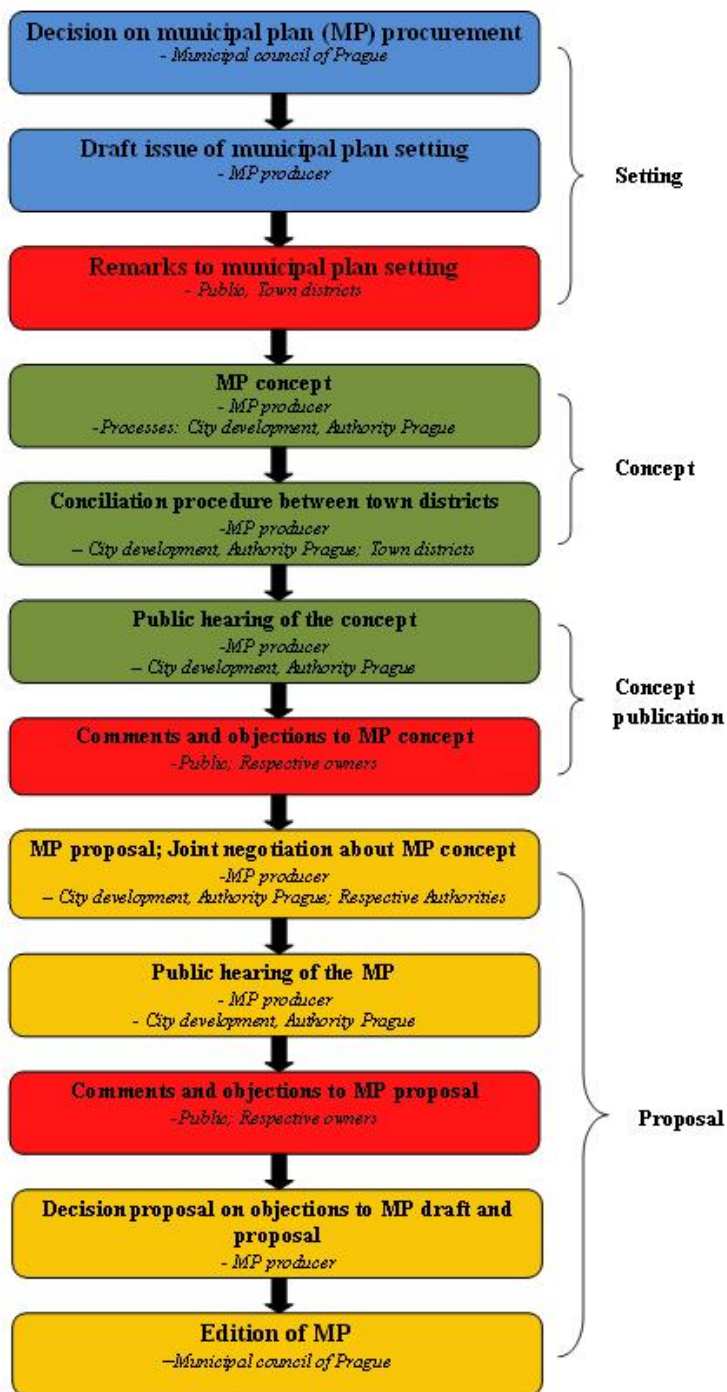


Figure 10: Overview of levels of urban planning procedures for Prague (flowchart).

2.9 Soil Science and Conservation Research Institute, Bratislava (PP10)

2.9.1 Overview of Levels of Urban Planning

1. Concept of territorial development of Slovakia KURS 2001) – national level
2. Regional urban planning – level NUTS 2
3. Municipality urban planning (incl. zone urban planning) – LAU 2

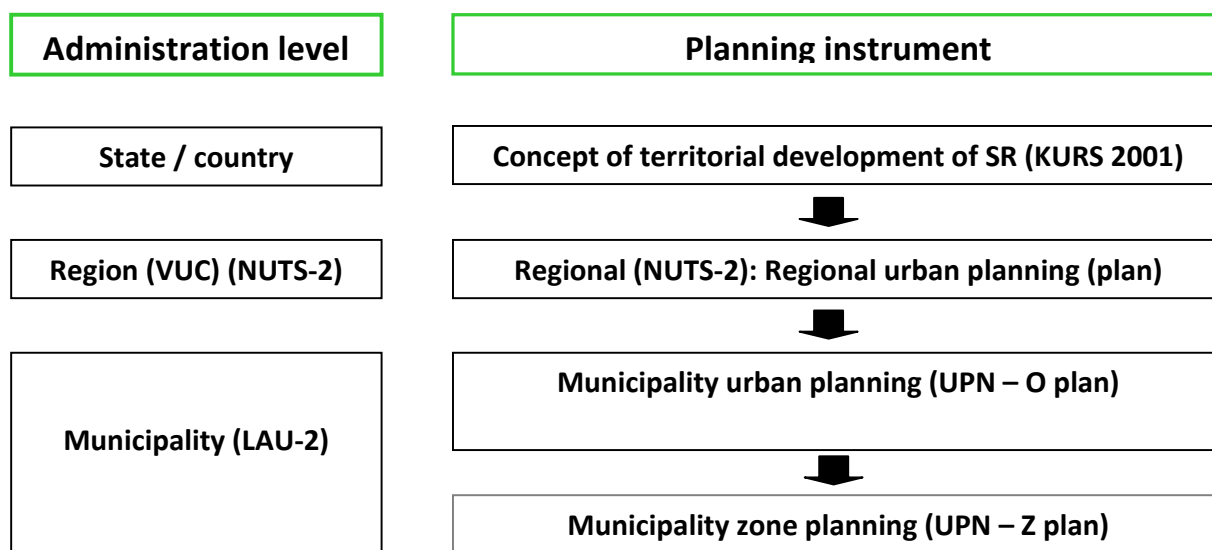


Figure 11: Overview of levels of urban planning procedures for Slovakia (flowchart).

2.9.2 Description of Urban Planning Procedures

National Level: Concept of territorial development of Slovakia

Objective and content

The Concept of Territorial Development of Slovakia (KURS 2001) is complete strategic document which contains complex system of spatial organization and functional use of area pursuing sustainable development of the country. It includes coordination of actions influencing environmental and ecological conditions, cultural-historical values, and landscape formation in the social and economic contexts. The concept involves requirements of urbanization (housing, traffic, and technical infrastructure), elements producing healthy environment, protection of natural resources etc. to be related to international context.

Territory covered

The concept covers the territory of the Slovakia (49 000 km².) with a population of 5,5 mil inhabitants

Scale

Maps are provided in the scale 1:1 mil., and less scale.

Planning interval

Not determined interval

Legal basis

The legal basis is so-called "Building Law" No. 50/1976 and its amendments

Public participation

Engagement of state offices, community's mayors, and some expert organizations are taken into consideration.

Planning authority

Ministry of Environment of Slovak Republic

Adoption / supervisory body

The Concept was approved by the Government of Slovak Republic in 2001 (30. Oct)

Binding part of the Concept was declared by Directive of the government No. 528/2002

Regional (NUTS-2): Regional urban planning (plan)

Objective and content

The Regional urban planning is based on the Concept of territorial development of Slovakia. It involves mainly functional arrangement of residential areas, its social infrastructure (culture, school system, health service, social services, shopping centres, production base (industry, agriculture, and forest management), recreation and travel services, nature protection and environment, and links to transport and infrastructure networks. It delineates spatial arrangement and functional use of regions, structure and trends of settlement's development, production, requirements based on rational use of the regions, delineation of areas of supra-regional importance, corridors for technical equipment, development priorities of the regions regarding optimal structure and potentials for investments, social and economic classification of regions, recommendation for long-term progress, requirements for nature protection, rules for exploitation of natural resources, protection of cultural heritage.

Territory covered

VUC – Higher territorial units (NUTS-2 region).

Scale

The plan consists of text and graphic part and set of various documentation maps. The scales on the maps are: 1:25,000, 1: 50,000, 1:100,000.

Planning interval

The plan is evaluated at least once three years or more (in case of necessity)

Legal basis

The legal basis is so-called “Building Law” No. 50/1976 and its amendments

Public participation

Engagement of state offices, community’s mayors, and some expert organizations are taken into consideration.

Planning authority

Regional government offices – Section (division) of regional development, urban planning and environment

Adoption / supervisory body

The plan is adopted by the council VUC – higher territorial unit’s authorities, supervised by Ministry of Regional development and building.

Municipal Level (LAU-2): Municipality urban planning (UPN – O plan)

Objective and content

The goal of urban planning is spatial arrangement and functional use of area, it determines rules for planning process, and proposes subject and time-scale coordination of actions influencing environment, ecological stability, urban development and landscape formation in coincidence with principles of sustainable development. It ensures preconditions for saving exploitation of natural resources, preservation of natural, civilization and cultural values, coordinates all actions of urban planning procedure. Municipalities with more than 2,000 inhabitants are obligatory to have got UPN – O plan.

The plan contains urban planning groundwork (UPP) following:

- urbanization studies
- urban planning “general”
- urban prognosis
- urban-technical groundwork
- other background document like: strategy of the state environmental policy, environmental action’s programs (EIA), resort concepts, projects of land consolidation, consolidation of forest, water management, irrigation and amelioration measures, documents of territorial system of ecological stability (USES), rules and programs of nature and landscape protection, programs of cultural-historical heritage, programs of waste management.

The binding parts of urban plan are regulations of functional use of the area and principles of areas arrangement, boundaries of building area, principles and regulation of protection of natural and cultural heritage, consolidation of traffic and technical equipment

Territory covered

Administrative borders of municipality (LAU-2).

Scale

1:5,000, 1:10,000 to 1:25,000

Planning interval

No fixed interval for planning. A new plan is developed based on a decision of the Municipality Council.

Legal basis

The legal basis is so-called “Building Law” No. 50/1976 and its amendments
Regulation No. 55/2001 Code on urban planning groundwork and urban planning documentation
Regulation No. 436/2000 Code by what some details about procurement of urban planning groundwork and documentation are regulated incl. person qualifications verification.

Public participation

It refers to “Aarhus convention” declaring participation of public in interested engagement of urban plan, environment, etc. The plan is displayed in public media and available for public discussion. Also the comment of inhabitants, NGO, public initiatives are taken into consideration.

Planning authority

Mayor of the Municipality.

Adoption / supervisory body

Municipality Council.

Municipality zone planning (UPN – Z plan)

Objective and content

The zone planning (UPN – Z plan) represents more detailed document compared to the UPN – O plan). It must be prepared in coincidence with the provisions defined in the above-mentioned urban planning procedure. The UPN – Z plan contains regulation elements determining functional use (boundaries of plots, area designated for traffic and technical infrastructure, linking plots), urbanisms arrangement of plots (street lines, building lines, type of building), intensity of land use, regulation elements of nature protection and landscape formation, preconditions for ecological stability maintenance incl. green areas and architectonic creation. This plan is binding for urban decision makers.

Territory covered

Delineated area into the administrative boundary of municipality LAU-2 (which means a certain part of the municipality)

Scale

1:1.000. or 1:500

Planning interval

No fixed interval for planning. A new plan is developed based on a decision of the Municipality Council.

Legal basis

The legal basis is so-called “Building Law” No. 50/1976 and its amendments
Regulation No. 55/2001 Code on urban planning groundwork and urban planning documentation
Regulation No. 436/2000 Code by what some details about procurement of urban planning
groundwork and documentation are regulated incl. person qualifications verification.

Public participation

It refers to “Aarhus convention” declaring participation of public in interested engagement of urban plan, environment programs, waste programs, etc. The urban plan is displayed in public media and available for public discussion. Also the comment of inhabitants, NGO, public initiatives are taken into consideration.

Planning authority

Mayor of the Municipality.

Adoption / supervisory body

Municipality Council.

3. SOIL MANAGEMENT APPROACHES WITHIN URBAN PLANNING PROCEDURES

3.1 City of Stuttgart (PP1) and District Authority Stuttgart (PP11)

3.1.1 The Stuttgart Soil Protection Concept

Objective and content

Soil in inner urban areas plays an important role for climate, water balance, flood protection, air quality, recreation and the cycle of biological matters. Although soil is a limited resource, urban sprawl on unconsumed soil is an ongoing process because there is no standard for the evaluation of soil quality and its functions in planning procedures. As settlement activities are mostly located in areas with good soils, especially high quality soils are endangered by urban sprawl. Therefore functional soil protection concepts are required for both the conservation of the local soil resources and the fulfilment of legal requirements in environmental planning. The Stuttgart Soil Protection Concept [*"Bodenschutzkonzept Stuttgart (BOKS)"*] enables to document potential and actual soil losses with the help of a planning map for soil quality. BOKS is a logical and methodically simple concept with clearly defined objectives in order to raise acceptance and awareness. This is one of the main reasons that the soil protection concept BOKS became part of the regular planning process in the City of Stuttgart since March 2006. Nevertheless, additive functional extensions and technical improvements are necessary. It would appear that existing approaches such as BOKS are suitable as a basis for the URBAN-SMS soil protection tool.

Objective:

Sustainable approaches that ensure the conservation of soil resources at a constant quality level are required to secure healthy living conditions in the future. The ongoing soil consumption and the loss of soil quality need to be prevented. As this objective cannot be achieved promptly, a transitional period in which certain cut-downs are accepted has to be defined. The timeframe for that period of transition should be selected in a suitable way in order to enable a redirection towards alternative operation approaches (for example, urban renewal by re-development of brownfields).

The cut-down in soil quality that is to be tolerated in the transition period is defined in BOKS as a so-called "soil contingent". It consists of a starting amount of "soil index points" that decreases proportionally to every soil use that is connected with a loss of soil quality. The current score of the "soil contingent" indicates the loss of quality and the acceptable consumption in accordance to the objective defined, respectively. This ensures sufficient scope of action for a limited period of time.

In Stuttgart, the "soil contingent" was calculated in correspondence to clear qualitative terms with the aid of "soil indication". The guiding principle in Stuttgart was to preserve the quantity and quality status of soils with very good quality and good quality. On the other hand, it means that the consumption of medium and poor quality soils is valued less substantial.

According to these objectives, a starting amount totaling 1.000 "soil index points" (March 2006) resulted for the Stuttgart "soil contingent". This corresponds to approx. 12 % of the entire supply in the Stuttgart area. The exhaustion of this amount of "soil index points" is being tolerated.

However, the prerequisite for a persistent sustainability is a strategy combining economic restrictions with a certain scope of action for successful urban planning.

Strategy

Strategies for soil protection always deal with provident resource management. Operating a conceptual soil protection requires a comprehensive strategy that specifies how sustainable conditions shall be achieved. BOKS ensures this by controlling the point loss in the "soil contingent" by two consumption approaches. The first approach, "inner urban development", concentrates on brownfield redevelopment. The "Sustainable Brownfield Management Stuttgart (NBS)", for example, provides settlement areas for re-use and aggregation.

The second approach, "degressive rationing", aims at yearly minimization of soil consumption until the soil demand by planning activities will be completely covered by inner urban development. A systematic monitoring every 2 to 5 years helps to assess whether the target-oriented rationing works. If it does not, appropriate countermeasures can be established quickly. The use of high quality soils would cause a massive loss of soil index points and thus a strong depletion of the "soil contingent". The monitoring shows quickly if the latitude of planning has to be decreased and countermeasures are required.

Implementation

- *Type of instrument:* Spatial planning, soil conservation act
- *Methodology and scientific-technical principles*

Due to the demand for new settlement areas, undisturbed soil of green areas is transferred to building land. As a result, the overall soil quality is reduced due to the loss in soil functions. The affected soils can be determined by a "soil indication" according to their quantity (= area size) and quality (= soil function). The change can be evaluated.

A prerequisite for evaluating the change in soil quantity and quality is that the spatial distribution of the affected soils is known and documented in a planning-applicable manner. Also, soil used by humans has to be taken into account as they still provide important ecological functions. In Stuttgart, the "soil indication" is supported by the "Planning Map - Soil Quality", which covers the entire Stuttgart city area. The respective soil indication figure indicates the soil quality as the sum of the soil functions to be protected, as specified by the Federal Soil Protection Act of 1998. Also, anthropogenic influences such as pollution and cultivation/sealing are considered. As a result, the quality of soils is characterised by a scale featuring 6 levels (level 0 to level 5).

In practical planning, reasonable methodologies are needed which allow a qualitative and quantitative overview of the effects related to the different aspects of soil use. "Soil Index Points" are calculated in BOKS based on the dimension of a planning area and the respective soil quality levels indicated in the planning map. This area-specific value will be reduced with every further demand on the soil in relation to the regional quality loss (= loss of soil functions). Therefore, the soil consumption caused by each planned development can be both theoretically forecasted and clearly measured after having been implemented. This area-specific value and its change are an indicator including qualitative soil aspects that are relevant for any further planning activities.

This comprehensive methodology helps to assess the present state of soil parameters and related trends, to deliver impact prognosis and to compare planning variants. The methodology

is also applicable to balancing and controlling the soil specific impacts, especially in connection with legal compensation measures.

- *Data sources:* the "Planning Map - Soil Quality" is developed on the basis of soil mapping of Stuttgart, sealing map, cadastre of contaminated sites, and cadastre of areas with archive function.
- *Suitable urban planning procedure (step) or other legal instrument:* Land Use Plan and Building Regulation Plan.
- *Status:* implemented as a sustainable goal in the municipality; the map is used in the Building Regulation Plan (not yet implemented in the Land Use Plan).

Responsibility

Municipality: the Municipal Council is responsible for planning decisions, the Municipal Urban Planning Office is responsible for implementation.

The Soil Conservation Authority is responsible for the data bases, the concept and the monitoring of success.

Outcome/Effectiveness

The analysis of needs have shown that appropriate soil protection concepts require:

- technical planning basis,
- suitable indication and assessment methods,
- clear objectives,
- target-oriented strategies, and
- acceptance.

Because these individual elements correspond closely with each other, concepts like BOKS have to be developed according to the needs of urban planning practice. In Stuttgart the application of the "soil contingent" proved to be effective. The planners and decision makers got an applicable decision support tool to assess their planning activities. With this concept, soil standards can be ensured in a flexible way without delimiting urban planners by restrictive regulations. As a result, BOKS gained general acceptance and ultimately was instituted as a formal component of the urban land-use planning by the city council of Stuttgart.

BOKS contributed to raise the awareness of urban soil resources. It was recognized that soil is threatened by urban sprawl and that sustainable development needs the compliance with defined objectives. That is the reason why sustainable soil use is widely accepted nowadays.

The possible consequences of soil consumption, like the loss of agricultural areas, a massive decrease of groundwater recharge and flood retention, were recognized in Stuttgart. The increase in precipitation and flood events, which need to be technically controlled with high costs, were brought into mind. Also, the city climate is becoming more unbalanced, and the air quality is becoming poorer because of a decrease in areas of functioning soils available for humidity and temperature equalization as well as for absorption of air-transported contaminants. The further loss of soils will result in an escalating, irreversible deterioration of the general environment and the quality of life. A respective scenario modeling will be in the focus of the URBAN-SMS project. Environmental impacts by soil consumption will be specified, and scenarios will increase the awareness of the value of soils in public and urban planning units.

3.1.2 Sustainable Management of Building Areas (NBS)

Objective and content

The central aim of the NBS is, to provide mixed commercial and residential areas predominantly in already developed areas ready on time and reduce the use of new land for the purposes of an ecological land policy.

Sustainability means in accordance with the principles of the Land Use Plan 2010, particularly the inner urban development in the sense of a functioning land management and ensuring thereby an optimal urban density, promote mixed-use development of residential, employment and infrastructure, and enhance central locations and locations in the catchment area of S - and light rail.

The NBS has a current survey of all existing potential building sites in the city. For each potential area exists a so-called "area passes", which contains key information about the plot. Potential building land within the meaning of the NBS are brownfield, underused land as reserve land, land conversion and new development areas with a potential of more than 2000 square meters of gross floor area. Over 400 locations with a total area of approximately 600 hectares are covered.

The information from the area passes are managed in a database. There are several search options. The password information platform is a very flexible tool that is used by municipal departments and administrated decentralized. On the data base of the platform, a dynamic web presence for the public presentation of marketable potential building areas in Stuttgart has been designed. Periodically, the municipal council will be informed by an annual report about the current state of the NBS.

Implementation

- Type of instrument: spatial planning, inner urban development
- Methodology: Development of an information platform (GIS and database-driven) and on basis of this, building of an internet presentation.
- Data sources: mapping of sites with potential building land with so called "area passes" on bases of a GIS considering also brownfields and contaminated sites
- Suitable urban planning procedure (step) or other legal instrument: Land Use Plan and Building Regulation Plan.
- Status: already implemented in the Land Use Plan

Responsibility

Municipality:
municipal urban planning office

Outcome/Effectiveness

The NBS is an essential component for implementing the objectives – mainly sustainability and inner urban development - of the Preparatory Land Use Plan 2010. With NBS, the potential building areas can be identified, activated and made marketable.

3.1.3 Delineation of green areas and delineation of priority or reservation areas for soil preservation or agricultural usage

Objective and content

In order to preserve areas for nature conservation, soil preservation or areas for agricultural usage and to delimitate those areas from settlement areas, the State Planning Act of Baden-Württemberg offers the possibility to delineate priority areas (no other usage is allowed) or reservation areas (other usage is possible after special consideration in weighing).

Implementation

- *Type of instrument:* Spatial planning (Regional Spatial Plans)
- *Methodology:* Criteria to delineate the areas are e.g. the needs of agriculture, the performance of soils (regarding their functions), recreation aspects or landscape and habitat connectivity functions.
- *Data sources:* Regarding the environmental compartment soil, data base are the soil quality maps.
- *Suitable urban planning procedure (step) or other legal instrument:* Priority and reservation areas are identified, described and delineated in regional plans. The specifications of the regional plans have to be complied by the municipalities in their land use plans (zoning plans)
- *Status:* Legally anchored in the State Planning Act of Baden-Württemberg; implemented in regional plans

Responsibility

The regional associations are responsible for the development of the regional plans. The municipalities have the duty to implement the specifications of the regional plan in their spatial planning.

Outcome/Effectiveness

In practice the possibility to delineate priority or reservation areas for soil preservation, given by the State Planning Act of Baden-Württemberg, is seldom applied by the regional associations, because the delineation is not a duty but a possibility. In general the delimitation of settlement areas and “green areas” is achieved by the delineation of green areas and areas for agricultural usage. Particularly areas for agricultural usage are also efficient to protect soils with a high fertility but among soil properties also economical requirements of farming are taken into account. As the regional associations, responsible for the development of the regional plans, has of course to weigh the different interests, the effectiveness depends on the pressure for building purposes by the municipalities. Nevertheless the Regional Plans are one of the most important instruments within spatial planning to reduce urban sprawl and land consumption.

3.1.4 Preservation of Top Soil

Objective and content

According to the Building Act (§ 202) of the Federal Republic of Germany top soil has to be kept in an utilisable condition and must be prevented from damage during construction activities.

Implementation

- *Type of instrument:* Legal binding regulation concerning construction activities.

Responsibility

Every builder, private or public, has to conform to the regulation.

Outcome/Effectiveness

The preservation of top soil according to the regulatory requirement is common practice on construction sites.

3.1.5 Priority of inner urban development

Objective and content

To minimize urban sprawl and soil sealing municipalities are committed by the Building Act (§ 1a) to use possibilities of inner urban development as e.g. the rehabilitation of brownfields or to increase the usage density of existing settlement areas.

Implementation

- *Type of instrument:* Spatial planning, Building Act
- *Methodology:* Identification activation of brownfields, building gaps or not adequate used areas
- *Data sources:* Building gap cadastral if implemented
- *Suitable urban planning procedure (step) or other legal instrument:* Zoning plan and Building Regulation Plan.
- *Status:* Legal requirement according to Building Act.

Responsibility

Municipalities have to consider the requirement in their spatial planning (e.g. zoning plans)

Outcome/Effectiveness

As the requirements are not specified in binding further regulations (e.g. no commitment to build up a building gap cadastral) the efforts of the municipalities to strengthen the inner urban development are unequally distinctive.

3.1.6 Environmental Plan of Baden-Württemberg

Objective and content

The Environmental Plan of Baden-Württemberg is a comprehensive frame of orientation concerning all environmental compartments and issues. In particular it disclose the goals of the environmental policy in Baden-Württemberg. Regarding soil and soil protection one of the most important goals is to reduce land and soil consumption particularly by a strengthening of inner urban development.

Implementation

- *Type of instrument:* Frame of orientation

Responsibility

Ministry for Environment Baden-Württemberg

Outcome/Effectiveness

The environmental plan provides helpful arguments for the soil protection administration in their daily work and discussions regarding planning processes. The environmental Plan includes and describes several pilot projects and best practice examples concerning the efforts of municipalities to implement inner urban development as e.g. the “NBS”, implemented by the City of Stuttgart (s. above)

3.1.7 Soil as subject of protection in SEA/EIA

Objective and content

According to the Environmental Acceptability Assessment Act of the Federal Republic of Germany, it has to be guaranteed, that impacts on the environment (including the compartment soil) caused by interventions are comprehensively determined, described and valued at an early state. These requirements have also to be fulfilled as a part of e.g. zoning plans, developed by municipalities.

Implementation

- *Type of instrument:* Legally binding SEA/EIA regulation as part of Spatial planning
- *Methodology:* Assessment of the functional performance of soils, assessment of the impact of encroachment in soils
- *Data sources:* Soil quality maps
- *Suitable urban planning procedure (step) or other legal instrument:* Integral part of regional, zoning and development plans
- *Status:* Implemented in regional and local planning processes

Responsibility

Planning authorities as regional associations or municipalities in case of spatial planning as well as private initiators of interventions in case of e.g. planning approvals.

Outcome/Effectiveness

By using applicable databases like soil quality maps, as the Baden-Württemberg guideline for the assessment of soils according to their performance or “BOKS” in Stuttgart, the regulations and procedures allows a comprehensive evaluation of the environmental compartment soil and the expected impact of encroachments in soils.

3.1.8 Soil Quality Maps (Valuation of Natural Soil Functions)

Objective and content

The soil quality maps show the valuation of the natural soil functions “Natural Fertility, “Regulation of water balance, “Filter and buffer” and “Habitat for specific natural vegetation”. The information, given by the maps and the data are an essential prerequisite for the consideration of soils in all planning processes.

Implementation

- *Type of instrument:* Maps and data as basic information
- *Methodology:* Valuation of the performance of soils regarding four natural soil functions
- *Data sources:* Parameters from soil mapping or data from the “german soil evaluation” (Bodenschätzung)
- *Suitable urban planning procedure (step) or other legal instrument:* To be used in spatial planning and all other projects affecting soils.
- *Status:* GIS system offered as an internal service for the administration as part of the comprehensive “Environmental Information and Reporting System”. Currently still not all maps and data are available area wide.

Responsibility

Soil survey staff of Baden-Württemberg

Outcome/Effectiveness

As basic information the most important instrument for the assessment of the environmental compartment soil in all planning processes.

3.1.9 Cadastral of Contaminated Sites with risk assessment

Objective and content

In the centralized cadastral of contaminated sites of Baden-Württemberg, all contaminated sites are listed. The cadastral includes the most important information about the degree of contamination and the status of investigation or remediation.

Implementation

- *Type of instrument:* Maps and data as basic information
- *Methodology:* Systematic evaluation of contaminated sites, beginning with a historical listing followed by technical investigation and remediation measures so far as necessary according to the Soil Protection Act and the Soil Protection Ordinance of the FRG.
- *Data sources:* data from historical evaluation of the usage, data from technical investigation (analysis data), current risk assessment
- *Suitable urban planning procedure (step) or other legal instrument:* Maps and data as basic information for spatial planning particularly for zoning and development plans
- *Status:* GIS system offered as an internal service for the administration as part of the comprehensive “Environmental Information and Reporting System”.

Responsibility

Provincial authorities and municipalities

Outcome/Effectiveness

The systematic treatment of polluted sites and the documentation in the cadastral are a helpful instrument and one module in the field of inner urban development as e.g. in the NBS of the city of Stuttgart.

3.1.10 Assessment of soils according to their performance

Objective and content

The guideline “Assessment of soils according to their performance” (Ministry for environment Ba-Wü, 1995) offers and describes in detail two methods for the assessment of soils, based on the valuation of the natural soil functions “Natural Fertility, “Regulation of water balance, “Filter and buffer” and “Habitat for specific natural vegetation”. These two methods (valuation based on parameters from soil mapping and valuation based on the German soil evaluation) are applied to generate the soil quality maps.

Implementation

- *Type of instrument:* Guideline
- *Methodology:* Valuation of the performance of soils regarding four natural soil functions
- *Data sources:* Parameters from soil mapping or data from the “German soil evaluation” (Bodenschätzung)

- *Suitable urban planning procedure (step) or other legal instrument:* To be used in spatial planning and all other projects affecting soils.
- *Status:* Commonly applied in planning processes by municipalities and their planning agencies . Currently in revision

Responsibility

Compilation: Soil conservation administration of Baden-Württemberg; Application: Planning authorities as e.g. municipalities and other initiators of interventions.

Outcome/Effectiveness

As basic method the most important instrument for the assessment of the environmental compartment soil in all planning processes and base for the generation of soil quality maps.

3.1.11 Soil in the compensation Regulation

Objective and content

The guideline “The environmental compartment soil in the compensation regulation according to nature legislation” (Ministry for environment Ba-Wü, 2006) offers and describes in detail a method to calculate functional soil losses by encroachments under consideration of area and quality and a method to calculate the improvement of soil functions by defined compensation measures. Prerequisite for the application is the assessment of soils according to the above-mentioned Guideline.

Implementation

- *Type of instrument:* Guideline
- *Methodology:* Valuation and definition of encroachments in soils; valuation and definition of compensation measures
- *Data sources:* Valuation of soil functions according to the guideline “Assessment of soils according to their performance”
- *Suitable urban planning procedure (step) or other legal instrument:* To be used in spatial planning and all other projects affecting soils.
- *Status:* Commonly applied if a compensation of encroachment is committed according to the Nature Protection Act or the Building Act. Currently in revision

Responsibility

Compilation: Soil conservation administration of Baden-Württemberg; Application: Planning authorities as e.g. municipalities and other initiators of interventions.

Outcome/Effectiveness

The guideline enables the consideration of the environmental compartment soil within the compensation regulation. In comparison to other environmental compartments the method leads to an adequate treatment of the compartment soil and improves the awareness for soil functions and their performance. A steering effect could also be assumed. In some respect the legal requirements are problematic for an unlasting environmental compartment like soil.

3.2 City of Vienna (PP2)

3.2.1 Soil data for planning processes

Objective and content

Soil relevant data are offered on a web-based, electronic database (platform). Providing soil-related data on an electronic platform makes it is easier to experts involved in a planning process to take soil data into consideration.

Implementation

- *Type of instrument:* GIS-based platform (“Umweltgut”) offered as an internal service.
- *Methodology:* soil relevant data, whose scale adequate to the scale of the different planning levels, are collected so far as they are free of charges.
- *Data sources:* agricultural soil map, nature conservation targets, sealing data of “greenspace monitoring”.
- *Suitable urban planning procedure (step) or other legal instrument:* instruments on all planning levels according to the Viennese Building act, such as the Urban Development Plan (strategic level), the Land Use Plan and the Building Regulation Plan; furthermore, SEA, EIA, and district planning are suitable procedures, as well.
- *Status:* not all needed data are available, yet.

Responsibility

State authority (City Government).

Outcome/Effectiveness

The instrument helps to provide the necessary data to improve consideration of soils in urban planning.

3.2.2 Legal regulation for soil reconstruction over subsurface constructions

Objective and content

When planning subsurface constructions under green areas, the type of re-cultivation should be planned at the same time. Vegetation needs soil, and soil is three-dimensional. Therefore, regarding the depth of subsurface, for example over underground garages under former parks, at least 1.50 m depth of soil is needed for the safety of trees.

Implementation

- *Type of instrument:* Viennese Nature conservation law³.

³ Vienna Nature Conservation Act LGBl 1998/45 i.d.g.F. (L480-000 Wiener Naturschutzgesetz)

- *Methodology*: On designated greenland, subsurface constructions exceeding 300m² require a permission according to the Vienna nature conservation law. In most cases, the permit requires a minimum soil thickness of 1.65 m as well as using autochthonous material when subsurface constructions are planned.
- *Data sources*: this approach is based on research results about the depth of soil reconstructions over subsurface constructions.
- *Suitable urban planning procedure (step) or other legal instrument*: Vienna Nature conservation act.
- *Status*: the approach is only applied if demanded in the expert opinion report.

Responsibility

Nature conservation legislation of the federal state of Vienna (nature conservation authority).

Outcome/Effectiveness

The quality of the rebuilt area increases because soil is allowed to develop again. The instrument makes tree growth possible and increases soil water capacity.

3.2.3 Undissected areas

Objective and content

The location of buildings and sealed surfaces on a building lot influences the sealing rate of the respective land parcel and should thus be regulated and restricted. E.g., if buildings are situated near to the entrance towards the building lot and backyards remain undissected, sealing will be minimised due to short accommodation roads, and more soil remains undisturbed.

Implementation

- *Type of instrument*: applied as a principle of zoning practice (designation of areas) within the Zoning and Land Use Plan.
- *Methodology*: restrictive designation of building lines with a limitation of building placement. The building lines in the Land Use and Building Plans (Construction Plans) are set in such a way as to reduce sealing as far as possible.
- *Data sources*: no specific data necessary.
- *Suitable urban planning procedure (step) or other legal instrument*: it is a sort of “best practice” within the designation of areas (zoning, land use planning) in Vienna; thus, it is applied in the implementation of Land Use and Building Plans.
- *Status*: there are single examples where a statement of the environmental expert has lead to a designation in the sense described above.

Responsibility

Vienna City Council, by adopting Land Use and Building Plans.

Outcome/Effectiveness

The approach helps to reduce sealing, especially in areas with single or detached houses.

3.2.4 Consideration of soil in Strategic Environmental Assessments (SEA)

Objective and content

All Land Use and Building Plans are screened for necessity of a SEA, according to the respective EC-Directive. A detailed table differentiated by the subject of protection is used for the screening process. Soil is one of the subjects of protection. All modifications of the Land Use and Building Plans as well as re-zonings are subject to SEA screening.

Implementation

- *Type of instrument:* Strategic Environmental Assessment (SEA)
- *Methodology:* The impact of re-zoning on soil is assessed in three levels (high, medium or low impact) for the construction phase and for the operation phase as well as for temporary and lasting impacts.
- *Data sources:* experts opinions only.
- *Suitable urban planning procedure (step) or other legal instrument:* Viennese Building Act, SEA.
- *Status:* SEA is being implemented in full accordance to the EC-Directive on SEA⁴.

Responsibility

Vienna City Council, by adopting Land Use and Building Plans.

Outcome/Effectiveness

The instrument helps to enlarge the chance of having an expert opinion on the impacts of rezoning on soils considered.

3.3 Environment Agency Austria (PP3)

3.3.1 Priority areas for agriculture in regional planning

Objective and content

In order to conserve sufficient agricultural land for food and feedstuff production as well as the potential for other purposes like energy crop production, certain areas should be kept as agricultural land. Beside biomass production, these soils can also offer a lot of other functions like water storage, water filtration, groundwater recharge, carbon sequestration, and others. This is important for sustainable development of rural areas, but also for agricultural areas within cities or in areas adjacent to cities to safeguard local supply with agricultural products. In each region certain areas should be maintained as agricultural land. By designating such areas as “priority areas for agriculture” in regional spatial development plans, land use changes to other types of land use shall be prevented.

⁴ Directive 2001/42/EC of the European Parliament and the council of 27. June 2001 on the assessment of the effects of certain plans and programmes on the environment (L197/30)

Implementation

- *Type of instrument:* Regional Spatial Planning (Regional Spatial Development Plans / Programmes).
- *Methodology:* criteria to delineate the areas are
 - Natural soil fertility (Soil quality, elevation, slope aspect)
 - Management conditions (slope inclination, extent of combined agricultural areas, suitability for specific crops)
- *Data sources:* Soil taxation surveys, agricultural soil maps, digital elevation model.
- *Suitable urban planning procedure (step) or other legal instrument:* Priority areas for agriculture are identified and delineated in Regional Spatial Development Plans / Programmes and have to be complied with and implemented by all spatial planning instruments on lower-ranking (municipality) level, including the Local Spatial Development Concept, the Land Use Plan (Zoning Plan), and the Building Regulation Plan.
- *Status:* implemented in Regional Spatial Development Programmes in some federal states of Austria and in Land Use Plans in the federal state of Lower Austria.

Responsibility

The state (provincial) planning authority competent for the set-up of Regional Spatial Development Programmes) is responsible for designating priority areas in regional spatial plans. The municipalities are responsible for implementing these designations in their local spatial plans.

Outcome/Effectiveness

The instrument helps to protect highly productive areas, to reduce urban sprawl and to maintain ecological functions of the landscape. But if pressure for building purposes is too high, these priority areas might be eliminated or modified when revising Regional Spatial Development Programmes.

In legal terms, provisions laid down in Regional Spatial Plans have binding effects for lower-ranking planning levels. However, in practice implementation of regional spatial plans on local planning level is sometimes insufficient. Thus, the effectiveness of priority areas delineated on the regional spatial planning level depends strongly on the general effectiveness of implementation of regional spatial plans on the local planning level.

3.3.2 Priority green areas in regional planning

Objective and content

In order to preserve areas that serve objectives of nature conservation and conservation of typical landscape features, have recreation value, and/or otherwise fulfil important ecological functions, such as habitat connectivity for wild animals, the spatial planning laws of some Austrian federal states allow identification and delineation of priority "green areas" on regional spatial planning level. This type of priority areas may also be applied to fulfil water management functions (e.g., protection of drinking water resources) and to protect settlement areas from environmental pressures such as noise, strong winds etc. Thus, priority "green areas" are often

designed as multifunctional ecological areas, which are employed to safeguard different key ecosystem services that are important for society and nature. The main function is to keep these areas free from development over the long term and to secure fulfilment of their various ecological functions. Soil protection is not explicitly mentioned as a goal but is, however, implicitly covered by the various roles soils fulfil in ecosystem functioning.

Implementation

- *Type of instrument*: Spatial Planning (Regional Spatial Development Plans / Programmes).
- *Methodology*: Depending on the specific purpose, criteria to delineate the areas may be
 - nature and landscape conservation value,
 - objectives, regulations and interests of nature and landscape conservation,
 - landscape and habitat connectivity functions (wildlife corridors, migration axes),
 - important ecosystem services for society (water supply etc.).
- *Data sources*: Input and requirements provided by sectoral planning domains to spatial planning procedures, e.g.:
 - nature and landscape conservation: location and significance of ecologically important areas, location of wildlife corridors, existing nature conservation areas etc.;
 - water management: location and significance of groundwater renewal areas, water resource areas etc.;
 - tourism: important recreation areas.
- *Suitable urban planning procedure (step) or other legal instrument*: Priority "green" areas are identified and delineated in Regional Spatial Development Plans (Programmes) and have to be complied with and implemented by all spatial planning instruments on lower-ranking (municipality) level, including the Local Spatial Development Concept, the Land Use Plan (Zoning Plan), and the Building Regulation Plan.
- *Status*: legally anchored in spatial planning legislation of most Austrian federal states and / or in their respective state-wide spatial development programmes; implemented in Regional Spatial Development Programmes in similar ways in most federal states of Austria, although the exact definition of roles and functions of this type of priority area may differ from state to state.

Responsibility

The state (provincial) planning authority competent for setting up Regional Spatial Development Programmes is responsible for designating priority areas in regional spatial plans. The municipalities are responsible for implementing these designations in their local spatial plans.

Outcome/Effectiveness

Priority "green areas" are particular contents of Regional Spatial Development Plans that shall maintain ecologically important areas and their life-sustaining ecosystem functions and services for society. As a further effect, they contribute to reducing urban sprawl and to keeping these areas free from settlement development. However, if pressure for building purposes is too high, these priority areas might be eliminated or modified by revision of Regional Spatial Development Programmes.

In legal terms, provisions laid down in Regional Spatial Plans have binding effects for lower-ranking planning levels. However, in practice implementation of regional spatial plans on local planning level is sometimes insufficient. Thus, the effectiveness of priority areas delineated on the regional spatial planning level depends strongly on the general effectiveness of implementation of regional spatial plans on the local planning level.

Soil conservation is currently not an explicit goal of this kind of multifunctional ecological priority areas, but could be comparatively easily integrated, if desired.

3.3.3 Delimitation of settlement areas in regional planning

Objective and content

Based on the expected demand of municipalities for building land, outer boundaries of settlement areas are applied in Regional Spatial Development Plans of a number of Austrian federal states in order to restrict the maximum extent of future outward settlement expansion and to delineate settlement areas from undeveloped "green spaces". Their main purpose is to concretise and implement general objectives of soil-saving settlement development and avoidance of urban sprawl as laid down in spatial planning laws of the federal states. This instrument has potentially high effectiveness with regard to steering and controlling settlement development in a sustainable, i.e. concentrated way, for reducing land and soil consumption, and for preserving undeveloped land and their landscape functions. Settlement boundaries delineated in Regional Spatial Development Plans have to be complied with and implemented by spatial planning on local level.

Implementation

- *Type of instrument:* Regional spatial planning (Regional Spatial Development Plans / Programmes)
- *Methodology:* based on anticipated future demand of municipalities for new building land; the landscape context is considered.
- *Data sources:* estimated population dynamics and demand for new building land of municipalities; spatial development objectives of municipalities; landscape context (e.g. in order to direct settlement expansion away from potential hazard zones etc.)
- *Suitable urban planning procedure (step) or other legal instrument:* Outer limits of settlement growth are enacted in Regional Spatial Development Plans (Programmes) and have to be complied with and implemented by all spatial planning instruments on lower-ranking (municipality) level, including the Local Spatial Development Concept, the Land Use Plan (Zoning Plan), and the Building Regulation Plan.
- *Status:* legally anchored in spatial planning legislation of many Austrian federal states; implemented in Regional Spatial Development Programmes in a number of federal states of Austria.

Responsibility

The state (provincial) planning authority competent for setting up Regional Spatial Development Programmes is responsible for delineating outer settlement boundaries. The municipalities are responsible for implementing them in local planning.

Outcome/Effectiveness

In Lower Austria, which is the Austrian federal state with the longest experience in applying this instrument, its effectiveness in containing soil consumption and urban sprawl is assessed to be relatively high. Limits of settlement growth are being applied more and more often also in other federal states of Austria, although its application is sometimes criticized as being too hesitant (ÖROK, 2002⁵; Kanonier, 2004⁶). The effectiveness is, in principle, restricted to prevention of excessive land consumption and urban sprawls connected to future outward expansion of settlement areas; the problem of mobilising existing stocks of building land that have been zoned in the past in intra-municipal areas, but that do not become available to the real estate market and thus cause additional demand for building land elsewhere, cannot be solved by delimiting future settlement growth. Another weakness in practice is that estimations of future demand for building land by municipalities often lack a plausible, realistic basis, which may lead to delimitations of settlement areas that are too generous. Although having, in principle, binding effects for local spatial planning, this instrument sometimes suffers from weaknesses in implementation that are common to regional spatial planning in general, i.e. considerable degrees of freedom concerning weighting, balancing of interests and decision-making on local planning level.

In the future, effectiveness of the instrument in terms of limiting quantitative soil losses could be increased by more rigid application, based on realistic, transparent estimations of demand for building land by municipalities, and by coupling it with binding and concrete threshold values for maximum soil consumption on municipality level (maximum contingents of building land for municipalities).

3.3.4 Contractual Spatial Planning

Objective and content

Contractual spatial planning, which is practised in some Austrian federal states in different ways, combines established spatial planning exercised by authorities with contracts under private law. Its main objective is to safeguard spatial development according to the development goals laid down in spatial plans. This is done by mobilising, i.e. accelerating the development of building land that has already been zoned but has not been developed yet, because this phenomenon of hoarding building land is seen as a main driver of the ever-increasing demand for the zoning of new building land, despite often sufficient existing reserves of zoned building land. This mechanism is seen as a main cause of the failure of local spatial planning in reducing quantitative soil consumption and urban sprawl in the past decades. In contractual spatial planning, municipalities are empowered to close contracts under private law with owners of building land before it is zoned in the local Land Use Plan. In these contracts, the land owners oblige themselves to actually develop their land according to the zoning category laid down in the local Land Use Plan within a defined period of time. If the planned use of the property is not realised within the required time period, the municipality is entitled to withdraw its zoning

⁵ ÖROK (Österreichische Raumordnungskonferenz) (2002b): Zehnter Raumordnungsbericht. ÖROK-Schriftenreihe Nr. 160, Wien.

⁶ Kanonier, A. (2004): Einschränkungen von Flächenverbrauch und Zersiedelung im kommunalen Raumordnungsrecht. In: Wissenschaft und Umwelt Interdisziplinär, Forum österreichischer Wissenschaftler für Umweltschutz, Nr. 8 „Bodenmarkierungen“, 2004. S. 57 – 68.

decision, and the property moves back from building land to "greenfield land" again. The reversal of the zoning decision may be done at the next revision of the local Land Use Plan. The legal basis for this is, for example, established by coupling the permitted extent of building land reserves in municipalities to the realistic demand for building land within the next 10 years.

Implementation

- *Type of instrument*: coupling of private law with spatial planning under public law.
- *Methodology*: combination of spatial planning under public law with contracts under private law.
- *Data sources*: not applicable.
- *Suitable urban planning procedure (step) or other legal instrument*: Local Land Use Plans (Zoning Plans), coupled with contracts under private law.
- *Status*: following difficulties related to possible violations of constitutional law, today the instrument is implemented in some Austrian federal states, e.g. Salzburg and Styria.

Responsibility

Municipality and private land owners.

Outcome/Effectiveness

In those federal states of Austria where it is applied, contractual spatial planning is assessed to be effective in accomplishing its main goal, i.e. mobilising zoned building land and preventing excessive new land consumption (Landesregierung Salzburg, 2001⁷; Umweltbundesamt, 2004⁸). Similar to the approach of delimiting settlement growth by enacting outer settlement boundaries (cf. above), the effectiveness is mainly restricted to new enlargements of settlement areas; it is less effective with regard to undeveloped building land that has already been zoned in the past (ÖROK, 1993⁹).

3.3.5 Re-dimensioning of building land reserves in local spatial planning

Objective and content

Over the past decades, many municipalities in Austria had enacted local Land Use Plans (Zoning Plans) that lead to excessive stocks of yet undeveloped building land. However, since much of the zoned building land did not become available to the real estate market and was actually not developed, there was an ever-increasing demand for the zoning of new building land to satisfy development needs. The reduction or freezing of existing stocks of undeveloped building land and its adjustment to the actual demand of municipalities for building land during a given planning cycle allows correcting faulty zoning decisions of past years, reducing further

⁷ Landesregierung Salzburg (2001): Salzburger Raumordnungsbericht 2001. Salzburg.

⁸ Umweltbundesamt (2004a): Umweltsituation in Österreich: Siebenter Umweltkontrollbericht des Bundesministers an den Nationalrat. Wien: Umweltbundesamt GmbH.

⁹ ÖROK (Österreichische Raumordnungskonferenz) (1993): Wirksamkeit von Instrumenten zur Steuerung der Siedlungsentwicklung. ÖROK-Schriftenreihe Nr. 105, Wien.

urban sprawl and connected soil loss, and cutting down costs for new settlement-related infrastructure. It also allows counteracting the risk that, if instruments to mobilise undeveloped building land should become effective, developments are implemented on parcels of land that are situated in locations which may be unfavourable from a today's point of planning view, thereby causing "legalised urban sprawl". The main objective of this approach is to stronger orientate local spatial planning decisions on the actual demand for building land, rather than on increasing stockpiles of building land reserves, because the latter has turned out to be a main driver of excessive soil and land consumption. The re-dimensioning of building land stocks is applied during regular revisions of the local Land Use Plans (Zoning Plans), and it is supervised and approved by the spatial planning authority on state government level. Compensation payments for land owners that lose their building rights are usually not provided.

Implementation

- *Type of instrument:* local spatial planning (Local Land Use Plan / Zoning Plan).
- *Methodology:* adjustment (downsizing) of zoned building land to the actual demands on municipality level.
- *Data sources:* anticipated demand for building land, based on realistic demographic projections.
- *Suitable urban planning procedure (step) or other legal instrument:* regular revision of Local Land Use Plans (Zoning Plans).
- *Status:* increasingly being implemented in the Austrian federal states as a standard routine.

Responsibility

Municipality (responsible for local spatial planning) and state government (approving authority).

Outcome/Effectiveness

The approach is considered effective in decelerating urban sprawl and expansion of settlements as well as in avoiding unfavourable spatial developments that are not in accordance with settlement policies any more. In most federal states of Austria, the approach has become state-of-the-art in local spatial planning procedures.

3.3.6 Regulations on forest clearances in the National Forest Act

Objective and content

One of the basic principles of the Austrian National Forest Act is the maintenance of forest land, which is argued by the high public interest in the functions and ecosystem services forests provide. In order to prevent losses of forest area, forest clearances that lead to conversion of forest land to other forms of land use (incl. building land for settlement purposes) are, in principle, not permitted, or are subject to comparatively strict regulations and approval procedures. Consequently, forest land is excluded from the Austrian concept of "permanent potential settlement area", which includes the entire state territory that is potentially suitable to be developed for settlement purposes. Although not designed as an instrument of soil conservation, the strict clearance regulations had the effect that land use changes from forest land to building land have in the past been a relatively rare phenomenon, although the continuing growth of absolute Austrian forest area to some extent masks that forest net-growth is

a result of both annual losses and (in comparison: higher) annual increases in forest area. Due to the amendment of the National Forest Act in 2002 (BGBl. Nr. I 59/2002, as amended), the regulations relating to forest clearances have recently been loosened: now, clearances below the threshold level of 1.000 m² area size are not subject to obligatory approval by the forest authority anymore, but only have to be reported to the competent authority, which, however, is entitled to prohibit the clearance if there are predominant public interests in preserving the respective forest area that weigh stronger than the private interests of the forest land owner.

Implementation

- *Type of instrument:* sectoral legislation (National Forest Act).
- *Methodology:* approval procedure (for forest land above 1.000 m² area size) regulated by the National Forest Act).
- *Data sources:* not applicable.
- *Suitable urban planning procedure (step) or other legal instrument:* Clearance regulation and related procedures under the Austrian Forest Act.
- *Status:* in force Austria-wide since 2002 (amendment of National Forest Act 1975 in 2002).

Responsibility

Federal Ministry of Agriculture, Forestry, Environment and Water Management (legislation) and competent forest authority on district level (implementation).

Outcome/Effectiveness

As one of the traditional basic principles of Austrian forest policy, the maintenance of forest land and related strict forest clearance regulations are likely to have contributed to avoiding land use changes that favour urban sprawl and soil loss. However, the recent relaxation of clearance regulations in the National Forest Act could be in favour of forest soil loss, especially in locations close to settlements facing a high building pressure.

3.3.7 Soil conservation maps

Objective and content

Integration of soil conservation maps into existing geographical information systems on the regional and local level. These maps can be especially created for areas likely to have “endangered” or polluted soils or for areas of high interest for agricultural production. These maps shall contain the location, dimension, value, property relations of land as well as events and other data that may be of use for the assessment of the soil condition and its substantial changes. These contents have to be integrated into a GIS environment.

Implementation

- *Type of instrument:* soil conservation maps in GIS, based on the spatial planning act of Salzburg.
- *Methodology:* site-related soil conservation data via extrapolation of currently existing spot data.
- *Data sources:* Available data of soil status inventories.

- *Suitable urban planning procedure (step) or other legal instrument:* depending on their scale, soil conservation maps should be considered in decision-making in spatial planning on all applicable levels.
- *Status:* implemented as spot data in the regional GIS of Salzburg.

Responsibility

Soil conservation maps have to be integrated into the regional GIS based on the requirements of the spatial planning act of Salzburg. These maps need to be taken into account, when preparing spatial development programmes or concepts.

Outcome/Effectiveness

Making GIS-based soil conservation maps available as an information base to spatial planners shall promote and facilitate decision-making on land use that stronger considers qualitative soil attributes. Due to the only recent integration into the soil planning act of Salzburg, the effects are not yet visible.

3.3.8 Soil as subject of protection in Environmental Impact Assessment (EIA)¹⁰

Objective and content

The main objective is to secure the soil functions as a basis of livelihood for humans, animals, plants, ecosystem functioning with its water cycle and cycles of matters, and genetic resources. In terms of quantitative soil conservation, EIA shall contribute to avoiding unnecessary land consumption and to conservation of soils in their laminar spreading and diversity.

General planning goals:

- Preserving the productivity of soils and preventing soil consumption;
- Taking into account the sensitivity of soil and soil use;
- Limitation of laminar soil destruction and soil sealing towards the indispensable necessary degree;
- Furthest possible conservation of the soil functions when implementing projects in undeveloped areas.

A proposed project can influence soil as a subject of protection in EIA via quantitative and qualitative aspects. There are especially changes of the natural soil functions caused by a project that need to be taken into account. Especially soil functions like the habitat, filter, regulation, land use and production functions as well as the function as an archive for physical and cultural heritage need to be considered in EIA.

Implementation

- *Type of instrument:* Environmental Impact Assessment (according to EIA Act).
- *Methodology:* Documentation and assessment of the status quo, the impacts of the project and measures taken to avoid, mitigate and compensate adverse project effects on soil.

¹⁰ <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0184.pdf>

- *Data sources*: all soil data sources available to the project developer and relevant to project approval should be used in preparing the Environmental Impact Statement.
- *Suitable urban planning procedure (step) or other legal instrument*: required for each project that reaches a certain threshold (according to the National EIA Act).
- *Status*: implemented at the national (BMVIT) and federal state (Länder) level.

Responsibility

On national level, the Federal Ministry for Transport, Innovation and Technology is responsible for high-ranking highway and railway-related projects; the federal states for all other projects that reach a certain threshold.

Outcome/Effectiveness

The instrument describes and assesses the following effects:

- land consumption during construction and operating stage;
- soil compaction and crusting of soil surface;
- soil removal, separate storage of organic topsoil and lower soil;
- conservation of organic matter (topsoil) for its later use;
- re-use of removed soil and recultivation;
- erosion as well as nutrient wash-off and conservation of ecosystem functions.

The instrument also takes into account secondary impacts and impacts that may occur on other environmental compartments:

- Soil and water,
- Air and water,
- Water, animals and soil.

3.3.9 Property-related taxes

Objective and content

Generally speaking and in principle, fiscal instruments have high steering potential. However, the property-related taxes currently existing in Austria (property tax, property value tax, property purchase tax) have not been designed to be effective in terms of steering spatial development and preventing soil loss, but rather to serve purely fiscal motives. As a consequence, substantial steering effects regarding soil conservation and management are either inexistent or must be regarded as weak and unintended side effects. At present, all property-related taxation that is in force in Austria is set much too low in order to effectively influence soil consumption and urban sprawl, including via mobilising undeveloped building land (ÖROK, 1993). In some cases, there might even be perverse incentives because developed building land is taxed higher than undeveloped "greenfield" land.

Implementation

- *Type of instrument:* taxation.
- *Methodology:* taxes are calculated based on the so-called "Einheitswertfestlegung".
- *Data sources:* cf. methodology.
- *Suitable urban planning procedure (step) or other legal instrument:* policy level – problems and minor regulation effect.
- *Status:* implemented at national level.

Responsibility

Fiscal authorities (implementation); national government (legislation).

Outcome/Effectiveness

Mainly due to the minor financial amounts (tax load for the property owner), there are little or no effects on soil management. In order for property-related taxation to have positive effects on soil management, the taxation system would need to be reformed.

3.4 City of Milano (PP4)

3.4.1 Priority areas for agriculture

Objective and content

Priority areas for agriculture aim at protecting agricultural areas to fulfil their functions in landscape, socio-economics and heritage. The approach works through constraints preventing land use change (Agricultural Park South) and through compensation measures (land outside agricultural parks); it works also for *de facto* agricultural land and not only for planned agricultural (land which agricultural use is forecasted in official plans).

Implementation

- *Type of instrument:* Regional Law 12/05 – Art 43. Protection and land planning instrument.
- *Methodology:* the actual land use or existing constraints descending from “agricultural reserve” status are the main criteria for delineating priority areas for agriculture.
- *Data sources:* land use maps; cadastral maps; soil, fertility and capacity/yield maps (the last three types of maps specifically for agricultural maps).
- *Suitable urban planning procedure (step) or other legal instrument:* Land Coordination Plan at provincial level.
- *Status:* in force.

Responsibility

Regional government (*de jure*), provincial government (*de facto*).

Outcome/Effectiveness

The instrument effectively limits land consumption by urban sprawl. In the last period it has undergone criticism, leading to attempts to revise it by the regional government (in accordance with municipal boards involved) because it is accused of constraining excessively local economic growth.

3.4.2 Technical Norms and Building Regulations

Objective and content

Objectives are to preserve quotas of municipal land from sealing and to grant recharge of aquifers.

Implementation

- *Type of instrument*: Municipal Building Regulation.
- *Methodology*: constraints to, and provisions for, design of buildings and facilities.
- *Data sources*: technical maps, natural maps (land and underground water), proposed project designs.
- *Suitable urban planning procedure (step) or other legal instrument*: follows all other planning procedures and defines practical building rules for executive design.
- *Status*: mandatory.

Responsibility

Application: chief officers of municipal departments in charge.

Outcome/Effectiveness

Compliance of integrated intervention plans with municipal regulations.

3.4.3 Brownfield redevelopment

Objective and content

Identifying contaminated areas and obliging owners or other responsible bodies to undertake restorations.

Implementation

- *Type of instrument*: National law 152/06; Regional Law 126/09.
- *Methodology*:
 - National Law 152/06: mandatory preliminary surveys and contamination thresholds that trigger complete characterization of site (building of a conceptual model); identification of appropriate technologies; design of reclamation projects; and evaluation of achieved remediation levels.
 - Regional law 126/09: subjects in charge of reclamation are allowed to deduct the respective costs from fees for primary infrastructures (sewage, drinking water, electricity, roads...).

- *Data sources*: existing topological plans; underground water maps with annual fluctuations; geological information and on-site concentration levels of pollutants; chemical and physical properties of soils and underground water; local winds and meteorological properties (in particular for risk assessment).
- *Suitable urban planning procedure (step) or other legal instrument*: municipal hygiene regulation and building regulations are executive planning instruments that can trigger a reclamation procedure, together with national environmental law 152/06.
- *Status*: in force.

Responsibility

The procedure is within the responsibility of the municipality, while planning and costs of reclamation are to be covered by the party responsible for the contamination.

Outcome/Effectiveness

Cleaned and certified soils or soils with certified Risk Assessment project. The reclamation process and the result (complete reclamation or risk assessment) are recorded in the Land Use certificate (transmitted as part of selling documentation).

3.4.4 Provincial Address Plan for Forests (annex to Provincial Land Coordination Plan)

Objective and content

Objectives of the Provincial Address Plan for the period 2004-2014 are the improvement of the landscape and the protection of the environment through a correct management of forest lands on provincial territory. The plan represents a guiding instrument for forestry with mostly qualitative and addressing advices. It moreover represents the first census of public and private woodlands on provincial territory, mapping and categorizing systematically minor woodlands and proper woods themselves.

Implementation

- *Type of instrument*: Address Plan – informative.
- *Methodology*: the Technical Application Norms specify relations between the APF and the Southern Agricultural Park. The Park, as Forest Authority according to the Law, applies to its territory a Sector Plan for Agriculture (SPA) that works de facto as an APF to the provisions of Art. 19 of Regional Law No. 8/76 and further modifications and integrations. The SPA can provide for the editing of plans for forest protection and development for the domain of the Park and for regulations of use for forestry management and interventions (actions). The plan identifies, within the municipal borders, both proper woods and minor wooded land parcels (scattered woodlands, woods in regional protected areas, areas devoted to urban parks and leisure areas, areas devoted to historical parks and gardens).
- *Data sources*: Regional land use map (DUSAF methodology), spot-checked through on-site surveys.
- *Suitable urban planning procedure (step) or other legal instrument*: the APF is part of the Provincial Land Coordination Plan.
- *Status*: in force.

Responsibility

Provincial Government.

Outcome/Effectiveness

Valid as a guideline for the correct management of forests and woodlands.

3.4.5 Provincial Plan for Quarries (annex to Provincial Land Coordination Plan)

Objective and content

To specify exploitable fields, types and quantities that can be extracted from each mining area; to identify extraction areas, including the ones in protected zones; to identify reservoirs of building materials that are to be used only for public works; to identify exhausted quarries that should undergo environmental rehabilitation; to define the planned land use for extraction areas during their productive life and their final land use after termination of exploitation; to define general norms for all extraction activities, for cultivation and for environmental rehabilitation, as a function of hydrogeology, soil mechanics and of type of extracted materials.

Implementation

- *Type of instrument:* Management Plan – for the City of Milano it contains only general advices.
- *Methodology:* On Milano municipal area, there are only two excavation areas, both undergoing environmental rehabilitation; productive activity is permitted only in order to help environmental rehabilitation, following schedules and methodologies defined in the rehabilitation project. Both quarries, “Cascina Guascona” and “Cascina Bassa”, are within the borders of Southern Agricultural Park; the Plan for Quarries provides only general guidance for extraction activities for those two areas, and those general indications can be modified by contents of the Rehabilitation Plans.
- *Data sources:* Technical Plans, geological and hydrogeological surveys.
- *Suitable urban planning procedure (step) or other legal instrument:* The Plan for Quarries is edited by the Provincial Government following criteria given by the Regional Government. It regulates only extraction areas and has no influence on other areas regulated by general planning tools.
- *Status:* in force.

Responsibility

Provincial Government.

Outcome/Effectiveness

For excavation/extraction areas, exclusively.

3.4.6 Excerpt from Regional Land Plan on reclamation of contaminated areas

Objective and content

The Plan is the operative instrument used by the Regional government to manage its territory programming and planning actions. It identifies action priorities among sites listed in medium and long term programmes, sites listed in the regional brownfields register where an action priority has been acknowledged for sanitation and health risks, and national interest sites in Lombardy.

The Plan represents an update of the previous Plan as a result of the application of the new regulations on waste and of the evolution of the state of the environment that took place on the territory.

In the attachments to the Plan, sites to be inserted in different reclamation programs are listed. In the territory of Milano the following sites have been identified:

- a) Former “*Porto di Mare*” landfill (priority short-term action): The area, placed in the South-East of Milano, is a former quarry then used as a landfill for Solid Urban Waste. At the present day the Master Plan in force plans to use it for public green/leisure land. The zone is surrounded by densely built-up areas. Available data indicate underground water contamination due to improper sealing of the landfill; on the other side there are no surface water bodies in direct contact with the landfill.
- b) “*Pracchi*”: Dismissed foundry (mid-term action).
- c) *Milano Bovisa*: National Interest Site that, due to environmental contamination and to economic importance, needs reclamation and recovery.

Implementation

- *Type of instrument*: management plan.
- *Methodology*: listing priority areas and allocating funding.
- *Data sources*: regional, national and municipal brownfield inventories.
- *Suitable urban planning procedure (step) or other legal instrument*: The plan has been approved with Regional Council Decision (DCR) n VII/958 of 17/2/2004.
- *Status*: in force.

Responsibility

Regional Administration.

Outcome/Effectiveness

The instrument is effective in so far as it is able to provide funds for interventions when municipal resources are not sufficient.

3.5 University of Torino – UNITO (PP5)

3.5.1 Establishment and management of parks and nature reserves

Objective and content

A nature reserve is a protected area important for wildlife, flora, fauna or features of geological or other specific interests, which is identified and managed for conservation and to provide special opportunities for study or research. The issue of nature reserves and park areas around and inside of urban systems has become very important. The establishment of these areas and its common management in an economical, environmental and productive way ensures ecosystem protection, landscape restoration, and maintenance of historical-cultural identity. Green areas, therefore, improve not only the environmental quality but also the quality of life (perception, aesthetic, cultural and social aspects) for humans.

Implementation

- *Type of instrument:* Spatial planning and building legislation.
- *Methodology:*
 - Landscape criteria
 - Naturalistic criteria (flora, fauna, etc.)
- *Data sources:* Carta della Natura Regionale “Regional Nature Map”.
- *Suitable urban planning procedure (step) or other legal instrument:* Regional Ecological Network, Piano Territoriale Regionale “Regional Spatial Plan”.
- *Status:* implemented in the regional development programme of Piemonte.

Responsibility

Region Piemonte.

Outcome/Effectiveness

This tool helps to establish uniform management of the entire system of protected areas in the region of Piemonte.

3.5.2 Soil map of the Region Piemonte (“Carta dei suoli della regione Piemonte”)

Objective and content

The Soil Map is a map of the soil potentials. These refer not only to the physical properties of soil, which determine its suitability for particular crops, but also to limitations that stem from the quality of soil mainly due the characteristics of the environment in which it is embedded.

Implementation

- *Type of instrument:* Soil map of the Region Piemonte (“Carta dei suoli della regione Piemonte”).
- *Methodology:* the land (use) potential is classified in 8 classes:

- soils without limitations
 - soils with moderate limitations
 - soils with cultivation and production limitations
 - soils with significant limitations for specific agronomic practices
 - soils with severe limitations for agricultural use
 - soils limited to forest land and grazing use
 - soils with strict limitations to unproductive pastures or forest protection
 - soils with very strict limitations that are inappropriate for any productive purpose
- *Data sources*: Land G.R.S., printed maps.
 - *Suitable urban planning procedure (step) or other legal instrument*: Tool commonly used in land use planning and rural development planning. It is not mandatory, but very useful also in environmental impact assessments.
 - *Status*: implemented in the regional development programme of Piemonte.

Responsibility

Regione Piemonte.

Outcome/Effectiveness

The complexity of this instrument makes it useful not just for the assessment of its suitability for land use, but also for classification of the territory under other aspects (drainage, stoniness, protection of groundwater, etc.).

3.6 City of Celje (PP6)

3.6.1 Introduction to soil management approaches within an urban planning procedure in Slovenia

The system of spatial planning (and other) legislation in Slovenia is basically well-designed. Strategic documents and laws in principle contain strategic objectives and policies. Problems occur in the transfer of these strategic objectives to specific implementation documents, because criteria and indicators for goals are not clearly defined in the regulatory documents. Also, it is causing additional problems that commitments are sometimes not well defined. Another problem regarding the implementation of present spatial policy is that the majority of implementation documents in spatial planning were created in the early eighties at a time of public property. Now, in the time of market economy, these documents are inadequate and an obstacle to effective urban planning.

In the Spatial Planning Act [*“Zakon o prostorskem načrtovanju, (ZPNačrt), 2007”*], which is the main document governing the system of spatial planning in Slovenia, among the 11 main objectives those relating to the protection of natural resources and minimizing urban sprawl are on the 4th, 7th and 9th place:

- renovation of existing buildings, which has priority before building new ones;
- protection of the environment, natural resources, and nature conservation;

- ensuring the health of the population.

Among the principles, the concept of sustainable spatial development is briefly mentioned, including the guidance for spatial settlement development that renovation shall have the priority over new constructions. Development of settlements should primarily take place on the undeveloped surfaces within settlements. Only after the potential inner growth has been exhausted, settlements may spread in outward direction.

Besides explaining the normal planning process, the 44th Article explicitly mentions the conditions for planning activities that may be carried out outside of settlements (building public facilities, implementation of environmental protection, nature conservation, sport and recreation areas, etc.) on the best agricultural land, but only if it is not possible to use land which is less suitable for agricultural production. Criteria for urban planning on these areas are laid down in special regulations.

During the preparation phase of a Spatial Plan, all institutions, including agricultural ones, are invited to give advice on any limitations regarding the respective document according to their field of expertise. These opinions have to be taken into account, and the plan should be adjusted to be in compliance with all sector restrictions. In the case of large-scale planning interventions, an EIA should be carried out before the construction phase. During the EIA, the impacts of the plan on all sector interests and all sector-specific concerns have to be dealt with. In current practice, despite existing requirements stemming from different acts, regulations and objectives, in terms of impacts on soils only pollution has been examined, as well as aspects such as changing terrain, drainage of rainfall, etc. The loss of agricultural land that is caused by an intervention was not examined properly, only the quantitative amount of loss was stated.

When spatial plans are prepared, loss of agricultural land on those areas that have been identified as building sites in strategic spatial plans (state or municipal) is not evaluated, because these areas are no longer agricultural land in a formal sense.

During the preparation of the National Spatial Plan [*“Državni prostorski načrt (DPN)”*], the compliance with the objectives of the Spatial Planning Strategy of Slovenia [*“Strategija prostorskega razvoja Slovenije (SPRS), 2004”*] and the Spatial Order of Slovenia [*“Prostorski red Slovenije (PRS), 2004”*] is checked. These are both fundamental national documents that require the development in settlement areas to be guided by the preservation of quality natural and living environment as well as the internal urban development by urban renewal. Internal urban development should have priority over the expansion of settlements into undeveloped areas. Unfortunately, the objectives are formulated in a too general way and are not accompanied by a set of indicators for monitoring their implementation. SPRS does not consider EU policy documents on soil and environment that were produced after the year 2004.

At the state level, documentation of new spatial infrastructure is processed by making a DPN (National Spatial Plan). The Ministry of the Environment and Spatial Planning, which officially is in charge of the preparation, evaluates the adequacy of initiatives and projects based on the objectives from the SPRS (2004). Its 1st objective is rational and efficient spatial development (criteria are rational use of place and rational spatial distribution of activities), and its 2nd objective is the development of a polycentric network of cities and other settlements (integration of urban settlements and their hinterland, infrastructural and functional relationship of cities and other settlements). The rational use of natural resources (economical and multi-purpose use of soil and resources, rational use of housing areas, preservation of production potential for agricultural land use, ...) is only mentioned on the 8th place; the 9th objective out of 12 states that spatial development shall be in line with spatial constraints (outside of natural hazard or other

disaster risk areas). Only on the last (11th, 12th) places, nature conservation (conservation of biodiversity) and environmental protection (consideration of the individual components of environmental protection in spatial development planning activities) are mentioned as objectives.

The only special regulation on soil issues was adopted in 1996 with the Decree on Limit Values, Alert Thresholds and Critical Levels of Dangerous Substances in Soils (“(Official Gazette of the Republic of Slovenia, N^o 68/96, changes in 41/04) [“Uredba o mejnih, opozorilnih in kritičnih imisijskih vrednostih nevarnih snovi v tleh”].), 1996”). It gives only the classes of soil contamination with heavy metals (and other pollutants) for the monitoring of soil, but unfortunately does not have any implications for consideration of soil contamination in spatial planning.

<i>Heavy metal</i>	<i>Limit value (mg/kg of dry soil)</i>	<i>Action value (mg/kg of dry soil)</i>	<i>Critical value (mg/kg of dry soil)</i>
<i>Cd</i>	1	2	12
<i>Cu</i>	60	100	300
<i>Ni</i>	50	70	210
<i>Pb</i>	85	100	530
<i>Zn</i>	200	300	720
<i>Cr</i>	100	150	380
<i>Hg</i>	0,8	2	10
<i>Co</i>	20	50	240
<i>Mo</i>	10	40	200
<i>As</i>	20	30	55

Table 1: Decree on Limit Values, Alert Thresholds and Critical Levels for Dangerous Substances in Soils

3.6.2 Protection of soils with high quality

Objective and content

In order to preserve sufficient agricultural land for growing food and feed it is necessary to preserve agricultural land. On agricultural land, fertility should be protected. Agricultural land should be used in accordance with its purpose and protected against pollution or other degradation.

Implementation

- *Type of instrument:* Spatial Planning Act, Agricultural Land Act (Official Gazette of the Republic of Slovenia, N^o 59/96, change in 55/03) [“Zakon o kmetijskih zemljiščih, 1996”].
- *Methodology:* based on the Agricultural Land Act, official records are kept containing information about the categories of agricultural land, the highest quality and other agricultural land, less-favored areas for agriculture, areas where agrarian operations have been conducted, and areas of common pastures.
- *Data sources:* databases maintained within the cadastre of the Republic of Slovenia, which contain information about owners, parcels and their surface, cadastral culture, and classes. These data are combined with electronic databases on the geographical position according to the digitalized cadastral map, topographical maps, digital elevation model, soil maps, aerial photograph maps, satellite image analysis of agricultural land fertility, climatological maps, soil pollution data from systematic pollution monitoring of agricultural land, crops and ground water.

- *Suitable urban planning procedure (step) or other legal instrument:* implementation in the context of a Municipal Detailed Spatial Plan.
- *Status:* carried out during revision of spatial plans, sometimes also in the context of an EIA.

Responsibility

Ministry of Agriculture, Forestry and Food.

Outcome/Effectiveness

The instrument protects agricultural land from being sealed and improves its suitability for food production. Such agricultural areas (grassland) can also be used by residents of cities as recreational areas.

3.6.3 Protection of areas ensuring high living standards of urban population (residential, recreation, playgrounds, schoolyards)

Objective and content

The respective objective of planning is to provide spatial arrangements that enable high-quality housing. The law defines these areas under the common term “green areas”. These areas are intended for leisure, especially for recreation and outdoor sports. Another function of parks and other public green spaces is to improve the quality of the living environment in cities.

Implementation

- *Type of instrument:* Spatial Planning Act, National Spatial Plan.
- *Methodology:* the basis for the design of public green spaces is defined in a special regulation (Spatial Order).
- *Data sources:* digital cadastral map, Municipal Spatial Plan.
- *Suitable urban planning procedure (step) or other legal instrument:* criteria for planning of green areas are implemented in the preparation phase of the Municipal Spatial Plan.
- *Status:* already being implemented.

Responsibility

Ministry of the Environment and Spatial Planning, or Municipality, depending on the scale of planning.

Outcome/Effectiveness

This instrument provides a better quality of living conditions in settlements.

3.6.4 Reduction of new soil consumption (soil sealing) by internal urban development

Objective and content

Uncontrolled spread of sealing in urban areas is limited with the Spatial Planning Act and Spatial Order. Internal urban development with urban renewal should have priority over the expansion of

settlements into new areas. Internal urban development should not be implemented at the expense of green areas.

Implementation

- *Type of instrument:* Spatial Planning Strategy of Slovenia, Spatial Planning Act; in accordance with building legislation.
- *Methodology:* implementation of the Guidelines from the Spatial Order of Slovenia during preparation of the State / Municipal Spatial Plan.
- *Data sources:* Land Use Plan, professional expertise for elaboration of the Land Use Plan.
- *Suitable urban planning procedure (step) or other legal instrument:* implementation at the preparation phase of the State / Municipal Spatial Plan.
- *Status:* already being implemented.

Responsibility

Ministry of the Environment and Spatial Planning or Municipality; depending on the level of arrangement.

Outcome/Effectiveness

Internal urban development should aim at organisation of various activities in space in a way that is spatially coherent and complementary towards each other. This results in a better quality for living in cities and preserves soils in their periphery.

3.6.5 Identification and revitalization of brownfields

Objective and content

In each city, there are many areas which have formerly been used by industrial, building, infrastructure, construction or mining activities, but are currently abandoned. These areas are mostly contaminated areas with often disturbed soil. Due to large environmental burdens, their rehabilitation is professionally and financially very difficult.

The Spatial Planning Act requires the rehabilitation of such degraded areas.

Implementation

- *Type of instrument:* Spatial Planning Act and Environment Protection Act (Official Gazette of the Republic of Slovenia, N° 41/04, changes in 39/06, 49/06, 66/06, 112/06, 33/07, 57/08, 70/08 and 108/09) ["Zakon o varstvu okolja (ZVO-1), 2004"]. For this type of areas, a comprehensive EIA and a remediation program have to be conducted.
- *Methodology:* contaminated brownfield sites have to be identified and recorded in a digital database; risk assessment and a proposal for redevelopment (proper next land use) have to be made.
- *Data sources:* database of environmental loads, categorization of hazard areas, geological and pedological survey, and laboratory data.

- *Suitable urban planning procedure (step) or other legal instrument:* an expert analysis for the remediation of brownfield areas is required and has to be included as a special part into the State / Municipal Detailed Spatial Plan.
- *Status:* not implemented fully.

Responsibility

Ministry of the Environment and Spatial Planning or Municipality; depending on the land proprietor and the range of the area.

Outcome/Effectiveness

This instrument could ensure a high quality of the city environment and healthy development of the urban population. Its effective implementation could provide urban planning with new green areas or areas for building activities.

3.7 Institute of Soil Science and Plant Cultivation, Pulawy (PP8)

3.7.1 Limitation of conversion of agricultural and forest soils to other purposes

Objective and content

The objective is to preserve agricultural lands in order to maintain their potential for food and feedstuff production and as well as their other functions, such as water retention, carbon sequestration, energy crop production, or their ecological buffering function. There are mechanisms that limit conversion of agricultural lands to non-agricultural forms of use. Allocation of agricultural lands for other purposes must be included in Local Spatial Plans. Within rural areas, the change of land within soil classes I-III into non-agricultural purposes will require approbation of the Ministry of Agriculture and Rural Development, if the area size exceeds 0.5 ha. Land use change of forest land requires approval of the Ministry of the Environment.

Application for land use change as part of a spatial plan is issued by the local administration (LAU-2) and then requires an opinion of the regional administration (NUTS-2) before it is submitted to the Ministry. Such an application must contain a justification for the land use change, including economic aspects (costs for fees and losses for agriculture and forestry). It must be noted that conversion of high quality soils (classes I-III out of six classes in total) is charged – the amount of fee depends on soil class and on area size of the given land. In the first place, fallow lands shall be assigned for urbanization purposes.

Since recently the instrument has not been applied to agricultural soils within urban administration borders, the conversion must be included in spatial plans but does not require approval by the Ministry and payment of fees.

Implementation

- *Type of instrument:* the Law on Protection of Agricultural and Forest Land; spatial planning and building legislation.
- *Methodology:* Criteria to delineate the areas are:
 - area size

- soil class
- *Data sources*: soil taxation maps, agricultural soil maps.
- *Suitable urban planning procedure (step) or other legal instrument*: according to the Law on Protection of Agricultural and Forest Land, it is required to include the change in local spatial plans.
- *Status*: implemented in entire Poland; fully applied in rural areas, currently not applied within urban administrative borders.

Responsibility

LAU-2 Region Administration (revision of spatial plans and application for land use change) and the Ministry (approval).

Outcome/Effectiveness

The instrument helps to protect high quality soils; land conversions into other purposes are controlled by the administration. Unfortunately, agricultural soils within urban administrative borders are currently excluded from application of the instrument.

3.7.2 Risk limitation in contaminated areas

Objective and content

The objective is to reduce risks for the population caused by contamination of soils with metals and organic compounds. Soil contaminants may affect the population through many pathways, e.g. ingestion or inhalation of dusts, food chain, etc. Legislation (soil quality standards) specifies criteria for soil quality referring to content of contaminants. Another act states that soil quality has to be protected (remain at a certain level) or restored if the soil was degraded (e.g. contaminated). Soil quality standards, understood as contaminant content, are set for three different land use types: protected areas, agriculture and housing, industrial and transport infrastructure. If the content of contaminant exceeds the relevant threshold, the soil will not be allowed to be assigned to the given land use, e.g. housing, by spatial planning, unless it is decontaminated. Alternatively, the planned land use can be changed to transport or industrial functions.

Implementation

- *Type of instrument*: spatial planning in compliance with regulations on soil contamination.
- *Methodology*: contaminated sites shall be delineated and restored, or its land use has to be changed.
- *Data sources*: Spatial Plans; assessments of soil contamination; register of contaminated sites.
- *Suitable urban planning procedure (step) or other legal instrument*: standards of soil quality, according to the law on environmental protection.
- *Status*: being implemented nation-wide.

Responsibility

The commune (LAU-1) administration is responsible for soil quality (contamination) assessments and for keeping records of contaminated soils. LAU-2 regions are responsible for local spatial planning.

Outcome/Effectiveness

The instrument is intended to limit location of residential structures in contaminated areas. The effectiveness would be much better, if measurements of potential contaminants were required for each change of land ownership.

3.7.3 Location of industrial facilities and reduction of environmental side effects

Objective and content

The current approach is that industrial facilities posing any risk to the health of the population are not located within administrative borders of cities and in the populated countryside. This especially applies to installations with risk of accidents. New residential districts, public good investments, national roads and railroads are located in spatial plans in remote distance from factories and other plants that are a source of any risk.

Legislation is in force that classifies investments according to their potential environmental effects and indicates those which require environmental assessments and reports before they are located and their construction started. After a risk assessment has been conducted, the given industrial investment is located properly. That decision (in most cases by the regional directorate of environmental protection) on location considers also conditions of land use that respect protection of natural resources, aims to limit remote effects of the investment, and, if negative effect occurs, requires a environmental compensation. Soil aspects shall be taken into account here.

It is worth noting that some land use changes require environmental reports before the change is introduced: conversions of forest into arable land, if the area exceeds 1 ha; afforestations larger than 20 ha; and deforestations larger than 1 ha. A similar approach is used for public investments, such as for roads, hotel complexes, stadiums, car parks, etc.

Implementation

- *Type of instrument*: spatial planning based on environmental side-effect assessments.
- *Methodology*: criteria for location of investment include risk assessment and distance from residential areas.
- *Data sources*: spatial plans, soil maps, maps of protected areas; risk assessment reports.
- *Suitable urban planning procedure (step) or other legal instrument*: The decree of the Ministry of Environment; the decree of the government on classification of investments; requirements regarding location and risk assessment.
- *Status*: implemented nation-wide.

Responsibility

The investor is obliged to perform environmental assessment for investments listed in the respective decree. The Regional Directorate of Environmental Protection is responsible for decision-making on location and for the environmental conditions of construction and operation.

Outcome/Effectiveness

The approach helps to limit environmental side-effects of necessary investments. It would be more effective, if there were more precise guidelines on how to perform environmental assessments, and on how to monitor operation of the industrial plant and implementation of compulsory compensation measures.

3.7.4 Protection of soils from degradation

Objective and content

According to the Law on Protection of Agricultural and Forest Land, soil quality must be kept at least at the same level. Erosion is one of most significant processes of soil degradation, with soils on slopes being the soils most sensitive to this process. The owner of the land is obliged to protect the soil against degradation, especially against erosion. The commune administration (LAU-1 region) might force (by issuing an administrative decision) an owner of land that is susceptible to erosion to re-forest it, to introduce shrubs or to change land use into grassland. The land owner receives reimbursement of the protection costs and, in certain cases, compensation of the lowered crop production. If the degradation process (erosion or other) occurs due to incorrect use by the owner, he is forced to perform remediation or cover its cost.

The instrument is fully applied outside the urban zones. Within city administrative borders, the instrument might be applied only to reclaimed lands.

Implementation

- *Type of instrument:* protection of soil quality forced through administrative decision and financial compensation.
- *Methodology:* the lands are selected by the local administration (LAU-1, in certain cases LAU-2 region).
- *Data sources:* soil maps, elevation maps.
- *Suitable urban planning procedure (step) or other legal instrument:* the Law on Protection of Agricultural and Forest Land.
- *Status:* in force nation-wide; fully applied only in rural areas.

Responsibility

The decision on what land must be protected and how to deal with the cost is taken by the local region administration (usually LAU-1 region).

Outcome/Effectiveness

The instrument helps to limit soil degradation processes, but it has insignificant impact in urban areas.

3.8 Czech University of Life Sciences, Prague (PP9)

3.8.1 Protection and conservation of high-quality agricultural land

Objective and content

The preservation of agricultural land in inner city areas is necessary for maintaining their production function and their non-productive functions (water storage, water filtration, water retention, etc.). The aim is to identify and delineate the agricultural soils with the best quality in order to protect them for agricultural use (food and biomass production). Moreover, the agricultural crop system could be adjusted to better meet urban population needs (fresh vegetables, fruits, vineyard, biomass production etc.).

Implementation

- *Type of instrument:* Act No. 334/1992 on Protection of Agricultural Land Resources as amended by Decree No. 13/1994, which regulates certain details of the protection of agricultural land resources.
- *Methodology:* The rating based on the system for evaluation of soil-ecological units (BPEJ) incorporates knowledge from a number of sciences and represents the state-of-the-art in the classification of a site's agricultural conditions in terms of natural, production and economic aspects. Each particular BPEJ has been defined based on a detailed assessment of the following parameters: climate, soil quality classification, geologic substrate characteristics, soil texture, skeletal properties, soil water and air regimes, soil profile depth, slope inclination and exposure. Based on those BPEJ parameters, a certain number of spots is assigned and delineated according to 5 classes of soil protection. The first class includes the soils judged most valuable in each climate region, which may be exempted from the agricultural fund only as an exception. The second class contains the soils whose productivity is, within the climate region, above standard. The third class of protection includes the soils with average productivity and medium protection level, which may be used for construction purposes. The fourth class comprises the soils with mostly below average productivity. The fifth class of protection includes the remaining land representing the soils with very low productivity, which are considered dispensable for agricultural purposes.
- *Data sources:* BPEJ databases, soil quality maps, digital elevation model, cadastre maps.
- *Status:* implemented in the entire Czech Republic.

Responsibility

Municipality of the Capital City of Prague, District Authorities of Prague, Ministry of the Environment of the Czech Republic.

Outcome/Effectiveness

The instrument helps to protect high quality agricultural land to maintain both their productive and non-productive soil functions.

3.8.2 Protection of green areas within the city and its surroundings and prior usage of abandoned areas

Objective and content

Greenery plays a significant role in zoning and has spatial, hygienic, ecological, recreational, and economic functions and fulfils a resource protection role (soil protection from erosion, soil water regime). By creating a complex functional system of urban and landscape greenery and interfaces within the entire territorial system, a functional and ecologically stable complex shall be established for a given area and for concrete locality conditions.

The priority is on re-usage of abandoned areas such as old industrial estates. These brownfields that have lost their original function shall be re-developed before development in non-built up areas is allowed to take place.

Implementation

- *Type of instrument:* Act No. 334/1992 on Protection of Agricultural Land Resources, as amended by Decree No. 13/1994 defining certain details in the protection of agricultural land resources, Act No. 114/1992 Coll. on Nature Conservation and Landscape Protection as amended by the following regulations: execute regulation No. 395/1992 implementing certain provisions of the Act on Nature Conservation and Landscape Protection, Act No. 20/1987 Coll. on State Monument Preservation, Municipal ordinances of the Capital City of Prague No. 6/2001 on Protection of the Public Greenery, Act No. 183/2006 about Landscape Planning and Construction Regulations.
- *Methodology:* Criteria used to delineate the areas are: including the respective areas to the group of “important landscape components”, maintenance of greenery belts.
- *Data sources:* Digital database Natura 2000, vegetation map of the Capital City of Prague, orthophoto maps, Municipal Plan, surfaces and greenery database.
- *Status:* implemented in the entire urban area of Prague.

Responsibility

Department of Environmental Protection of the Capital City of Prague, Municipality of the Capital City of Prague, District Authorities of Prague, State Enterprise for Management of Forests (“*Lesy České Republiky*”).

Outcome/Effectiveness

The instrument shall protect green areas from being built-up and give priority to redevelopment of abandoned areas (old industrial estates).

3.8.3 Regulation of urban sprawl into open land

Objective and content

The objectives are to minimize the appropriation of open land by the outer city belt and to decrease the rate of land conversion from open to built-up land. In the outer city belt the spreading of housing areas should be limited to the completion of existing estates of original residents. The re-usage of abandoned sites is preferred.

Implementation

- *Type of instrument:* Act No. 334/1992 on Protection of Agricultural Land Resources as amended by Decree No. 13/1994 defining certain details of the protection of agricultural land resources, Act No. 114/1992 Coll. on Nature Conservation and Landscape Protection, as amended by the following regulations: execute regulation No. 395/1992 implementing certain provisions of the Act on Nature Conservation and Landscape Protection, Act No. 183/2006 about Landscape Planning and Construction Regulations.
- *Methodology:* Development shall concentrate on the existing built-up inner city belt. High quality soils in the outer city belt are protected via limiting exemption of those soils from the “agricultural fund” and defraying penalties for the exemption.
- *Data sources:* Municipal Plan, cadastre, year-books of sealing, orthophoto maps.
- *Status:* implemented in the entire urban area of Prague.

Responsibility

Municipality of the Capital City of Prague, District Authorities of Prague, Ministry of the Environment of the Czech Republic.

Outcome/Effectiveness

The instrument helps to protect areas/ soils in outer city belts against significant town spreading; it prevents quality soils from being exempted from the “agricultural fund” and from being built up.

3.9 Soil Science and Conservation Research Institute (SSCRI), Bratislava (PP10)

3.9.1 Protection of soils with high quality

Objective and content

Agricultural areas within cities or adjacent areas (urban and suburban areas) shall predominantly serve the local supply with agricultural products. Beside biomass production, these soils offer a lot of other functions that improve environmental and living standards. Mainly high quality soils have to be protected and used only for agricultural production. Also, a monitoring of soils under agricultural use may be established in cities.

Implementation

- *Type of instrument:* Law on Soil protection 220/2004 Code and in the new Law 219/2008 complemented by the Decree No. 376/2008.
- *Methodology:* Criteria to delineate the areas are contained in the Law on Soil protection 220/2004 Code. These criteria are based on so-called “land evaluation units”, which consist of a 7-figure code. This code includes climate region, soil type, combination of slope inclination and exposure, combination of stoniness and soil depth, and soil texture. The system of land evaluation units comprises more than 8 000 units and distinguishes them into 9 soil quality classes. The first 4 classes are subject to soil protection, i.e. a consumption of these soils must be paid (payment for each square meter of soil loss).
- *Data sources:* database of soil evaluation units, vector digital layers, digital elevation model.

- *Suitable urban planning procedure (step) or other legal instrument:* implementation in the Land Use Plan and in urban planning processes revision of current Zoning Plans.
- *Status:* at present implemented in plans of urban planning, which have to be strictly monitored and checked.

Responsibility

Ministry of Land Management and land offices at the NUTS 2 level (VUC).

Outcome/Effectiveness

This instrument could conserve productive agricultural areas which are able to fulfil most of their soil function, in favour of the city environment. Also, this economic instrument can avoid excessive soil consumption.

3.9.2 Reduction areas for soil consumption (soil sealing)

Objective and content

The risk of uncontrolled urban sprawl in urbanized areas is growing, and this situation can worsen quality of life of inhabitants. The development of cities can sometimes resemble an uncontrolled process which consumes and seals open green areas, ornamental gardens and urban parks, weekend recreation areas, and therewith also soils of high quality or sites with specific agricultural use (orchards, hop garden or vineyards), which are in principle all areas suitable for construction of buildings in an urban planning zone, according to Building Law No 50/1976 Code. In that regard, also the task of compensating for consumed land by establishing more green roofs could be taken into consideration.

Implementation

Type of instrument: Building Law No 50/1976 Code, Law No. 543/2002 on nature and landscape protection, Law No. 205/2006 on EIA, SEA projects assessment, Regulation 12/2009. (protection of forest land at urban planning, including aspects of forest soil consumption or restriction of forest functions).

- *Methodology:* Implementation of guidelines into the building law, incl. amendment of the EIA law, that define tolerability thresholds, or minimum shares, for open green areas within given types of land use.
- *Data sources:* Land Use Plan, proposals for urban development, maps, graphs and databases
- *Suitable urban planning procedure (step) or other legal instrument:* implementation and strict checks in Land Use Plans and in urban planning processes (requirements for urban planners and developers).
- *Status:* implementation in building Law No 50/1976 Code, including introduction of penalizations.

Responsibility

Ministry of building affairs and regional development

Outcome/Effectiveness

The approach ensures higher quality of life for the urban population and supports the beneficial functions of soils in urban areas, including aesthetic functions.

3.9.3 Identification and revitalisation of brownfield sites

Objective and content

In each city, there are many areas which have formerly been used by industrial, building, infrastructure, construction or mining activities, but are currently abandoned. These areas are mostly contaminated areas with often disturbed soil,,; refuses of waste or risk spoil banks (with often very heterogeneous composition and properties). Such sites represent an environmental load and in each case present a real problem for urban planners and developers.

Implementation

- *Type of instrument:* identification of brownfields and development of options for their next use will be supported by newly established legislation. Current legislation: Law No. 295/2004 on integrated inspection of environment; Law 205/2004 on distribution of information about environment, Law No. 24/2004 on EIA/SEA assessment.
- *Methodology:* identification and re-development of brownfield sites by means of digital database, methodology for brownfields identification, risk assessment, and proposals for next land use, also including methods of reclamation and revitalization of brownfields (EIA).
- *Data sources:* database of environmental loads, categorization of hazard areas, geological and pedological survey, and laboratory data.
- *Suitable urban planning procedure (step) or other legal instrument:* to be developed as a legal instrument which could become a part of urban planning processes.
- *Status:* a newly proposed law is under discussion in Slovakia.

Responsibility

Ministry of Environment; executed by brownfield reclamation and revitalization companies.

Outcome/Effectiveness

This instrument could ensure and improve a high quality of city environment and high health standards for the urban population, contribute to providing new green areas or areas for building activities (opportunity for city planning).

3.9.4 Appropriate location of industrial plants and industrial parks

Objective and content

Old industrial factories were located in the vicinity of the historical places, later during the city development they became a part of the broader centre. The new industrial plants and industrial parks are situated in larger distance from cities. Therefore, it would be appropriate to monitor old industrial sites, including their soil quality, in areas intensively used by urban population (residential or recreation areas) in order to detect their impacts.

Implementation

- *Type of instrument:* monitoring of areas in vicinity of old industrial plants in combination with spatial planning; could be implemented in building law 50/1976 Code and current legislation: Law No. 295/2004 on integrated inspection of environment; Law 205/2004 on distribution of information about environment, Law No. 24/2004 on EIA/SEA assessment.
- *Methodology:* guidelines for spatial planning for urban sites near industrial plants and parks (EIA).
- *Data sources:* vector digitalized map of land use of cities, database of soil contamination near industrial facilities.
- *Suitable urban planning procedure (step) or other legal instrument:* to be included in regulation guidelines for urban planners.
- *Status:* not implementation via EIA/SEA project assessment

Responsibility

Urban planners and administration.

Outcome/Effectiveness

The instrument can support decision-making in spatial planning processes, in particular if they involve land use change.

3.9.5 Appropriate location of cemeteries and burial grounds

Objective and content

Each city needs cemeteries or burial grounds, which represent areas of specific use – bury of organic material into soil. The law about funeral affairs precisely determines conditions for location of cemeteries and forbids the access of groundwater into the soil profile. But also other natural and topographic conditions have to be taken into consideration, like sunny exposition and texture (mineral composition), because these factors can influence the time period for decay of organic material, which is assumed to be 10 years. In many cases, location of such areas is a problem for urban planners. Soil scientists can help in identifying appropriate locations of these sites.

Implementation

- *Type of instrument:* in Slovakia, the Law about Funeral Affairs 470/2005 Code is in force, which defines conditions for burial sites. Regulations for the appropriate location of cemeteries and burial grounds could be useful for city planners.
- *Methodology:* Guidelines for identification of appropriate locations, incl. soil properties, that are suitable for accelerated mineralization of organic material.
- *Data sources:* research results.
- *Suitable urban planning procedure (step) or other legal instrument:* to be included in regulation guideline for urban planners.
- *Status:* currently, only areas without ground water level access are used as a criterion; other conditions for emplacement are at present not considered.



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Responsibility

Urban planners and administration.

Outcome/Effectiveness

The instrument can provide decision support for urban designers in spatial planning processes.

4. TRANSNATIONAL SYNTHESIS

4.1 Synopsis of urban planning procedures

The **transnational comparison of the urban / spatial planning systems** in operation on the respective territories of consortium partners shows that there are both **similarities and differences** in structure, organisation, instruments and procedures. Differences depend to a large extent on size of territory, general administrative structure, planning traditions and planning cultures. It must be noted that the heterogeneity in these prerequisites also causes a remarkable **inconsistency in the terminology** used to denote instruments and procedures. This accounts for a major difficulty in conducting cross-country comparisons of urban planning systems. For instance, what is called a "plan" in one country may be called a "programme" in another country or vice versa, with the name of an instrument often giving little indications of its content and function.

In most of the territories (countries, regions, or cities) analysed, hierarchically organised planning systems composed of **multi-level vertical structures** are in place. With regard to the way **competencies** for implementation of planning instruments are distributed among the different **levels of territorial organisation**, systems with one level, two levels, and three levels exist. In addition, there are also countries with a certain - albeit usually limited - role of the national state level in spatial planning.

In Germany (Baden-Württemberg), Austria (Vienna, Salzburg), Italy (Piemonte, Lombardia) and the Czech Republic (City of Prague), basically a **three-tiered system** is in place. This implies that obligatory urban planning instruments and procedures exist on federal state level (corresponding with region level in Italy), regional level (corresponding with province level in Italy and NUTS 3.Level in the Czech Republic), and local (municipality / city) level. It is worth noting that there are larger similarities between the two German-speaking federal countries Austria and Germany than towards Italy or the Czech Republic, whose planning systems are characterised by some particularities. Slovenia (City of Celje), the Slovak Republic (Bratislava) and Poland (Pulawy) currently each have a basically **two-tiered system**, with obligatory planning instruments in Slovenia being in force on the national level and the municipality level only, but not on the regional level, whereas the Slovak Republic and Poland has binding instruments on the regional and municipality level (and, in addition, a non-binding spatial development concept on national level).

The **role of the national state** in spatial planning differs between countries. In Germany, the Czech Republic and Slovenia, the national state has certain legal (framework) competencies for spatial planning and fulfils strategic coordination functions. In comparison between these countries, the national role appears to be most distinct in Slovenia, where both a strategic policy and an implementation document exist on national level. By contrast, the role of the national state is less important in Austria and Poland, although spatial development policy documents for the entire state territory exist (strictly non-binding in Austria). In Slovakia there is a national strategic document (Concept of territorial development), however the role of urban planners should be more considered.

On the **municipality level**, in most countries two or more mandatory instruments and related procedures are applied, often divided into a Land Use or Zoning Plan (or equivalents), which allocates defined land use functions and classes to each (urban) land parcel, and a Building Regulation or Structural Development Plan (or equivalents), which regulates the structural development on building land. In addition, in a number of countries such as Germany, Austria, Slovenia, Slovakia and Poland also a strategic planning instrument framing long-term spatial development objectives for the municipality is in place on local level, although in some cases it

has non-binding character and acts as some kind of internal guideline for municipal authorities. The mostly multiple tiers of instruments and procedures on municipality level to some extent reflect the strong role municipalities have in many of the territorial systems. In many of the countries investigated, municipalities own a relatively high degree of planning autonomy, with the municipal authorities and the municipal council being the prime **planning authorities** and adoption bodies. However, the internal logic of spatial planning systems and the need for vertical consistency of spatial planning instruments obviously demand that there is a **supervisory authority** on higher-ranking planning levels that is in charge of reviewing, checking and granting consent to local acts of planning.

In all countries, the **legal basis** for spatial planning instruments and their implementation procedures is usually provided by spatial planning (territorial planning) laws, including subordinate legislation and regulations. However, by far not all planning instruments are **obligatory** and **binding** in their effect. In a number of countries, also non-mandatory instruments with often non-binding character exist. For example, in the German-speaking countries, it is common to differentiate between binding "plans" or "programmes" and non-binding "concepts" in this context.

Generally speaking, spatial plans and development concepts on **strategic level** (i. e. national, federal state, regional level, in some cases also local level) tend to be comprehensive by covering the entire territory, i. e. they usually deliver objectives, statements and planning determinations for all categories of land use, including non-urban land. By contrast, binding spatial plans on **municipality level** tend to focus on the settlement area, i. e. on (potential) urban land. A particular case is the existence of a not legally but administrative binding, parallel system of planning for implementing the aims of nature protection and landscape conservation. It covers settled and non settled area as well as zones for development. Selected contents can become legally binding when entering the Preparatory Land Use Plan or a Local Development Plan.

Naturally, most spatial planning documents in all countries are composed of both **text parts** and **maps**. However, the main contents of strategic planning documents is in written form; maps are very often provided, but only in coarse scales far above parcel scale. Apart from the strategic instruments on municipal level, both the Land Use Plan (Zoning Plan, or equivalent) and the Building Regulation Plan (Structural Development Plan, or equivalent) on local planning level need to be in parcel-sharp scale (or even finer).

The **planning cycles** of most instruments, regardless of the country, usually foresee planning intervals of 10 to 20 years. Often, the revision cycles are not fixed legally, but rather it is demanded to revise a plan if required by occurrence of land use changes or if existing framework conditions for spatial development have changed substantially.

The principle of **public participation** in the set-up of urban planning documents tends to be the rule in all countries and is mostly regulated as an integral part of planning processes in planning regulations. Nevertheless, the exact procedure and the degree of intensity of participation vary strongly between instruments, planning levels, and planning systems.

With a view to **soil conservation** and **soil management**, it is important that a main function of **strategic planning documents**, in particular on supra-local level, lays in the **delineation of urban land** (settlement areas; developed land, and land to be developed) **against non-urban land** (open land, green space: undeveloped land, including land to be left undeveloped). Thus, strategic spatial plans, in principle, have high potential of limiting soil loss caused by settlement growth. Moreover, strategic plans usually allow assignment of a range of functional categories to

certain areas that can be applied to favour conservation of soils, including high quality soils. Some examples for these functional categories include priority areas for agriculture, areas protected under nature conservation legislation, priority green areas, etc.

In comparison, urban planning documents on **local level** focus on the rational use of **land within settlement areas** (including future growth zones). Thus, their main potential of contributing to soil protection appears to be in the wise, careful and economic use of soils on building land, e. g. by measured densification of built-up structures, conservation of green spaces with undisturbed soil, controlling the percentage of unsealed surface in relation to sealed surface, etc.

Especially in the face of the usually multi-level structure of planning systems, the issue of **vertical coordination** of planning levels and **internal coherence** of planning instruments and procedures gathers importance. The more tiers a planning system comprises and the more instruments exist on one tier, the more urgent the need for vertical coordination gets. Otherwise, even the most sustainable and soil conservation-friendly strategic objectives risk failure if it comes to practical implementation "on the ground", i.e. on the lower-ranking planning levels. This touches upon the issue of **effectiveness** of urban planning. If the potential of spatial planning to positively contribute to soil conservation and sustainable soil management is to be put into practice, the effectiveness of planning instruments and procedures should be improved. There certainly is a need for integrating soil issues stronger into planning procedures, but there also is a need to make the planning systems in their existing shape and content more effective in general.

4.2 Synopsis of existing soil management approaches within urban planning procedures

Introduction and overview

Altogether, partners collected and described **47 soil management approaches** that are applied either in, or in coordination and conjunction with, urban (spatial) planning procedures. The term "soil management approach" has been defined as an instrument or measure to manage or protect soil in a qualitative or quantitative way within an urban planning procedure.

The identified approaches cover a remarkably broad spectrum of **intervention types**, including legislation, implementing regulations, plans on national, regional and local level, impact and risk assessment, knowledge instruments, taxation and penalties. Approaches either belong to **spatial planning** or to a number of **other regulatory or planning sectors** (such as agriculture, environmental protection, or nature conservation). In a considerable number of cases, the compiled soil management approaches combine two or more different types of instruments (e.g. legislation and regional spatial plans) and / or represent overlaps between spatial planning and other sectors (e.g. agricultural legislation implemented in local spatial plans). This frequent category of interventions may be classified cross-type and inter- / cross-sectoral soil management approaches.

Due to the abovementioned overlaps between characteristics (such as intervention types, planning sectors, soil threats covered etc.) that were applied in the present transnational analysis, many soil management approaches figure under two or more categories..... This explains why the sum of "matches" per analytical category is usually higher than the number of particular approaches described by partners (see annex).

Intervention type

Most approaches gathered are “**spatial plans on local level**” (including the Building Regulation Plan) [15] and “**sectoral legislation implemented by spatial planning**” [13]. These two groups of approaches are closely followed by spatial planning legislation and knowledge and monitoring [12], spatial planning on the regional level and sectoral legislation. Less often mentioned are “natural resource management plans” and taxation and penalties [4 matches each]. Also, two particularities were named: **contractual spatial planning** in Germany (Sustainable Brownfield Management Stuttgart) and in some of the Austrian federal states, which combines local zoning practice with contracts under private law [2], and the **Stuttgart Soil Conservation Concept** [1], which can be rated a best practice example (cf. below) because it widely integrates soil conservation with urban planning in an operational way on city scale.

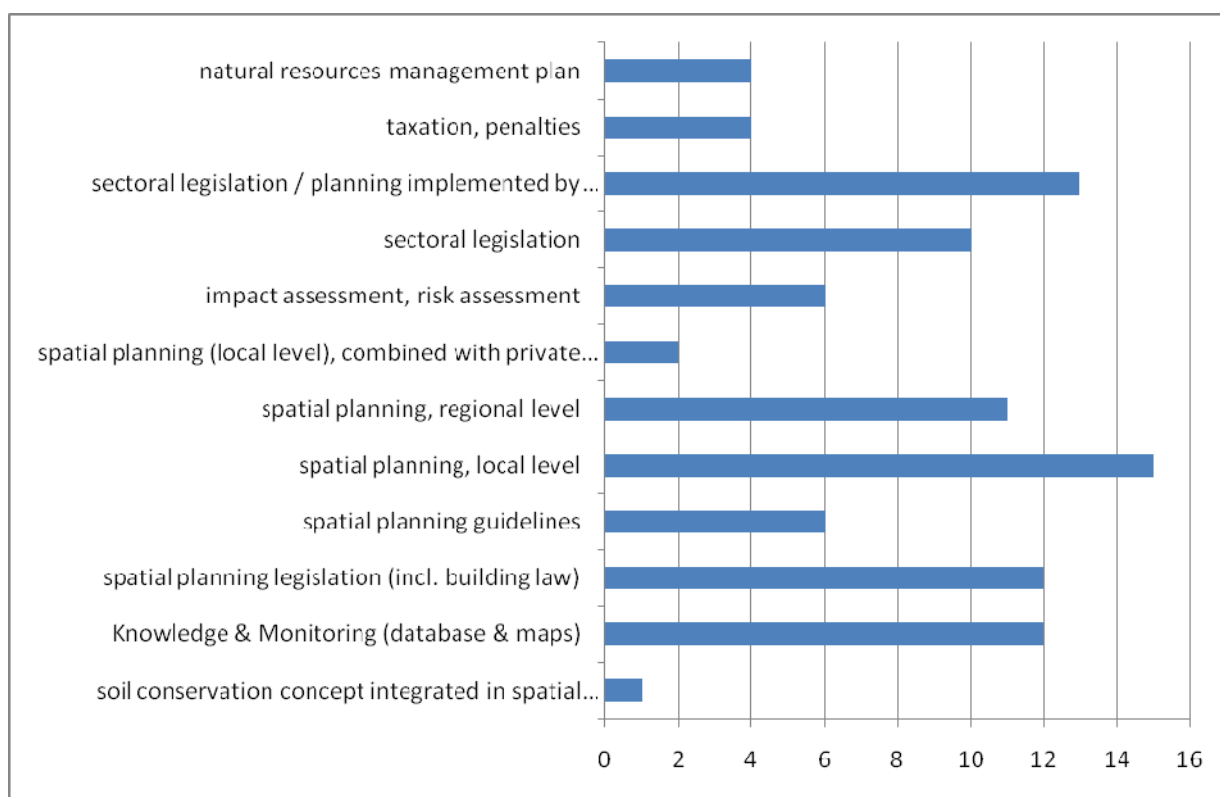


Figure 12: Approaches - allocation to intervention type (multiple answers permitted).

Sector reference

A considerable part of all approaches is not rooted mainly in spatial planning, but rather in **sectoral planning domains** and / or in predominantly **sectoral legislation**. Among the sectoral instruments identified, the majority are **agricultural** [9] or strictly or partly - **environmental** (including soil contamination and soil conservation) **instruments**, followed with decreasing frequency by the forest and nature conservation sectors. However, a large portion of these sectoral instruments is to some extent implemented by, or coordinated with, spatial planning. Nevertheless, there remain a limited number of purely sectoral instruments that do appear to have a **lack of horizontal coordination with spatial planning** instruments.

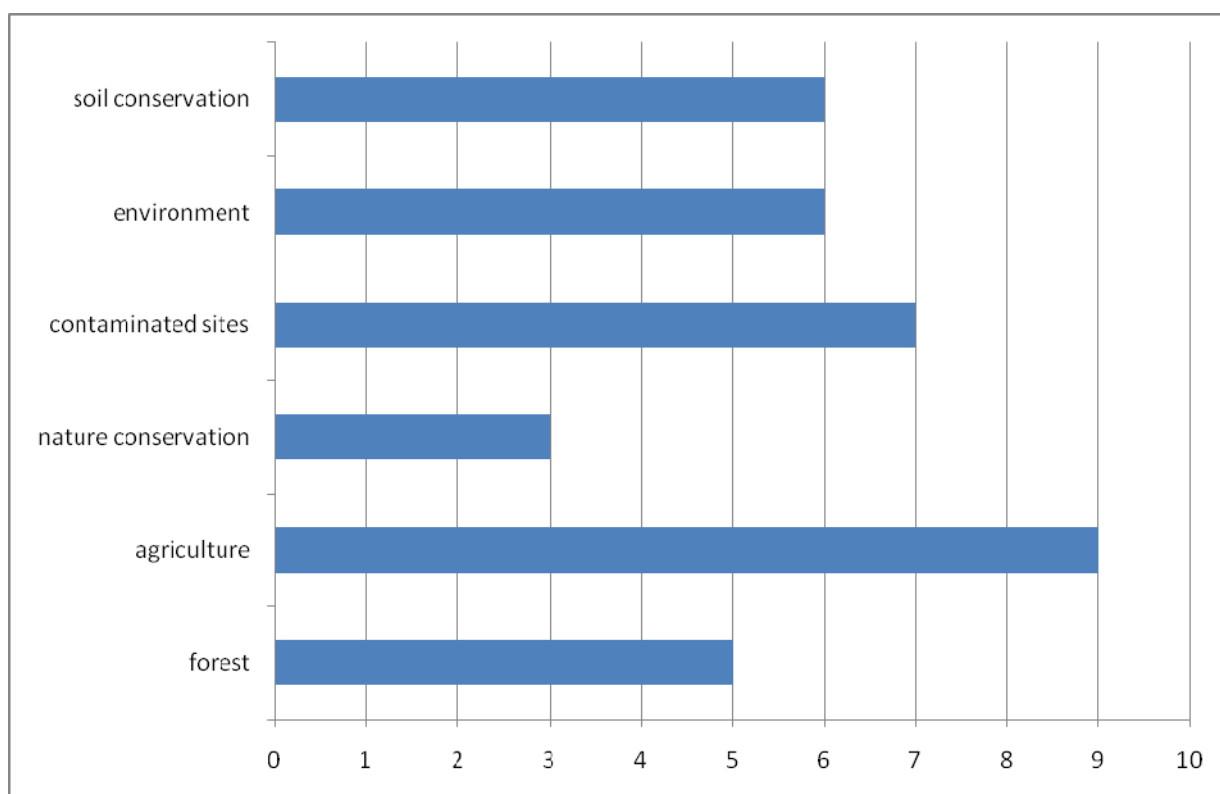


Figure 13: Approaches – sectoral reference (multiple answers permitted).

Soil threats covered

With regard to soil threats addressed by the collected management approaches, **soil consumption** and **soil sealing** are the adverse impacts on soils that are by far most often covered [39], followed by **soil contamination** [14]. However, there is sufficient evidence from the available information that in particular most spatial planning instruments (spatial plans regardless of planning level) mainly have a potential to limit soil loss due to settlement growth in a quantitative way and hardly ever consider qualitative soil attributes. Instruments focused on **redevelopment of contaminated brownfields** are considered to contribute to reducing the impacts of both sealing and contamination at the same time, which makes brownfield redevelopment in urban areas appear a highly effective approach to soil management. A limited number of instruments [8-10] is considered to address also **other soil threats** (compaction, erosion, loss of organic matter).

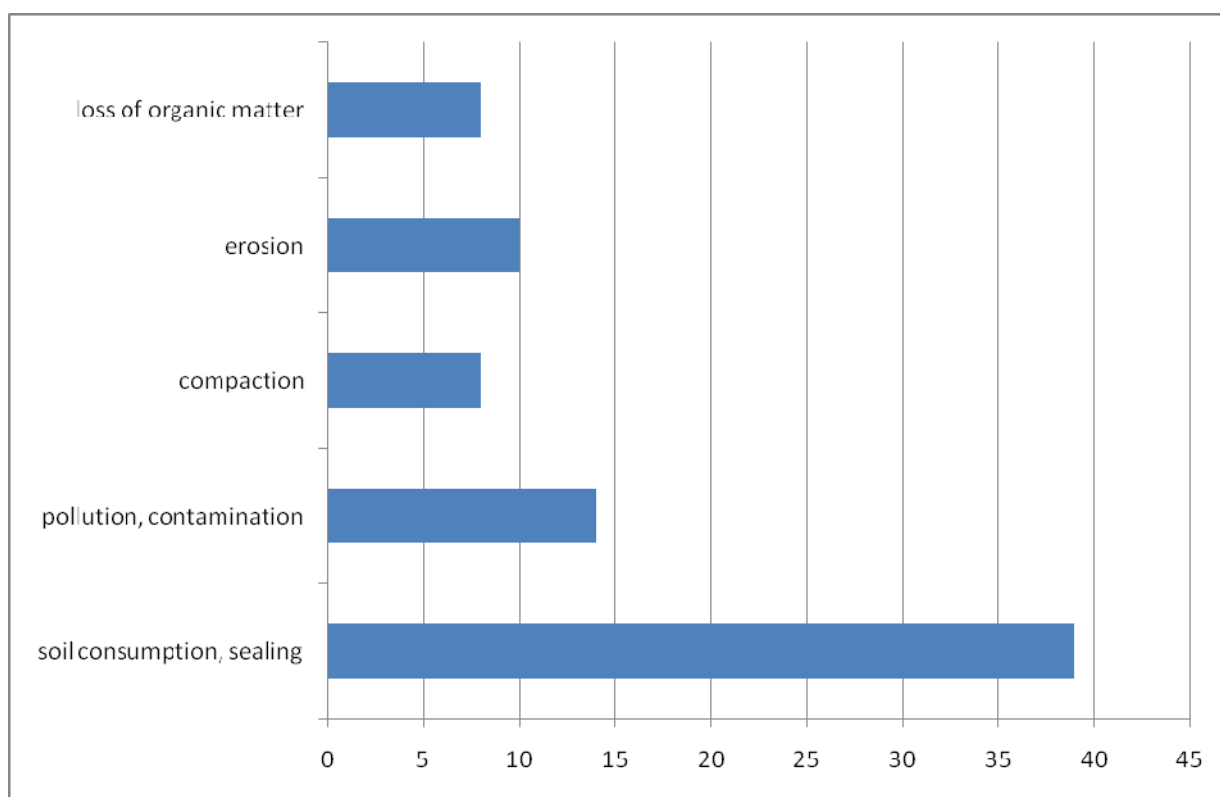


Figure 14: Approaches – soil threats covered (multiple answers permitted).

Land (use) categories

Most of the analysed approaches have a potentially positive influence on soil management mainly on one (a few) particular category(ies) of land use, i. e. they are *either* adequate for **building land** or for **non-urban land**, such as agricultural land, forest land, and protected areas. Corresponding to the high share of spatial planning instruments in all identified soil management approaches, the largest number of approaches [23] influences soil conservation on building land (settlement areas, urban land), including future settlement growth zones. This portion is followed by instruments relating solely or partly to **agricultural land** [14], **brownfields** [10], and **forest land** [10]. Again, instruments that focus on identification, remediation and redevelopment of brownfield sites are considered to reduce urban sprawl elsewhere at the same time. Comparatively few instruments relate to **mineral resource extraction sites** and to **protected areas** under nature conservation legislation.

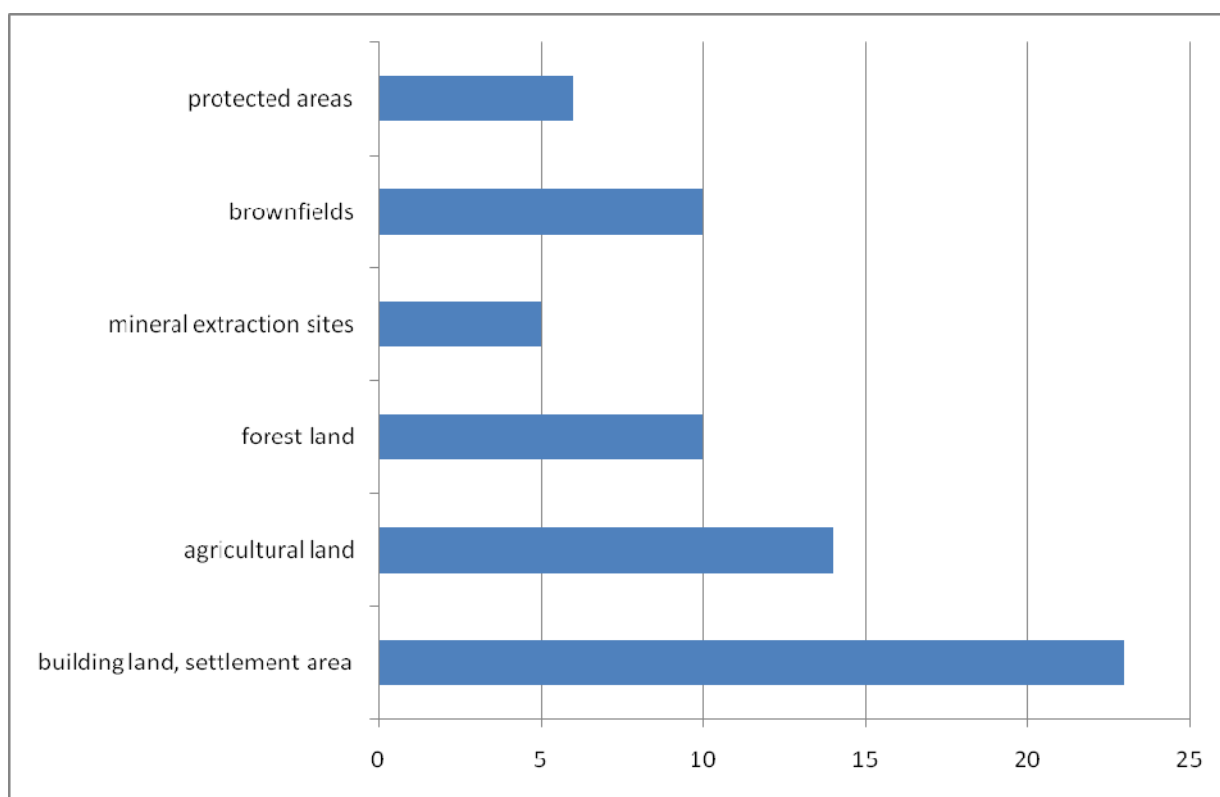


Figure 15: Approaches – land use categories (multiple answers permitted).

Spatial planning procedures

A very crucial issue within the URBAN-SMS project is the **role of soil management approaches within urban planning procedures** and (legal) instruments of urban planning. The gathered information strongly indicates that established **spatial planning instruments on local (municipal) level** are currently the most important procedures to deliver soil conservation and sustainable soil management. The vast majority of approaches [28 matches] are applied in or closely coordinated with Local Spatial (Urban) Development Concepts, Local Land Use Plans (Zoning Plans), and Local Building Regulation Plans (either in one, two or all of these instruments). The comparative analysis suggests that among the local instruments the **Local Land Use Plan** appears to be the most vital implementation procedure for soil management approaches [22]. However, also **Regional Spatial Plans** (including plans on higher-ranking level) are in many cases [13] suitable for implementing soil management approaches. Quite often, approaches focus on identification, decontamination and redevelopment of **brownfields**; these brownfield-centered strategies are usually carried out in close relation to local urban planning procedures. The lowest number of approaches is suitable to be applied within EIA and / or SEA.

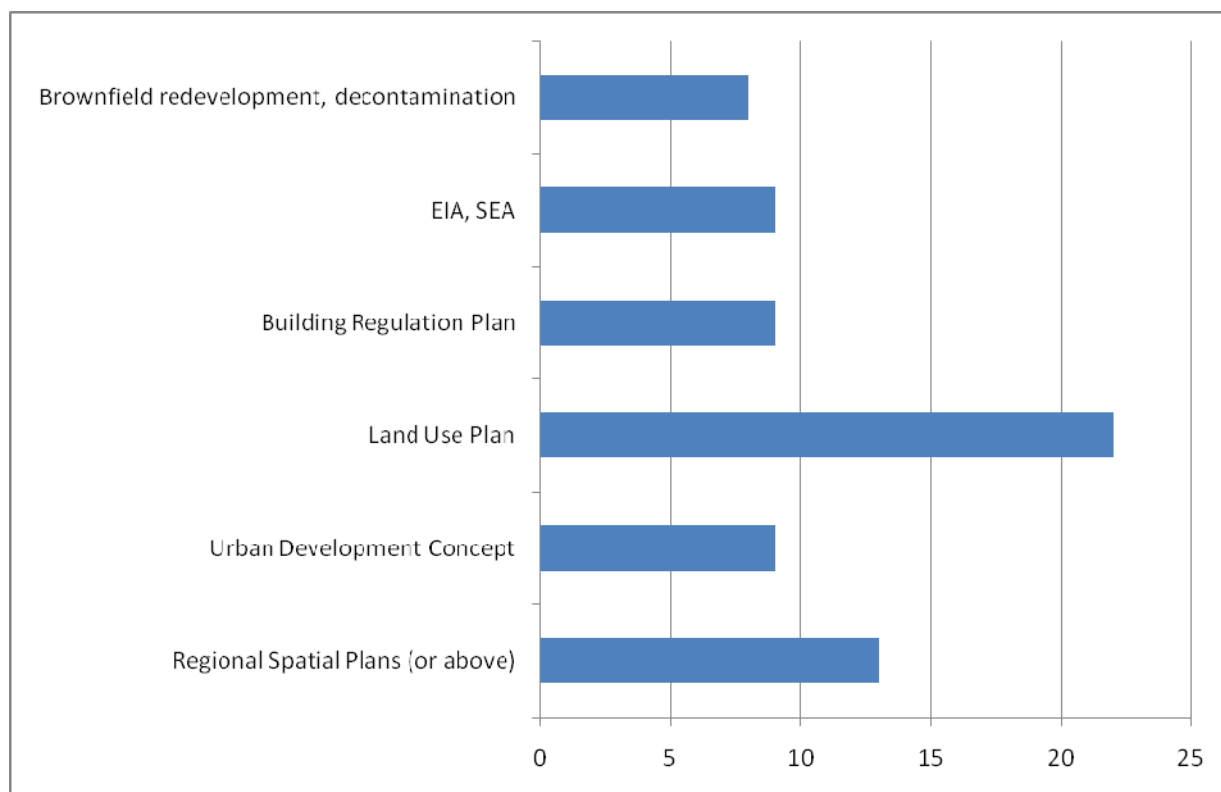


Figure 16: Approaches – planning procedures (multiple answers permitted).

Most applied strategies

The following particular soil management approaches were most often named in similar form by consortium partners:

- **Delineation and preservation of high quality soils:**
Strategies target at preservation of high quality soils, in particular such of agricultural land,

were identified by six partners from six different countries. The implementation procedures and their relationship towards spatial planning can differ quite strongly between countries. In some countries, the practice is to designate priority areas for agriculture in Regional Spatial Plans in order to prevent them from being built up. However, there are also examples where integration into spatial planning procedures is poorly or not at all developed.

- **Rehabilitation and redevelopment of brownfields:**

Approaches dedicated to identifying, decontaminating and redeveloping abandoned sites were also identified by six partners from six different countries. As mentioned above, implementation may often, but must not necessarily be closely coordinated with Local Spatial Planning.

- **Protection of open and green spaces in urban areas:**

Approaches focused on preserving, restoring or upgrading existing unsealed spaces in urban areas (such as greenery in residential areas, recreation areas, parks, playgrounds etc.) exist in three of the partner territories. Here, soil conservation occurs more or less as a side effect of approaches to improve the quality of life for citizens in an urban environment. But also such indirect approaches contribute to soil protection. Control of achieved effects on soils should be implemented.

- **Soil databases and soil maps:**

Although explicitly mentioned only by three partners, implicitly information and monitoring instruments such as soil databases and maps are a prerequisite for many of the identified approaches and thus highly important. Sufficient knowledge of soil qualities is also a major basis for the Stuttgart Soil Protection Concept. Hence continuation, improvement or establishment of such sources of soil information should be forced, in particular on local and regional level.

Good practice example

The **Stuttgart Soil Protection Concept** is considered a good practice example for soil conservation in urban planning because, *inter alia*:

- explicitly considers soil quality aspects;
- combines a distinct qualitative approach to soil management with the quantitative approach of limiting overall soil loss;
- soil management is closely integrated with urban planning instruments and procedures;
- is based on a sound, tested and transparent methodology, which fosters political acceptance;
- favours application of inner urban development and brownfield redevelopment strategies.

4.3 Conclusions

Given the variety of soil management approaches, including intervention type, regulatory sector, soil impacts addressed, land (use) categories covered, and urban planning procedures suitable for implementation, it becomes evident that there is not *the one* stand-alone approach to soil conservation. Instead, what is required for effective sustainable soil management is a harmonised bundle of measures and instruments that is embedded in a coordinated overall

strategy. What combination of approaches within what urban planning procedures is the most promising policy will depend, *inter alia*, on the specificities of the respective urban planning system.

In any case, the following non-exhaustive conclusions may be drawn on the basis of the information gathered and analysed:

- Urban (spatial) planning plays a strong role in soil conservation, in particular on the local planning level, and has strong potentials to limit quantitative soil loss through settlement growth.
- The effectiveness of spatial planning instruments in general could be improved and the internal consistency of spatial planning across the vertical hierarchy of instruments could be increased. This includes stronger execution of planning contents from higher-ranking planning levels to lower-ranking planning levels.
- Many soil management approaches are merely sectoral instruments and lack horizontal coordination with spatial planning. Thus, the integration of such sectoral approaches into spatial planning procedures should be improved.
- The effectiveness of soil management approaches implemented within spatial planning procedures is often limited to quantitative soil protection, i. e. to limitation of soil loss regardless of the quality of soils. Approaches that explicitly consider the various qualitative aspects of soils should be strengthened and advanced considerably. In this regard, the Stuttgart Soil Protection Concept serves as a good practice example.
- Sufficient information and knowledge about qualitative soil parameters and their distribution in space is a fundamental prerequisite for effective qualitative soil protection. Thus, the establishment of soil information systems, databases and maps should be promoted.
- Brownfield redevelopment is potentially a very effective approach to both restore soil functions and limit soil loss elsewhere. Identification, decontamination and recycling of abandoned sites into the land use cycle should thus be forced.
- Soil protection is in many cases only a positive environmental side effect of instruments, but not an explicit objective. By mainstreaming soil conservation into all policies, strategies and measures that have an effect on soils, irreversible soil losses and adverse effects on soil functions could be better avoided.



ANNEX

Matrix for analysis (multiple answers in each category were allowed)



URBAN SMS Soil Management Strategy

This paper belongs to the following section of URBAN SMS work plan:
WP3 Soil management concept / 3.2 Framework for soil management /
3.2.1 Soil management approaches

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